



University of California Policy

Seismic Safety Policy

Responsible Officer:	EVP – Chief Financial Officer
Responsible Office:	CR – Capital Asset Strategies & Finance
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Scope:	All University and Leased Facilities of the University of California within California <u>except 1) those under the regulatory authority of the Office of Statewide Hospital Planning and Development or 2) K-12 schools or community college facilities built after 2018 under the regulatory authority of the Division of the State Architect.</u>

Contact:	Douglas Stimpson <u>Lauren Friedman</u>
Title:	Interim Executive Director, Capital Asset Strategies
Email:	Douglas.Stimpson@ucop.edu <u>Lauren.Friedman@ucop.edu</u>
Phone #:	(510) 987-0777 <u>(510) 987-9947</u>
Contact:	<u>Rendell Camacho</u>
Title:	<u>Management Specialist, Capital Programs</u>
Email:	<u>Rendell.Camacho@ucop.edu</u>
Phone #:	<u>(510) 987-0564</u>

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I. POLICY SUMMARY AND APPLICABILITY

The purpose of this Policy is, ~~to the extent feasible by present earthquake engineering practice,~~ to provide an acceptable level of earthquake safety for students, employees, and the public who occupy University Facilities ~~and Leased Facilities~~ located in California. For structures located in other states or outside the United States, the Responsible Official must take reasonable steps to manage the seismic life safety risk, if any, and comply with the applicable building code. See the Facilities Manual for specific requirements related to acquiring or leasing facilities outside of California.

II. DEFINITIONS

CBC: California Building Code, Part 2 of the CBSC, (current edition).

CBSC: California Building Standards Code, Title 24 of the CCR, (current edition).

CCR: California Code of Regulations.

CEBC: California Existing Building Code, Part 10 of the CBSC, (current edition).

Component Engineer of Record (CEOR): A California-licensed structural or civil engineer responsible for the design of a component or portion of a building, ~~duly licensed in the state where the facility is located.~~ A University of California employee may not perform this function (except that a licensed faculty member otherwise qualified may serve in this capacity).

Consulting Geotechnical Engineer (CGE): A California-licensed geotechnical engineer. The CGE should have demonstrated experience in field investigation and analysis of earthquake damage, site-specific seismic forces, and evaluations of geo-hazards. A University of California employee may not perform this function (except that a licensed faculty member otherwise qualified may serve in this capacity).

Consulting Structural Engineer (CSE): A California-licensed structural engineer ~~duly licensed in the state where the facility is located, with.~~ The CSE should have demonstrated experience in field investigation and analysis of earthquake damage, site-specific seismic forces, and design of structural systems to resist seismic forces. ~~A University of California~~

~~employee may not perform this function (except that a licensed faculty member otherwise qualified may serve in this capacity).~~

~~**Designated Campus Building Official:** Designated campus administrator who has the authority to ensure compliance, for all campus projects by appropriate reviews and inspection, in accordance with the CBC.~~

~~**Engineer of Record (EOR):** A registered structural or civil engineer licensed in the state where the project is located who is responsible for the structural design of the facility. A University of California employee may not perform this function (except that a licensed faculty member otherwise qualified may serve in this capacity).~~

Designated Campus Building Official (DCBO): Designated campus administrator who has the authority to ensure compliance for all campus projects by appropriate reviews and inspection in accordance with the CBSC.

Engineer of Record (EOR): A California-licensed structural or civil engineer who is responsible for the structural design of the facility. A University of California employee may not perform this function (except that a licensed faculty member otherwise qualified may serve in this capacity).

Facilities Manual: The University of California Facilities Manual contains policies, procedures, and guidelines for the University's facilities. Seismic issues are addressed in Volume 3, Chapter 5 and the Resource Directory.

~~**Independent Seismic Peer Reviewer:** The reviewer shall be a civil or A California-licensed structural engineer licensed/retained by the state in which the structure is located, who provides University to provide a measure of additional assurance regarding performance and safety of new construction, and repair or renovation of existing facilities. The reviewer shall not be an employee of the University (except that a licensed faculty member otherwise qualified may serve in this capacity). The Independent Seismic Peer Reviewer shall not be the EOR.~~

Lease: A lease is an agreement in which the landlord agrees to give the tenant the exclusive right to occupy real property, usually for a specific term and, in exchange, the tenant agrees to give the landlord some sort of consideration. A lease transfers to the tenant a leasehold interest in the real property and, unless otherwise provided in the lease, a lease is transferable and irrevocable.

Leased Facility: ~~Space~~A space within buildings or other structures ~~located within California~~ that is leased by the University and used for University-related purposes.

Owned Facility(ies): Buildings and other structures that are owned by the University and used for University-related purposes.

Program for Abatement of Seismic Risks in University Facilities (Program): As defined in Section III.D.

Responsible Officer: The Executive Vice President-Chief Financial Officer, Office of the President.

Responsible Official: ~~As used in this Policy~~ For their respective areas of responsibility, the Chancellors, the Executive Vice President-Chief Operating Officer, the Vice President-Agriculture and Natural Resources, and the Director-Lawrence Berkeley National Laboratory. ~~This responsibility may not be delegated, except for responsibilities specifically delegated in this Policy.~~

Seismic Advisory Board (SAB): A group of structural and geotechnical engineers and others with seismic expertise appointed by the Office of the President to provide technical seismic advice to the University in accordance with this Policy.

Seismic Hazard Zone of Required Investigation (Seismic Hazard Zone): Zones of required site investigation for possible earthquake faulting, landslides, and liquefaction delineated by the California Geological Survey to help identify where higher building standards may be necessary for safe development.

Seismic Performance Rating (SPR): Ratings prepared for University Facilities and Leased Facilities by CSE's in conformance with this Policy.

Seismic Risk Model: (Model): A tool, maintained by the Office of the President, to assess seismic risk inof University Facilities.

University Facility: ~~Buildings and other structures located within California that are owned by the University and used for University-related purposes~~ Owned Facilities and Leased Facilities.

III. POLICY TEXT

The University shall provide an acceptable level of earthquake safety for students, employees, and the public who occupy University Facilities ~~and Leased Facilities, to the extent feasible. Feasibility~~ in a reasonable time frame. The University shall be determined by weighing weigh the probability and gravity of potential injury to persons foreseeably exposed to the risk of injury from a seismic occurrence against the practicality and ~~the~~ cost of ~~protective measures~~ protecting against ~~severity and probability~~ the risk of injury ~~resulting~~ from seismic occurrences.

~~In accordance with the definitions of University Facilities and Leased Facilities, this Policy applies to structures located in California. For structures located in other states, the Responsible Official must take reasonable steps to manage the seismic life safety risk, if any, and comply with the applicable state building code. For structures located outside of the United States, the Responsible Official must take reasonable steps to manage the seismic life safety risk, if any, and comply with applicable building code.~~

This policy addresses:

A. ~~Seismic Advisory Board;~~

- ~~B. Survey of Existing University Facilities;~~
- ~~C. Seismic Risk Model;~~
- ~~D. Program for Abatement of Seismic Hazards;~~
- ~~E. Seismic Rehabilitation Standards;~~
Post Earthquake Response;
- ~~F. **Standards for New Construction** and Renovation;~~
- ~~G. Standards for Acquisition by Purchase or other Title Transfer;~~
- ~~H. Standards for Lease;~~
- ~~I. Seismic Review;~~
- ~~J. Special Considerations; and~~
- ~~K. Provisional Use Authorization.~~

~~A. **Seismic Advisory Board**~~

Responsible Officials shall immediately consider alternatives to undiminished continued use and occupancy of University Facilities not meeting the requirements of this Policy, including partial evacuation, temporary emergency measures, reduction in or cessation of use, demolition, retrofit, or combinations of these alternatives. Notwithstanding any other provisions of this Policy, Responsible Officials shall, for buildings under their jurisdiction, ensure that no University Facility with an SPR of V, VI, or VII as defined in the Facilities Manual, is occupied beyond December 31, 2030. However, a Responsible Official may request an extension of such date on a building-by-building or portfolio basis; such request shall be considered by the Responsible Officer in consultation with the General Counsel.

A. **Seismic Advisory Board**

The ~~Seismic Advisory Board (SAB)~~ provides guidance to the University on seismic design, risk, and ~~rehabilitation/retrofit~~ associated with University Facilities ~~and Leased Facilities~~. ~~The SAB's responsibilities include, including~~ assessing seismic risk, advising on seismic priorities, ~~reviewing new building and rehabilitation plans,~~ and providing policy revision recommendations.

~~It is the responsibility of the~~

The SAB also advises as to determine whether changes in present understanding of seismology, structural engineering, and building vulnerabilities or the ~~CBCCBSC~~ require Responsible Officials to update the survey of University Facilities in accordance with Section III.BC of this Policy.

B. **Seismic Risk Model**

~~Survey of Existing~~ The University shall maintain a Model for University Facilities to assist in the evaluation of seismic risk. For each University Facility, the Responsible Official shall provide the Office of the President with all building data required for input to the Model (as outlined in the Facilities Manual).

B.C. **Ratings for University Facilities**

Each Responsible Official ~~is charged to shall~~ engage ~~a Consulting Structural Engineer (CSE) one or more CSEs~~ who shall examine University Facilities ~~and, any facility acquired (as described in Section III.G below) or subject to a Lease (as described in Section III.H below), and any newly constructed or renovated building.~~ The CSE shall report on the adequacy of the resistance of such facilities to seismic forces ~~based on:~~

~~1. conformance to seismic provisions of the CBC for existing buildings; and provide an SPR, in accordance with the CSE's professional evaluation of existing buildings' anticipated seismic performance, based on Table of Expected Seismic Performance Levels I through VII¹ as defined in Table A.1 in Appendix A; and ratings in the Facilities Manual, based on the criteria in the Facilities Manual. For newly constructed or renovated buildings, the EOR shall prepare a letter at the conclusion of the project identifying an SPR for each building; such SPR shall be presumptive based on the CBC or CEBC applicable when the project was submitted for permit review.~~

~~2. identification of potential falling hazards² that pose a significant life or safety hazard to occupants.~~

The ~~CSE's CSE~~ shall prepare a report ~~shall include~~ for each building that includes a written technical discussion of the basis for the facility's ~~rating SPR~~ (as defined in ~~Appendix A~~), ~~and Facilities Manual) with preliminary~~ recommendations for resolving any noted deficiencies, ~~priorities for abatement of seismic hazards, and estimates of costs for correcting seismic deficiencies and associated life safety work in accordance with this Policy.~~ In cases where ~~the CSE making the assessment concludes one or more reviewing CSE(s) finds~~ that the expected seismic performance is consistent with a one-level higher or lower ~~rating SPR~~ than that ~~defined in Table A.1 selected by the CSE who makes the assessment,~~ this alternative ~~rating SPR~~ may be assigned if and only if ~~another the original assessing~~ CSE concurs.

~~In the event that a change in occupancy of any individual University Facility results in classification to a higher risk category as defined in the CBC, or the population³ increases by 25% or more, then the Responsible Official will direct the re-evaluation of the facility using the Seismic Risk Model as set forth in Section III.C.~~

~~C.A. Seismic Risk Model~~

~~The University shall maintain a Seismic Risk Model for consistent evaluation of seismic risk in University Facilities, when needed. For each University Facility identified in the CSE's report as meeting Seismic Performance Rating V, VI, or VII, the Responsible Official shall provide building data to Office of the President for the Seismic Risk Model. If, after assessment of the CSE's report and the results of the Seismic Risk Model, a University Facility is identified with deficiencies, the Responsible Official shall consider alternatives to undiminished continued use and occupancy of the facility, including partial~~

¹ Formerly expressed as Good, Fair, Poor, or Very Poor, see Appendix A.

² For purposes of seismic performance levels, falling hazards are interior and exterior building elements that may fall or slide during an earthquake, including parapets, ornamentation, chimneys, walls, and partitions, but excluding equipment, fixtures, ceilings, furniture, furnishings, and other contents. The excluded elements should not be considered in the determination of the seismic performance rating of a facility but should be considered and abated in the Program for Abatement of Seismic Hazards as set forth in Section III.D.

³ As used in this policy, population represents the number of people, calculated as a weighted average, in any individual University Facility, and is not equivalent to occupancy as defined in the CBC.

~~evacuation, temporary emergency measures, reduction in or cessation of use, demolition, rehabilitation, or combinations of these alternatives. Additionally, the Responsible Official shall develop a plan for rehabilitation in accordance with the requirements of this Policy, including Appendix C. When undertaking a seismic retrofit project, the campus shall comply with CBC requirements for retrofit of existing buildings and the requirements of this Policy.~~

~~The Responsible Official shall incorporate any related capital costs into the campus Ten-Year Capital Financial Plan, as applicable, including a financial feasibility analysis and funding plan, and shall submit annual updates to UCOP Capital Asset Strategies and Finance.~~

All University Facilities must have a current SPR, except certain limited facilities identified in the Facilities Manual.

D. Program for Abatement of Seismic ~~Hazards~~Risks in University Facilities

Each Responsible Official shall develop a Program ~~for Abatement of Seismic Hazards in University Facilities~~ within their respective jurisdictions and shall ~~to~~ establish priorities for seismic ~~rehabilitation~~retrofit projects in accordance with this Policy. Guidelines for retrofit prioritization are included in the Facilities Manual.

The Program ~~for Abatement of Seismic Hazards~~ shall include identification and correction of the potential for earthquake-induced failure of structural and non-structural elements, rupture of utilities, or falling, dislodging, overturning, or sliding, or rupturing hazards such as of interior and exterior building elements, ~~utilities,~~ equipment, fixtures, furnishings, and other contents ~~that could dislodge, fall, overturn, slide, or rupture during a seismic disturbance. Temporary. Interim~~ measures to reduce the risks of injury pending permanent corrective action shall be considered and implemented, ~~if feasible,~~ by the Responsible Official.

~~When funds for seismic rehabilitation are limited, the program developed by the Responsible Official may include a phased rehabilitation program for selected University Facilities. The first phase goal shall be reducing the greatest life and safety hazards of the structures under their jurisdiction, such as reducing the potential of partial collapse and/or reducing falling hazards at entrances and along adjacent walkways. Later phases, performed when funds are available, would complete the seismic rehabilitation program of the facility. A CSE shall assist the Responsible Official in establishing an appropriate scope of work in each phase of a rehabilitation program.~~

~~The Responsible Official shall incorporate any related capital costs into the campus Ten-Year Capital Financial Plan, as applicable, including a financial feasibility analysis and funding plan, and shall submit annual updates to UCOP Capital Asset Strategies and Finance.~~ The Program shall also include plans for a funding plan and schedule for all abatement and ~~rehabilitation~~retrofit as needed for projects above and below the threshold for inclusion in the Capital Financial Plan. The Responsible Official shall incorporate any related capital costs into the Capital Financial Plan, as applicable. Facilities with SPRs of V, VI, or VII reflect conditions that need to be addressed. These facilities must be given high priority in campus capital planning and allocation decisions.

E. ~~Seismic Rehabilitation~~ Standards

1. Geotechnical Standards

All campuses will seek to characterize ground motions and identify geologic hazards considered at the location of a proposed new building or existing building that is a candidate for retrofit, in accordance with one or more of the methodologies specified in the CBSC and through the California Hazards Mapping Act.

2. Standards for New Construction

The design and construction of University Facilities shall comply with the current seismic provisions of the CBC for new buildings and with University policies. An EOR shall be responsible for the structural aspects of the entire project and must sign and stamp all final documents for which he/she is responsible.

3. Standards for Retrofits

In conducting seismic ~~rehabilitation~~retrofit projects, the University shall seek to provide an acceptable level of earthquake safety based on the protection of life and prevention of personal injury, ~~insofar as possible, at a level as described below. The University will seek to identify ground motions at the site and other geologic hazards considered in accordance with one or more of the methodologies specified in the CBC. The seismic rehabilitation, for all phased, voluntary, triggered or mandated upgrades, shall improve buildings and other structures in accordance with the CBC and current practice of earthquake engineering. All seismic rehabilitation projects must be peer reviewed by an Independent Seismic Peer Reviewer in accordance with requirements stated herein. Standards for the retrofit of existing buildings must follow the requirements of the CBSC (including without limitation Sections 317-323 of the CEBC), as well as University policies. To provide further guidance to Campus building officials regarding compliance with the two options in Section 317.6 of the CEBC, a "timely manner" as referenced in (2) means the seismic retrofit shall commence as soon as feasible and the facility must be given high priority in campus capital planning and funding allocation decisions.~~

~~F. Post Earthquake Response~~

~~Each campus or University location shall maintain an emergency response plan for use in the event of a damaging earthquake. The plan shall consider structural condition; hazardous materials; fire and life safety of all facilities; health and safety issues applicable to each facility; coordination/communication with emergency operations centers; procedures for inspection; and a list for post-earthquake inspection of University Facilities, in the order of importance to the location, including all essential services facilities, critical utilities, and high risk or high occupancy facilities. Campus units that may be involved in the emergency response include, but are not limited to, facilities planning, design, and construction; plant operations; environmental health and safety; fire marshal; public safety; campus health services; and housing. When structural inspections are required, the Designated Campus Building Official shall verify that various persons or firms performing~~

~~those structural inspections shall have the appropriate qualifications required for such work.~~

G. — Standards for New Construction and Renovation

~~The design and construction of University Facilities shall comply with the current seismic provisions of CBC for new or existing buildings, as appropriate, and with University policies. An EOR shall be responsible for the structural aspects of the entire project and must sign and stamp all final documents, including deferred submittals, for which he/she is responsible. The structural design includes the design of the structural frame; lateral force-resisting system; foundations; structural aspects of the facility, skin/facade; and support and anchorage of equipment, building systems, and architectural features.~~

4. Renovations, Alterations, and Additions of Existing facilities

Impact of renovations to existing University Facilities shall be assessed relative to CEBC Section 317.3. Where the applicability requirements of Section 317.3 indicate that retrofit or evaluation is required, the evaluation and/or retrofit design shall adhere to the requirements stated under “Standards for Retrofits” above.

F. Peer Review

~~Peer review, with by an Independent Seismic Peer Reviewer, shall be conducted onfor all newthe following:~~

- ~~1. New construction and all renovation of University Facilities;~~
- ~~2. Retrofits of existing construction; and~~
- ~~4-3. Renovations of University Facilities that require alterations or additions to any structural portion of the seismic lateral or gravity load-bearing structure or that involve structural design and that are intended for human occupancy, or which affect life or safety of the occupants.~~

The Independent Seismic Peer Reviewer shall be contracted for and paid directly by the ~~University~~campus. The Designated Campus Building Official shall select the Independent Seismic Peer Reviewer and plan for the peer review.

~~Peer review is optional and at See the discretion of the Responsible Official for:~~

- ~~1. one and two-story wood-framed buildings of less than 3,000 square feet, as long as the space is not to house pre-school age children;~~
- ~~2. a one-story, wood-framed building, or a one or two-story, wood-framed single-family residence on a level site;~~
- ~~3. a re-locatable structure, such as a trailer, but only if the structure does not have a natural gas connection;~~

~~University Facilities not intendedManual for additional requirements and options for human occupancy;Peer Review.~~

- ~~4. hospitals (under the jurisdiction of the Office of Statewide Health Planning and Development); K-12 schools and Community Colleges on University land (if under the jurisdiction of the Division of the State Architect); and~~
- ~~5. small projects that the Designated Campus Building Official determines do not involve structural work requiring design by a consulting engineer and do not alter lateral structural systems.~~

H.G. Standards for Acquisition by Purchase or Other Title Transfer

1. ~~Prior to acquisition of any structure or facility for University occupancy, either by purchase or other title transfer, the University shall retain a CSE to perform a seismic evaluation and assign an SPR in accordance with Section III.C above. In addition, any structure or facility proposed to be acquired that is located within a Seismic Hazard Zone shall be investigated to determine the potential hazard and assessment of its potential effect on the structure or facility.~~
- 1.2. ~~Except as provided below, each structure or facility that will become a University Facility through acquisition by purchase or other title transfer to the University, and subsequent University occupancy, shall must be rated at least Performance Level SPR II or IV (see Appendix A Section III.C), depending on occupancy category.~~
- 2.3. ~~The University may acquire property by purchase or other title transfer with a structure or facility rated at Performance Level V, with an SPR of V only if the structure or facility is unoccupied at the time of title transfer; except that use for University-related purposes is allowed for no more than 24 months only when the space is used for relocation while from another University Facility or Leased Facility that is undergoing seismic rehabilitation retrofit.~~
- 3.4. ~~The University may acquire property by purchase or other title transfer with a structure or facility rated at Performance Level with an SPR of V or VI, only if the structure or facility is unoccupied at the time of title transfer. The structure or facility must remain unoccupied until it is rated at least Performance Level SPR II or IV (see Appendix A Section III.C), depending on occupancy category.~~
- 4.5. ~~The University may acquire property with a structure or facility rated Performance Level with an SPR of VII, only if the structure or facility is unoccupied at the time of title transfer. The structure or facility must remain unoccupied, and must be brought into compliance with this Policy or demolished within ~~three~~12 months of title transfer.~~
- 5.6. ~~For any proposed acquisition or other title transfer subject to section H.2, H Sections III.G.3, III.G.4 or 1.4 III.G.5, approval documentation (whether approved by the Regents or approved under delegated authority) must include: an estimate of the total project cost to undertake retrofitting to achieve conformance to the requirements of Section III.E; or to demolish the structure(s) or facility(ies).~~

H. An analysis of the economic risk to the Standards for Leased Facilities

- a. ~~University based on a Probable Loss (PL) Report⁴ including an estimate of the total project cost to repair the structure or facility after the seismic event in the PL Report; and~~
- b. ~~An estimate of the total project cost to undertake interim structural changes to achieve at least Performance Level rating of II or IV; or to demolish the structure(s) or facility(ies).~~

~~Prior to acquisition by purchase or other title transfer, the Designated Campus Building Official must evaluate a structure's or facility's compliance with this Policy by means of a seismic review in accordance with Section III.J, and report to the Responsible Official on such compliance.~~

1. Prior to entering into a new Lease or renewing an existing Lease for University occupancy, the University shall retain a CSE to perform a seismic evaluation and assign an SPR in accordance with Section III.C above. In addition, the CSE performing the evaluation should determine whether the structure or facility proposed to be occupied through a Lease is located within a Seismic Hazard Zone; if it is, the CSE shall further investigate to determine the potential hazard and assess its potential effect on the structure or facility.

~~I.A. All Standards for Leased Facilities~~

1. ~~For Leased Facilities, the facility shall be rated, at a minimum, Seismic Performance Rating SPR II or IV (see Appendix A Section III.C), depending on occupancy.~~
2. ~~The University may lease enter into a Lease for space within a facility rated at Seismic Performance Rating SPR V for University-related purposes for no more than 24 months, but only when the space is used for relocation from another University Facility or Leased Facility that is undergoing seismic rehabilitation retrofit.~~
3. ~~The University may enter into a Lease for a property within a facility rated at SPR V, VI or VII for University-related purposes if the structure or facility is unoccupied at the time of entering into such Lease. The structure or facility must remain unoccupied until it is rated at least SPR II or IV (see Section III.C), depending on occupancy category.~~
- 3.4. ~~Prior to lease entering into a Lease, the Designated Campus Building Official DCBO must evaluate a facility's compliance with this Policy by review of a completed Certificate and all requirements of Applicable Code (Appendix B) or by means of a seismic review, in accordance with Section III.J the Facilities Manual, and report to the Responsible Official on such compliance. A CSE or a licensed architect in the state the building is located (a University of California employee may not perform this function except that a licensed faculty member otherwise qualified may serve in this capacity) shall complete the University's~~

⁴ PL reports shall be completed following the requirements of ASTM E 2026 as Level 1 investigation for Site Stability, Building Stability, and Building Damageability where PL is defined as the scenario expected loss (SEL) and scenario upper loss (SUL) in the design basis earthquake ground motion (DBE).

~~Certificate of Applicable Code~~applicable form (see Appendix B Facilities Manual) prior to lease if the space to be leased is contained within a facility where:entering into such Lease.

- ~~a. design and construction was approved by the local jurisdiction pursuant to the 1998 or later edition of the California Building Standards Code, or~~
- ~~b. design and construction was approved by the local jurisdiction pursuant to the 1976 or later edition of the UBC and does not contain any of the following construction conditions:~~
 - ~~(i) unreinforced masonry walls; whether load-bearing or not; not including brick veneer;~~
 - ~~(ii) precast, pre-stressed, or post-tensioned structural or architectural elements, except piles;~~
 - ~~(iii) flexible diaphragm (e.g., plywood) and masonry or concrete shear wall;~~
 - ~~(iv) apparent additions, or modifications, or repairs to the structural system done without a building permit;~~
 - ~~(v) constructed on a site with a slope with one or more stories partially below grade (taken as 50% or less) for a portion of their exterior;~~
 - ~~(vi) soft or weak story, including wood frame structures with cripple walls, or is construction over first-story parking;~~
 - ~~(vii) structural repairs from seismic damage;~~
 - ~~(viii) welded steel moment frames (WSMF) that constitute the primary seismic force-resisting system for the building and the structure was designed to code requirements preceding those of the 1997 edition of the Uniform Building Code, and the building site has experienced an earthquake of sufficient magnitude and site peak ground motions that inspection is required when any of the conditions of Section 3.2 of FEMA 352 indicate an investigation of beam-column connections is warranted; e.g., visible signs of distress or deterioration of structural or non-structural systems, e.g., excessively cracked and/or spalling concrete walls or foundations, wood dry rot, etc.~~

~~The Certificate of Applicable Code in Appendix B must not be edited. If edits are necessary prior to signing, the Certificate of Applicable Code form may not be used. In such circumstances, the University shall contract and pay a CSE for a seismic review, in accordance with section III.J. Alternatively, the University may accept, at its sole discretion, a landlord's independent review report that has been verified by the Seismic Advisory Board.~~

~~If the building is to be leased for an acute care hospital, an essential services building, or K-12 school, a CSE must be engaged by the Responsible Official to examine the facility and to submit a report on the adequacy of the resistance of the entire building/other facility(ies) to seismic forces.~~

4.5. If the University enters into transactions where the leased space occupied through a Lease of real property is ancillary to, but a necessary part of, a business transaction, (such as the purchase of a physician practice or ancillary health care services provider) that, at the time of the transaction, occupies leased space, through a Lease, the following shall apply.

Notwithstanding any provision in this ~~section~~ Section III.H to the contrary, with respect to a Leased Facility that is ancillary to a business transaction:

- a. Prior to close of the business transaction, the ~~Designated Campus Building Official~~ DCBO shall follow requirements of Section III.I.3H.1 of this Policy;
- b. If the Leased Facility is rated at ~~Performance Level~~ SPR V, the University may use the space for no more than 24 months from the date of determination of such a rating;
- c. If the Leased Facility is rated at ~~Performance Level~~ SPR VI or VII, the facility must be vacated prior to close of the business transaction; and
- d. The Responsible Official shall promptly report to the Office of the President any ~~leases~~ leases assumed or entered into pursuant to this ~~section~~ Section III.H.6.

J. — Seismic Review

~~A seismic review, by a CSE, is required prior to acquisition or title transfer in accordance with Section III.H, and may be required prior to University signing a lease in accordance with Section III.I.~~

~~The review shall use the current structural engineering techniques and data appropriate for the structure type, use, and age. Ground motions at the site and other geologic hazards considered shall be determined in accordance with any of the methodologies in the CBC (including site-specific studies, time-history studies, etc.). At a minimum, the review shall include a review of plans, specifications, and calculations (when available); and a report on the adequacy of the resistance of such facilities to seismic forces based on:~~

- ~~1. conformance to the current seismic provisions of the CBC for new or existing buildings;~~
- ~~2. the CSE's professional evaluation of such facilities anticipated seismic performance, expressed in terms of Performance Levels I through VII (as defined in Appendix A) with respect to degree of risk to life and safety of persons;~~
- ~~3. identification of potential falling hazards that pose a significant life or safety hazard to occupants; and~~
- ~~4. a written technical discussion of the basis for such facilities' performance level rating.~~

K.I. Special Considerations

1. **Geotechnical Investigations:** Any geotechnical investigation conducted for a University project shall include consideration of the potential for, and likely

magnitude of, seismically induced siteground failure hazards, including liquefaction, differential settlement, lateral spreading, land slidingearthquake-induced landsliding, and surface faulting.

2. **Deferred Approvals ~~or Multiple Design Packages~~for structural building components**: If a project includes deferred submittals, or a portion of the project is designed by design-build subcontractors, the structural design for such components or portions of a facility shall be under the responsible charge of a Component Engineer of RecordCEOR and must be signed or stamped by that individual. In order to establish responsibility for the overall design and component design, the project EOR and the CEOR shall have responsibility as follows:
 - a. The EOR shall establish written criteria and other requirements necessary for coordination of the components and their incorporation into the overall structural system and design before the project is released for design of the system or components by the CEOR. The EOR shall review, and document such review, the design of these elements for general conformance with the established criteria prior to construction.
 - b. The CEOR design for each submittal shall include calculations indicating design criteria, applicable loads, properties, and deformation analysis as required by the EOR;in accordance with the component or system design requirements provided in the contract documents. The CEOR design information shall include plans and details indicating all structural elements of the component; assemblage of elements including, as appropriate, profiles, connections, welding, bracing, and attachments to elements designed by others. The resulting construction documents (plans, calculations, and details) shall bear the stamp and signature of the CEOR.
 - c. Special inspection requirements specific to the deferred work must be prepared and submitted with the design documents for each deferred item.
- ~~3. **Pre-Engineered Structures**: Pre-engineered structures often provide certificates from various agencies in lieu of specific engineering and seismic calculations, and may include requirements for installation necessary to achieve the certificated performance. These structures may include 'Butler' style buildings, awnings, and bridges. All such structures must have design documents signed and stamped by a registered structural engineer. When a proposed structure is freestanding with an acceptance certificate applicable to the site's seismic coefficients, the structure may be accepted without the review of an Independent Seismic Peer Reviewer, provided:~~
 - ~~a. there will be no applied loads to the structure other than the self-loads;~~
 - ~~b. piping, lighting, and similar elements may be attached to the structure insofar as the manufacturer's specifications allow; and~~
 - ~~c. structures may be attached to existing buildings when the element has a certificate applicable to the site's seismic coefficients without the review of an~~

~~Independent Seismic Peer Reviewer provided the structure to which it is attached is verified for gravity, wind, and seismic loads.~~

~~If the structure's certificate of approval does not include foundation requirements, then the foundation design shall undergo a review by an Independent Seismic Peer Reviewer. When a trailer is placed on the ground, and the wheels are removed or are not in contact with the ground, then this Policy applies. The peer review shall focus on the lateral bracing of the installation and not of the unit itself, except to verify the capacity of anchor points to transfer applied lateral loads.~~

4.3. Ground Leases: Where the University has entered into a ground lease, as lessee or lessor, upon which a third-party constructs a structure for University related use, the third-party shall be required to design, build, and maintain the structure, as if it were a University Facility, consistent with this Policy.

~~L. Provisional Use Authorization~~

~~Where a Leased Facility does not meet the foregoing requirements, provisional use of the facility may be authorized. The local Responsible Official is responsible for documenting in writing that provisional use of the facility or space is authorized pursuant to this Section. Requests for the provisional use of facilities or space beyond the listed allowances must be submitted in writing to the Office of the President for approval. Provisional use may be authorized under the following limited conditions:~~

- ~~5. The area of the space to be occupied by the University is 3,000 sf or less, and the space is not to house pre-school age children;~~
- ~~6. The building is a one-story, wood-framed building, or a one or two-story, wood-framed single-family residence on a level site;~~
- ~~7. The building is a re-locatable structure, such as a trailer, but only if the structure does not have a natural gas connection; or~~
- ~~8. The building is subject to the regulatory authority of the Office of Statewide Hospital Planning and Development or is a schoolhouse regulated under the Field Act by the Division of the State Architect (and accordingly is otherwise evaluated pursuant to a rigorous seismic safety standard), and occupancy of that structure is allowed under the applicable regulatory scheme.~~

IV. COMPLIANCE / RESPONSIBILITIES

The ~~Executive Vice President-CFO~~Responsible Officer through UCOP Capital Asset Strategies & Finance is responsible for overall administration of this Policy, including:

1. interpretation or clarification of this Policy;
2. providing advice on additional seismic safety criteria, standards, and guidelines, as necessary; and

3. ~~working to evaluate~~evaluating seismic safety programs and review of proposals for abatement of seismic hazards.

Responsible Officials ~~are tasked with taking~~shall take reasonable steps to assure protection of persons ~~under from loss of life, injury, or property damage resulting from earthquakes in~~ their respective jurisdictions ~~against the effects of earthquakes, which could result in the loss of life or injury. Each such.~~ This responsibility may not be ~~delegated, except for responsibilities specifically delegable in this Policy. However, each~~ Responsible Official ~~shall~~may assign specific duties and authority to individuals within ~~the~~their respective jurisdiction to assist in the discharge of this responsibility.

V. PROCEDURES

See Volume 3, Chapter 5 and the Resource Directory of the University of California Facilities Manual.

VI. RELATED INFORMATION

~~Appendix A: Earthquake Seismic Performance Level for existing buildings
Appendix B: University of California Certificate of Applicable Code for Leased Facilities
Appendix C: Guidelines for Prioritization of Seismic Rehabilitation~~
California Code of Regulations, Title 24, ~~Part 10,~~ California Building Standards Code, including Part 2, the California Building Code, and Part 10, the California Existing Building Code

Section 15001 of the California Health and Safety Code

California ~~Uniform Building~~Seismic Hazards Mapping Act (Public Resources Code, Chapter 7.8, Section 2690-2699.6)

VII. FREQUENTLY ASKED QUESTIONS

Not applicable.

VIII. REVISION HISTORY

~~5/xxxx xx, xxxx:~~ Significantly revised to reflect guidance from the Seismic Advisory Board; moved portions of prior Policy to the UC Seismic Program Guidebook, including Appendices A, B and C, which is part of the UC Facilities Manual; and made numerous conforming changes.

May 22/, 2017: Reformatted to meet Web Content Accessibility Guidelines (WCAG) 2.0.
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May 19, 2017: Established SAB, implemented seismic risk model in lieu of interim use plans, modified leases and acquisitions, included prioritization guidelines, and made editorial revisions throughout the Policy.

January 9, 2017: Changed policy owner contact information and the interim overall authority in the administration of the Policy. Added a definition of lease and removed applicability to licenses.

September 15, 2014: Updated Appendix B to reflect the certificate developed by the California State University and the Department of General Services. Also, transferred policy in the Official UC Template.

August 25, 2011: The Seismic Safety Policy incorporates and consolidates the three policies listed above to provide consistency with newer ratings systems for seismic safety adopted by Department of General Services (DGS) Division of the State Architect (DSA) and the California State University, and to reflect current practices with regard to engineering and process. ~~This Policy supersedes all previous versions.~~

April 20, 2005; January 17, 1995; May 17, 1988: Minor editorial changes.

October 16, 1996: Seismic Safety Policy for Leased and Purchased Facilities (issued by Assistant Vice President Bocchicchio, and revised by President Dynes in his June 29, 2007 letter to Chancellors)

September 30, 1985: Policy for Independent Seismic Review of Capital Projects, revised on June 29, 2007.

January 16, 1975: Seismic Safety Policy reviewed and accepted by the Regents' Grounds and Buildings Committee, and formally transmitted to campuses by Vice President McCorkle on January 20, 1975.

Appendix A

Expected Seismic Performance Levels

This series of definitions was developed by the California State University, the University of California, the California Department of General Services, and the Administrative Office of the Courts from 1995 through 2009.

Table A.1. Determination of Expected Seismic Performance Level¹ Based on the Edition, California Code of Regulations, Part 10, California Building Code (CBC) (current edition)

Definitions based upon California Building Code (CBC) requirements for seismic evaluation of buildings using Risk Categories of CBC Table 1604A.5, depending on which applies, and performance criteria in CBC Table 317.5²	Expected Seismic Performance Level¹
A building evaluated as meeting or exceeding the requirements of CBC Part 10 Chapter 3 for Risk Category IV performance criteria with BSE-1N and BSE-2N hazard levels replacing BSE-R and BSE-C as given in Chapter 3.	I
A building evaluated as meeting or exceeding the requirements of CBC Part 10 Chapter 3 for Risk Category IV performance criteria.	II
A building evaluated as meeting or exceeding the requirements of CBC Part 10 Chapter 3 for Risk Category I-III performance criteria with BSE-1N and BSE-2N hazard levels replacing BSE-R and BSE-C respectively as given in Chapter 3; alternatively, a building meeting CBC requirements for a new building.	III
A building evaluated as meeting or exceeding the requirements of CBC Part 10 Chapter 3 for Risk Category I-III performance criteria.	IV
A building evaluated as meeting or exceeding the requirements of CBC Part 10 Chapter 3 for Risk Category I-III performance criteria only if the BSE-R and BSE-C values are reduced to 2/3 of those specified for the site.	V
A building evaluated as not meeting the minimum requirements for Level V designation and not requiring a Level VII designation.	VI
A building evaluated as posing an immediate life safety hazard to its occupants under gravity loads. The building should be evacuated and posted as dangerous until remedial actions are taken to assure the building can support CBC prescribed dead and live loads.	VII

Table A.2. Approximate Relationship Between UC's Historic Seismic Performance Ratings and Current Expected Seismic Performance Levels

Expected Seismic Performance Level¹	UC's Historic Ratings⁵	Implied Risk to Life³	Implied Seismic Damageability⁴
I	Good	Negligible	0% to 10%
II	Good	Insignificant	0% to 15%
III	Good	Slight	5% to 20%
IV	Fair	Small	10% to 30%
V	Poor	Serious	20% to 50%
VI	Very Poor	Severe	40% to 100%
VII	Very Poor	Dangerous	100%

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Notes:

1. ~~Expected seismic performance levels are indicated by Roman numerals I through VII. Assignments are to be made following a professional assessment of the building's expected seismic performance as measured by a GSE's experience or referenced technical standard and earthquake ground motions. Equivalent Arabic numerals, fractional values, or plus or minus values are not to be used. These assignments were prepared by a task force of state agency technical personnel, including the California State University, the University of California, the California Department of General Services, the Division of the State Architect, and the Administrative Office of the Courts. The levels apply to structural and non-structural elements of the building as contained in Chapter 3, CBC Part 10 requirements. These definitions replace those previously used by these agencies.~~
2. ~~Chapter 3 of the California Building Code Part 10, current edition, regulates existing buildings. It uses and references the American Society of Civil Engineers Standard *Seismic Rehabilitation of Existing Buildings, ASCE 41-13*. All earthquake ground motion criteria are specific to the site of the evaluated building. The CBC definitions for earthquake ground motions to be assessed are paraphrased below for convenience:~~
 - ~~BSE-2N, the 2,475-year return period earthquake ground motion, or 150% of the Maximum Considered Earthquake ground motion for the site.~~
 - ~~BSE-C, the 975-year return period earthquake ground motion.~~
 - ~~BSE-1N, two-thirds of the BSE-2N, nominally, the 475-year return period earthquake ground motion. BSE-R, the 225-year return period earthquake ground motion.~~

~~*Risk Category* is defined in the CBC Table 1604A.5. The risk category sets the level of required seismic building performance under the CBC. Risk Category IV includes acute care hospitals, fire, rescue and police stations and emergency vehicle garages, designated emergency shelters, emergency operations centers, and structures containing highly toxic materials where the quantities exceed the maximum allowed quantities, among others. Risk categories I-III includes all other building uses that include most state-owned buildings.~~
4. ~~Implied Risk to Life is a subjective measure of the threat of a life threatening injury or death that is expected to occur in an average building in each rank following the indicated technical requirements. The terms negligible through dangerous are not specifically defined, but are linguistic indications of the relative degree of hazard posed to an individual occupant.~~
5. ~~Implied Damageability is the level of damage expected to the average building in each rank following the indicated technical requirements when a BSE-11E level earthquake occurs. The damage includes both the structural and non-structural systems, but does not consider furnishing and tenant contents.~~
6. ~~Historically the University of California has used the terms good, fair, poor and very poor to distinguish the relative seismic performance of buildings. The concordance of values in the table above is approximate. The former rating procedures did not provide specific performance levels as is done herein, but were sentence fragments for qualitative performance and are recalled below for historical purposes only:~~
 - ~~A *Good* seismic performance rating would apply to buildings and other structures whose performance during a major seismic disturbance is anticipated to result in some structural and/or nonstructural damage and/or falling hazards that would not significantly jeopardize life. Buildings and other structures with a Good rating would have a level of seismic resistance such that funds need not be spent to improve their seismic resistance to gain greater life safety, and would represent an acceptable level of earthquake safety.~~
 - ~~A *Fair* seismic performance rating would apply to buildings and other structures whose performance during a major seismic disturbance is anticipated to result in structural and nonstructural damage and/or falling hazards that would represent low life hazards. Buildings and other structures with a Fair seismic performance rating would be given a low priority for expenditures to improve their seismic resistance and/or to reduce falling hazards so that the building could be reclassified Good.~~
 - ~~A *Poor* seismic performance rating would apply to buildings and other structures whose performance during a major seismic disturbance is anticipated to result in significant structural and nonstructural damage and/or falling hazards that would represent appreciable life hazards. Such buildings or structures either would be given a high priority for expenditures to improve their seismic resistance and/or to reduce falling hazards so that the building could be reclassified as Good, or would be considered for other abatement programs, such as reduction of occupancy.~~
 - ~~A *Very Poor* seismic performance rating would apply to buildings and other structures whose performance during a major seismic disturbance is anticipated to result in extensive structural and nonstructural damage, potential structural collapse, and/or falling hazards that would represent high life hazards. Such buildings or structures either would be given the highest priority for expenditures to improve their seismic resistance and/or~~

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~~to reduce falling hazards so that the building could be reclassified Good, or would be considered for other abatement programs such as reduction of occupancy.~~

Appendix B
UNIVERSITY OF CALIFORNIA
CERTIFICATE OF APPLICABLE CODE

Building Address: _____ (**"Building"**)
I, _____ an architect, civil engineer, or structural engineer, duly licensed by the State of _____, am responsible for, and performed the bulk of the work reported in this certificate and I have no ownership interest in the property mentioned above. I hereby certify that I or someone under my direct supervision prepared this Certificate. I further certify that the entire Building was constructed under a permit approved by the local jurisdiction and was designed to meet either:

- 1998 or subsequent editions of the California Building Code (CBC)
OR
- 1976 or subsequent editions of the Uniform Building Code (UBC) and, the Building does **not** contain any of the following conditions:
 - i. unreinforced masonry walls; whether load-bearing or not; not including brick veneer;
 - ii. precast, pre-stressed, or post-tensioned structural or architectural elements, except piles;
 - iii. flexible diaphragm (e.g., plywood) and masonry or concrete shear wall;
 - iv. apparent additions, or modifications, or repairs to the structural system done without a building permit;
 - v. constructed on a site with a slope with one or more stories partially below grade (taken as 50% or less) for a portion of their exterior;
 - vi. soft or weak story, including wood frame structures with cripple walls, or is construction over first-story parking;
 - vii. structural repairs from seismic damage;
 - viii. welded steel moment frames (WSMF) that constitute the primary seismic force-resisting system for the building and the structure was designed to code requirements preceding those of the 1997 edition of the Uniform Building Code, and the building site has experienced an earthquake of sufficient magnitude and site peak ground motions that inspection is required when any of the conditions of Section 3.2 of FEMA 352 indicate an investigation of beam-column connections is warranted; i.e., visible signs of distress or deterioration of structural or non-structural systems, e.g., excessively cracked and/or spalling concrete walls or foundations, wood dry rot, etc.

I have attached a copy of the certificate of occupancy. I have retained documentation of the selected performance level evaluation and shall make them available upon request.

Print Name _____ Title _____

AFFIX SEAL HERE

License No. _____ License Expiration Date: _____

Signature _____ Date _____

Firm Name, Phone No. and Address _____

Comments: For a building not qualifying under these criteria; a Seismic Review must be performed, in accordance with section III.J.

Appendix C
Guidelines for Prioritization of Seismic Rehabilitation

~~For buildings that have been determined to have a Seismic Performance Rating of V, VI, or VII, the affected campus shall develop a systematic plan including prioritization that is included annually within the 10-year Capital Financial Plan.~~

~~Campuses shall consider relevant factors when developing the prioritization plan, including but not limited to (the list below is in no order of importance):~~

- ~~• Building collapse risk~~
- ~~• Logistics (e.g., locations to stage displaced building occupants during seismic upgrade work)~~
- ~~• Cost-benefit (e.g., the amount of improved performance compared to a project's cost, evaluation of building replacement)~~
- ~~• Post-upgrade functionality (e.g., after the seismic upgrade, is the building fit for purpose?)~~
- ~~• Incremental seismic performance upgrades (e.g., undertaking projects that address the most serious seismic performance issues in a building and deferring projects that further improve seismic performance)~~
- ~~• Mission criticality (e.g., the extent to which the building provides functional capabilities that cannot be easily duplicated elsewhere)~~
- ~~• Building population and use (e.g., as a short-term strategy, can building population be managed to reduce seismic risk?)~~
- ~~• Financial resources (e.g., debt capacity, state funding, loss/gain of revenue)~~
- ~~• Business resumption after an event (the need to have that building functional right after an event)~~
- ~~• Special features (e.g., does the building have historical or political significance?)~~
- ~~• Adjacencies (e.g., the extent to which the building poses a risk to adjacent buildings, property or facilities, including those not owned by UC, or places users of adjacent facilities at risk)~~
- ~~• Ownership (e.g., does UC have the ability to make the changes required?)~~

~~A campus may utilize various strategies to manage the seismic performance of its buildings, including requiring capital investment or other options that improve building seismic performance (e.g., through seismic upgrade projects), reduce exposure to seismically risky structures (e.g., reductions in building population or building closures), additional investigation and analysis of expected seismic performance, or solutions that involve the use of third party investments and/or facilities.~~

~~Notwithstanding any other provisions of this Policy, Responsible Officials shall, for buildings under their jurisdiction, ensure that in no event a University Facility with a Seismic Performance Rating of V or VI as defined in Appendix A, is occupied beyond December 31, 2030. However, a Responsible Official may modify this date on a building-by-building or portfolio basis in reliance on a recommendation from the Seismic Advisory Board and after consultation and concurrence by the General Counsel,~~