

# REVISION RECORD FOR THE STATE OF CALIFORNIA

## EMERGENCY SUPPLEMENT

June 22, 2012

2010 Title 24, Part 1, California Administrative Code

**PLEASE NOTE: The date of this errata is for identification purposes only.  
See the History Note Appendix for the adoption and effective dates of the provisions.**

It is suggested that the section number, as well as the page number be checked when inserting this material and removing the superseded material. In case of doubt, rely on the section numbers rather than the page numbers because the section numbers must run consecutively.

It is further suggested that the superseded material be retained with this revision record sheet so that the prior wording of any section can be easily ascertained.

Please keep the removed pages with this revision page for future reference.

### Part 1

#### Note

**Due to the fact that the application date for a building permit establishes the California Building Standards Code provisions that are effective at the local level, which apply to the plans, specifications, and construction for that permit, it is strongly recommended that the removed pages be retained for historical reference.**

#### Remove Existing Pages

63 and 64  
67 through 70  
71 and 72  
93 and 94  
101 and 102  
109 and 110  
115 and 116  
119 through 126  
135 and 136  
155 and 156

#### Insert Blue Pages

63 and 64  
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## CHAPTER 6

# SEISMIC EVALUATION PROCEDURES FOR HOSPITAL BUILDINGS

## ADMINISTRATIVE REGULATIONS FOR THE OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT (OSHPD)

### ARTICLE 1 DEFINITIONS AND REQUIREMENTS

**1.0 Scope.** The regulations in this article shall apply to the administrative procedures necessary to implement the seismic retrofit requirements of the Alfred E. Alquist Hospital Facilities Seismic Safety Act of 1983.

**1.1 Application.** The regulations shall apply to all general acute care hospital facilities as defined in Section 1.2 of these regulations.

**1.2 Definitions.** Unless otherwise stated, the words and phrases defined in this section shall have the meaning stated therein throughout Chapter 6, Part 1, Title 24.

**ADMINISTRATIVE EXTENSION** means an extension not to exceed two years granted while the hospital's application for an extension pursuant to Section 1.5.2 Item 8 is being reviewed by the Office.

**ALTERNATIVE ANALYSIS** means a complete seismic analysis using methodology approved in advance by the Office and meeting the criteria of Article 2, Section 2.7 of these regulations.

**BULK MEDICAL GAS SYSTEM** means an assembly of fixed equipment such as storage containers, pressure regulators, pressure relief devices, vaporizers, manifolds and interconnecting piping that has a capacity of more than 20,000 cubic feet (NTP) of cryogenic medical gas.

**COMMUNICATIONS SYSTEM** means the assembly of equipment such as telephone switchgear, computers, batteries, radios, microwave communications systems, towers and antennas that provide essential internal and external communication links.

**COMPLETE STRUCTURAL DAMAGE** means a significant portion of the structural elements have exceeded their ultimate capacities for some critical structural elements or connections have failed, resulting in dangerous permanent lateral displacement, partial collapse or collapse of the entire building. A Complete Structural Damage would be a loss of 100% of the building's replacement cost.

**CONFORMING BUILDING** means a building originally constructed in compliance with the requirements of the 1973 or subsequent edition of the *California Building Code*.

**CRITICAL CARE AREA** means those special care units, intensive care units, coronary care units, angiography laboratories, cardiac catheterization laboratories, delivery rooms, emergency rooms, operating rooms, postoperative recovery rooms and similar areas in which patients are intended to be subjected to invasive procedures and connected to line-operated, electromedical devices.

**CRITICAL COMMUNITY PROVIDER** means hospitals determined to be critical to community access to healthcare, as determined in Section 1.5.2 Item 8.5.

**EMERGENCY POWER SUPPLY (EPS)** means the source of electric power including all related electrical and mechanical components of the proper size or capacity, or both, required for the generation of the required electrical power at the EPS

output terminals. For rotary energy converters, components of an EPS include the prime mover, cooling system, generator, excitation system, starting system, control system, fuel system and lube system (if required).

**ESSENTIAL ELECTRICAL SYSTEMS** means a system as defined in the *California Electrical Code*, Article 517 "Health Care Facilities," Chapter 5, Part 3 of Title 24.

**FIRE ALARM SYSTEM** means a system or portion of a combination system consisting of components and circuits arranged to monitor and annunciate the status of fire alarm or supervisory signal initiating devices and to initiate appropriate response to those signals.

**FUNCTIONAL CONTIGUOUS GROUPING** means a group of hospital buildings, each of which contains the primary source of one or more basic service that are operationally interconnected in a manner acceptable to the Department of Health Services.

**GENERAL ACUTE CARE HOSPITAL** as used in Chapter 6, Part 1 means a hospital building as defined in Section 129725 of the Health and Safety Code and that is also licensed pursuant to subdivision (a) of Section 1250 of the Health and Safety Code, but does not include these buildings if the beds licensed pursuant to subdivision (a) of Section 1250 of the Health and Safety Code, as of January 1, 1995, comprise 10 percent or less of the total licensed beds of the total physical plant, and does not include facilities owned or operated, or both, by the Department of Corrections. It also precludes hospital buildings that may be licensed under the above mentioned code sections, but provide skilled nursing or acute psychiatric services only.

**HOSPITAL EQUIPMENT** means equipment permanently attached to the building utility services such as surgical, morgue, and recovery room fixtures, radiology equipment, medical gas containers, food service fixtures, essential laboratory equipment, TV supports, etc.

**HYBRID STRUCTURE** means a structure consisting of an original and one or more additions, constructed at different times, and with lateral-force-resisting systems of different types, or constructed with differing materials or a different design approach. The original building and additions are interconnected and not seismically isolated.

**NONCONFORMING BUILDING** means any building that is not a conforming building.

**NONSTRUCTURAL PERFORMANCE CATEGORY (NPC)** means a measure of the probable seismic performance of building contents and nonstructural systems critical to providing basic services to inpatients and the public following an earthquake, as defined in Article 11, Table 11.1 of these regulations.

**PATIENT ORIGIN REGION** is a geographic area bounded by the same U.S. Postal Service five-digit Zip Code. For the purposes of determining the hospital service area the patient origin region may be referred to as "region."

**PRIMARY SOURCE** means that building or portion of a building identified by the hospital as housing the main or prin-

cipal source of a basic hospital service, serving the greatest number of patients, providing the greatest number of patient beds, or having the largest/greatest floor space of the specified basic service. The hospital may submit data to substantiate the primary source through alternative criteria if different than above.

**PRINCIPAL HORIZONTAL DIRECTIONS** means the two predominant orthogonal translational modes of vibration with the lowest frequency.

**PROBABILITY OF COLLAPSE** means the fraction of building that is expected to collapse given that the ground motions defined in Section 1.4.5.1.2.1.4 occur at the building site.

**REGION** see definition for “patient origin region.”

**SIGNIFICANT STRUCTURAL DEFICIENCY** means an attribute of the structure considered to be significant with respect to Probability of Collapse.

**SLENDER SEISMIC RESISTING SYSTEM** means any vertical system for resisting lateral forces, such as walls, braced frames or moment frames, with a height to width ratio greater than four for the minimum horizontal dimension at any height.

**STRUCTURAL PERFORMANCE CATEGORY (SPC)** means a measure of the probable seismic performance of building structural systems and risk to life posed by a building subject to an earthquake, as defined in Article 2, Table 2.5.3 of these regulations.

**1.3 Seismic evaluation.** All general acute care hospital owners shall perform a seismic evaluation on each hospital building in accordance with the Seismic Evaluation Procedures as specified in Articles 2 through 11 of these regulations. By January 1, 2001, hospital owners shall submit the results of the seismic evaluation to the Office for review and approval. By completing this seismic evaluation, a hospital facility can determine its respective seismic performance categories for both the Structural Performance Category (SPC) and the Nonstructural Performance Category (NPC) in accordance with Articles 2 and 11 of these regulations.

**1.3.1 Seismic evaluation submittal.** Hospital owners shall submit the seismic evaluation report to the Office by January 1, 2001. There are no provisions for submittal of the evaluation report after this date, except as provided in Section 1.4.5.1.2. The hospital owners shall submit the evaluation report in accordance with Section 7-113, “Application for Plan Report or Seismic Compliance Extension Review” and Section 7-133, “Fees” of Article 3, Chapter 7, Part 1, Title 24.

**Exceptions:**

1. Any hospital facility owner whose building is exempted from the structural evaluation per Section 2.0.1.2 shall not be required to submit a structural evaluation report as specified in Section 1.3.3. In lieu of the structural evaluation report, hospital owners shall submit the matrix of construction information for the specified building(s) as noted in Section 1.3.4.6 to the Office by January 1, 2001;
2. Any hospital facility owner whose building is exempted from the nonstructural seismic evaluation per Section 11.0.1.2 shall not be required to submit a

nonstructural evaluation report as specified in Section 1.3.4. In lieu of the nonstructural evaluation report, hospital owners shall submit the matrix of construction information for the specified building(s) as noted in Section 1.3.4.6 to the Office by January 1, 2001.

**1.3.2 Seismic evaluation format.** The evaluation shall consist of the Structural Evaluation and the Nonstructural Evaluation Reports. The reports shall be prepared in conformance with Part 1, Chapter 7, Title 24 and these regulations and prepared as follows:

1. Reports shall be submitted in an 8<sup>1</sup>/<sub>2</sub>” x 11” format;
2. All site, architectural, and engineering plans shall be formatted on 11- by 17-inch sheets (folded to 8<sup>1</sup>/<sub>2</sub> by 11 inches);
3. Larger sheets, if required to clearly describe the requested information, shall be appended to the reports; and
4. Other supporting documents in addition to those meeting the minimum requirements of Sections 1.3.3 and 1.3.4 may be appended to the reports.

**1.3.3 Structural evaluation report.** The structural evaluation report shall include the following elements:

1. A description of the building, including photographs of the building, and sketches of the lateral force resisting system;
2. The “General Sets of Evaluation Statements” from the Appendix;
3. A synopsis of the investigation and supporting calculations that were made;
4. A list of the deficiencies requiring remediation to change statement responses from false to true; and
5. The SPC for the building, with comments on the relative importance of the deficiencies.

**1.3.4 Nonstructural evaluation report.** The nonstructural evaluation report shall include the following elements:

1. A written description of the evaluation methods and procedures conducted in conformance with Article 11 of these regulations for the determination of the facilities existing compliance. The description shall include the systems and components required for the planned level of nonstructural performance as identified in Table 11.1;

**Exceptions:**

1. Additional evaluations as per Section 11.01.3 will be required for any hospital owner electing to obtain a higher NPC at a future date consistent with an approved compliance plan;
2. A complete nonstructural evaluation up to NPC 5 is required prior to the hospital owner selling or leasing the hospital to another party.
2. Provide single line diagrammatic plans (site plan and floor plans) of the following:
  - 2.1 Location of the following areas/spaces:
    - (a) Central supply areas;
    - (b) Clinical laboratory service spaces;
    - (c) Critical care areas;

- 1.2 A nonstructural evaluation report in accordance with Section 1.3.4.

**Exception:** To change an NPC 1 hospital building to an NPC 2 under this section, the nonstructural evaluation may be limited in scope to the systems and equipment specified in Section 11.2.1.

2. The building has been modified to comply with the requirements of Chapter 34A, Part 2 of Title 24 for the specified SPC or NPC.

**1.4.5.1.2** Hospital buildings with an SPC 1 rating, may be reclassified to SPC 2 by the Office, pursuant to Table 2.5.3, on the basis of a collapse probability assessment per Section 1.4.5.1.2 Item 1 provided the hospital buildings received an extension to the January 1, 2008, compliance deadline in accordance with Section 1.5.2.

**Exception:** Hospital buildings with the following deficiencies are not eligible for reclassification:

- a) The potential for surface fault rupture and surface displacement at the building site is present (Section 9.3.3).

1. Hospital buildings with SPC 1 rating may be reclassified as follows:

a) The Office shall issue a written notice to the hospital owners informing them that they may be eligible for reclassification of their SPC 1 buildings as permitted by this section.

b) For an SPC-1 building to be considered for reclassification to the SPC-2 rating, the hospital owner shall request a collapse probability assessment. The request shall include at a minimum the information and documents specified in Section 1.8.

**1.4.5.1.2.1** Upon assessment of the collapse probability of the SPC-1 building, the Office shall notify the hospital owner in writing the final SPC rating of the subject building.

Every building with collapse probability more than 0.75 percent, but less than or equal to 1.20 percent, shall be altered, repaired or seismically retrofitted to mitigate any deficiencies identified in accordance with Article 10 Sections 10.1.1.1, 10.1.2.2, 10.1.6 and 10.1.7 of this chapter (as part of the complete seismic evaluation in accordance with Section 1.3.3) by January 1, 2015. Hospitals not meeting the deadline set by this section shall not be issued a building permit for any noncompliant building except those required for seismic compliance in accordance with the *California Administrative Code* (Chapter 6), maintenance, and emergency repairs until the building permit required by this section is issued.

**1.4.5.1.2.2** When the collapse probability assessment by the Office results in the building remaining in SPC 1, further evaluation may be provided by the hospital owner in accordance with Section 2.7 in order to substantiate a higher SPC rating.

**1.4.5.1.3** Except as provided in Section 1.4.5.1.4, a nonconforming hospital building that does not meet the structural and nonstructural requirements of Table 2.5.3 and Table 11-1 shall not provide acute care services or beds after the com-

pliance deadlines set forth in Section 1.5.1. After these deadlines, the following shall apply.

1. A nonconforming hospital building used as a hospital outpatient clinical services building shall not be classified as a hospital building. It shall comply with the provisions of Health and Safety Code Section 129725. It shall not be subject to the requirements of Title 24, Part 1, Chapter 6.
2. A nonconforming hospital building used as an acute psychiatric hospital or multistory skilled nursing facility or intermediate care facility shall be classified as a hospital building. However, it shall not be subject to the requirements of Title 24, Part 1, Chapter 6.
3. A nonconforming hospital building used as a single-story wood frame or light steel frame skilled nursing facility or intermediate care facility shall not be classified as a hospital building, and shall not be subject to the requirements of Title 24, Part 1, Chapter 6.
4. A nonconforming hospital building used for purposes other than those listed above shall not be classified as a hospital building; shall not be licensed pursuant to Health and Safety Code Section 1250(a); shall not be subject to the requirements of Title 24, Part 1, Chapter 6; and shall not be under the jurisdiction of the Office.

**1.4.5.1.4** A hospital building from which acute care services and beds have been removed shall not provide such services unless it has been modified to comply with the requirements of SPC 5 and NPC 4 or 5. Prior to use for acute care service, the SPC and/or NPC of the hospital building shall be changed in accordance with Section 1.4.5.1.1.

**1.5 Compliance requirements.** All general acute care hospital owners shall comply with the seismic performance categories, both SPCs and NPCs, established in the seismic evaluation procedures, Articles 2 and 11 and set forth in Tables 2.5.3 and 11.1, respectively.

#### 1.5.1 Compliance deadlines.

1. After January 1, 2002, any general acute care hospital building which continues acute care operation must, at a minimum, meet the nonstructural requirements of NPC 2, as defined in Article 11, Table 11.1 or shall no longer provide acute care services.
2. After January 1, 2008, any general acute care hospital building which continues acute care operation must, at a minimum, meet the structural requirements of SPC 2, as defined in Article 2, Table 2.5.3 or shall no longer provide acute care services.

**Exception:** A general acute care hospital may request a delay of SPC 2 requirements if the conditions of Section 1.5.2 are met.

3. After January 1, 2008, any general acute care hospital which continues acute care operation must, at a minimum, meet the nonstructural requirements of NPC 3, as defined in Article 11, Table 11.1 or shall no longer provide acute care services.

**Exception:** A general acute care hospital may request an exemption from the anchorage and bracing requirements of NPC 3 if all the conditions of Section 1.5.2 are met.

4. After January 1, 2030, any general acute care hospital building which continues acute care operation must, at a minimum, meet the structural requirements of SPC 3, 4 or 5, as defined in Article 2, Table 2.5.3 and the nonstructural requirements of NPC 5, as defined in Article 11, Table 11.1 or shall no longer provide acute care services.

### 1.5.2 Delay in compliance.

1. The Office may grant the hospital owner an extension to the January 1, 2008 seismic compliance deadline for both structural and nonstructural requirements if compliance will result in diminished health care capacity which cannot be provided by other general acute care hospitals within a reasonable proximity.

1.1 Hospital owners requesting an extension in accordance with Section 1.5.2 must submit an application form to the Office by January 1, 2007. The application form shall be accompanied by a statement explaining why the hospital is seeking the extension to the January 1, 2008 seismic compliance deadline. The statement shall include, at a minimum, the following information:

- (a) The length/duration of the extension request;
- (b) The hospital buildings requiring an extension; and
- (c) The acute care services that will be completely or partially unavailable if the extension is denied.

1.2 The hospital owner shall request an extension for seismic compliance in one year increments, up to a maximum of five years, beyond the mandated year of compliance. The hospital owner shall also submit an amended compliance plan and schedule in accordance with Section 1.4.5 indicating when compliance will be obtained.

2. Any general acute care hospital located in Seismic Design Category D, as defined by Section 1613A of the 2010 *California Building Code*, may request an exemption from the anchorage and bracing requirements of NPC 3 for a hospital building if all the following conditions are met:

- 2.1 The hospital building shall meet the anchorage and bracing requirements for NPC 2.
- 2.2 Any future upgrade of building(s) to SPC 5 shall be accompanied by upgrade of nonstructural components to either NPC 4 or NPC 5.
- 2.3 By January 1, 2024, the hospital owner shall submit to the Office a complete nonstructural evaluation up to NPC 5, for each building.
- 2.4 By January 1, 2026, the hospital owner shall submit to the Office construction documents for NPC 5 compliance that are deemed ready for review by the Office, for each building.

- 2.5 By January 1, 2028, the hospital owner shall obtain a building permit to begin construction, for NPC 5 compliance of each building that the owner intends to use as a general acute care hospital building after January 1, 2030. Hospitals not meeting the January 1, 2028 deadline set by this section shall not be issued a building permit for any noncompliant building except those required for seismic compliance in accordance with the California Administrative Code (Chapter 6), maintenance, and emergency repairs until the building permit required by this section is issued.

**Exception:** If the hospital has obtained a building permit(s) for project(s) to relocate all general acute care hospital beds and/or services to SPC 3 or higher, and NPC 5 building(s) within a timeframe which permits such relocation of beds and/or services by January 1, 2030, requirements of Sections 1.5.2.2.3 through 1.5.2.2.5 shall be deemed to be satisfied.

3. Any SPC-1 building which is part of the functional contiguous grouping of a general acute care hospital may receive a five-year extension to the January 1, 2008 deadline for both structural and nonstructural requirements under the following conditions:

- 3.1 The owner must apply for an extension with the Office no later than January 1, 2004;
- 3.2 The owner must submit an amended compliance plan to the Office by July 1, 2004;
- 3.3 The buildings must have met the NPC-2 nonstructural requirements by January 1, 2002;
- 3.4 At least one building within the contiguous grouping shall have obtained a building permit prior to 1973 and shall have been evaluated and classified as SPC-1 in accordance with Section 1.3;

**Exception:** Hospital buildings that were classified as SPC-1 under Section 2.0.1.2.3 must submit a structural evaluation report in accordance with Sections 1.3.2 and 1.3.3 by January 1, 2004.

- 3.5 The basic service(s) from the building shall be:
  - (a) Relocated to an SPC-3, 4, or 5/NPC-4 or 5 building by January 1, 2013.
    - i. The building shall not be used for general acute care service after January 1, 2013, unless it has been retrofitted to an SPC-5/NPC-4 or 5 building; or
  - (b) Continued in building if it is retrofitted to an SPC-5/NPC-4 or 5 building by January 1, 2013;
- 3.6 Any other SPC-1 building in the contiguous grouping other than the building identified in subsection 1.5.2.3.4 must be retrofitted to at least an SPC-2/NPC-3 by January 1, 2013, or no longer used for acute care hospital inpatient services.

4. A post-1973 building classified as SPC-3 or 4 may receive an extension to the January 1, 2008, deadline for both the structural and nonstructural requirements, provided it will be closed to general acute care inpatient service by January 1, 2013. The basic services in this building shall be relocated to an SPC-5/NPC-4 or 5 building by January 1, 2013;
- 4.1 Any SPC-1 building in a functional contiguous grouping must be retrofitted to at least an SPC-2/NPC-3 by January 1, 2013, or no longer used for acute care hospital inpatient services. The following conditions apply to these hospital buildings:
- The owner must apply for an extension with the Office no later than January 1, 2004;
  - The owner must submit an amended compliance plan to the Office by July 1, 2004; and
  - The buildings must have met the NPC-2 nonstructural requirements by January 1, 2002.
5. A single building containing all of the basic services may receive a five-year extension to the January 1, 2008, deadline for both structural and nonstructural requirements under the following conditions:
- The owner must apply for an extension with the Office no later than January 1, 2004;
  - The owner must submit an amended compliance plan to the Office by July 1, 2004;
  - The building shall have obtained a building permit prior to 1973 and shall have been evaluated and classified as SPC-1 in accordance with Section 1.3;
- Exception:** Hospital buildings that were classified as SPC-1 under Section 2.0.1.2.3 must submit a structural evaluation report in accordance with Sections 1.3.2 and 1.3.3 by January 1, 2004.
- 5.4 The basic services from this building shall be:
- Relocated to an SPC-3, 4, or 5/NPC-4 or 5 building by January 1, 2013.
    - The building shall not be used for general acute care service after January 1, 2013, unless it has been retrofitted to an SPC-5/NPC-4 or 5 building; or
  - Continued in building if it is retrofitted to an SPC-5/NPC-4 or 5 building by January 1, 2013.
6. Any general acute care hospital that received an approval by the Office to replace all the nonconforming buildings subject to the requirements of Health and Safety Code Section 130060(a) with new buildings by January 1, 2020, may request an exemption from the anchorage and bracing requirements of NPC 3 if all of the following conditions are met:
- The hospital shall meet the anchorage and bracing requirements for NPC 2.
  - New building(s) replacing the existing non-compliant building(s) shall be either NPC 4 or NPC 5 building(s).
7. Any general acute care hospital (buildings located in Seismic Design Category D or F) may request an extension from the anchorage and bracing requirements of NPC 3 up to January 1, 2020, if all of the following conditions are met:
- The hospital shall meet the anchorage and bracing requirements for NPC 2.
  - All building(s) shall be upgraded to either NPC 4 or NPC 5 by January 1, 2020.
  - By January 1, 2014, the hospital owner shall submit to the Office a complete nonstructural evaluation up to NPC 5, for each building.
  - By January 1, 2016, the hospital owner shall submit to the Office construction documents for NPC 4 or NPC 5 compliance that are deemed ready for review by the Office, for each building.
  - By January 1, 2018, the hospital owner shall obtain a building permit to begin construction, for NPC 4 or NPC 5 compliance of each building that the owner intends to use as general acute care hospital building after January 1, 2020. Hospitals not meeting the January 1, 2018 deadline set by this section shall not be issued a building permit for any noncompliant building, except those required for seismic compliance in accordance with the California Administrative Code (Chapter 6), maintenance, and emergency repairs until the building permit required by this section is issued.
- Exception:** If the hospital has obtained a building permit(s) for project(s) to relocate all general acute care hospital beds and/or services to SPC 3 or higher, and NPC 5 building(s) within a timeframe which permits such relocation of beds and/or services by January 1, 2020, requirements of Sections 1.5.2.7.3 through 1.5.2.7.5 shall be deemed to be satisfied.
8. Any SPC-1 general acute care hospital building that has received an extension to the January 1, 2008, deadline for both the structural and nonstructural requirements may receive an additional extension of up to seven years to the January 1, 2013, deadline for both the structural and nonstructural requirements.
- For an SPC-1 building to be eligible for this extension, all of the following conditions must be met:
    - The hospital owner requesting an extension for an SPC-1 building in accordance

with this section, must submit to the Office no later than March 31, 2012, the following:

- (i) An application for extension accompanied by a letter of intent stating whether the hospital intends to rebuild, replace or retrofit the building, or remove all general acute care beds and services from the building.
  - (ii) A facility site plan identifying the SPC-1 hospital building for which the extension is being requested by name and OSHPD assigned building number.
  - (iii) A chart or a bar graph schedule which describes the necessary amount of time and schedule to complete the construction for the subject building in order to achieve the targeted building resolution stipulated in the letter of intent pursuant to Section 1.5.2 Item 8.1(a)(i). The chart shall indicate all major milestones required for the implementation of the construction plan.
  - (iv) A narrative description and supporting documentation demonstrating how the hospital intends to meet the requested deadline and why the requested extension is necessary.
  - (v) When applicable, a narrative description and supporting documentation demonstrating community access to essential hospital services as specified in Section 1.5.2 Item 8.5.
  - (vi) When applicable, a narrative description and supporting documentation demonstrating the hospital owner's financial hardship to meet the milestones specified in Section 1.5.2 Items 8.6.
  - (vii) Information on the type of use/occupancy of the SPC-1 building by listing the type of services currently delivered in the building.
- (b) The hospital owner submits to the Office, no later than September 30, 2012, an application and required documents ready for review seeking collapse probability assessment for its SPC-1 building in accordance with Section 1.8.2.
- (c) The hospital owner submits to the Office, no later than January 1, 2015, construc-

tion documents ready for review consistent with the letter of intent and the schedule submitted pursuant to Section 1.5.2 Items 8.1(a)(i) and (iii). The construction documents shall be accompanied by a financial capacity report. The financial capacity report shall demonstrate the hospital owner's financial capacity to implement the construction plans submitted pursuant to this subsection.

- (d) The hospital owner receives a building permit consistent with the letter of intent and the schedule submitted pursuant to Section 1.5.2 Items 8.1(a)(i) and (iii) no later than July 1, 2018.
- 8.2. A hospital may demonstrate that it has complied with the requirements of their compliance schedule if they received confirmation of compliance from the Office by the end of their extension date.
- 8.3. Extensions to the January 1, 2013 compliance deadline.
- 8.3.1. The maximum permitted extension for a hospital building is the greater extension time allowed based on consideration of the structural integrity of the building as determined by the Risk-Based Extension in Section 1.5.2. Item 8.4, the access to essential hospital services as determined in Section 1.5.2 Item 8.5 and the Financial Hardship as determined by Section 1.5.2 Item 8.6. In no event shall the maximum permitted extension exceed seven years or the amount of time reasonably required to complete the construction described in Section 1.5.2 Item 8.1(a), whichever is less.
  - 8.3.2. Upon acceptance of the application for extension and all submittal documentation required in Section 1.5.2 Item 8.1 (a) an SPC-1 building may be granted an Administrative Extension by the Office.
- 8.4. Risk-Based Extension. The risk-based extension is based on the seismic risk coefficient.
- (a) The seismic risk coefficient posed by a building,  $P$ , shall be determined by:
 
$$P = H \ E$$
- Where:
- $H$  = the value of the collapse probability in percent, as determined by the requirements of Section 1.8; and,
- $E$  = the Exposure Factor, based on the presence of Basic and Supplemental Services, as defined in Part 2, Title 24, Section 1224.3.



The Exposure Factor  $E$  shall be taken as:

$E = 0.5$  where the building houses only storage spaces, central sterile supply spaces, and/or utility plant spaces.

$E = 0.7$  where the building houses only clinical laboratory, pharmaceutical, dietetic and/or support services spaces, or nonpatient care building which is contiguous to and provides egress or structural support to an acute care hospital building(s).

$E = 1.0$  where the building houses any other Basic and/or Supplementary Service spaces.

Where a building contains more than one Basic and/or Supplementary Service space, the largest value of  $E$  shall apply.

- (b) The Risk-Based Extension is determined by the seismic risk coefficient,  $P$ :
- i. Where  $P \leq 3.0\%$ , the Risk-Based Extension for the building shall not exceed seven years.
  - ii. Where  $P > 3.0\%$  but  $P \leq 5.0\%$ , the Risk-Based Extension for the building shall not exceed five years.
  - iii. Where  $P > 5.0\%$ , the Risk-Based Extension for the building shall not exceed two years.
  - iv. Regardless of the seismic coefficient,  $P$ , the Risk-Based Extension for any building straddling an Active Fault shall not exceed two years.

#### 8.5. Community access to essential hospital services.

The potential effect of closure of the hospital building on community access to essential hospital services shall be evaluated. A building at a hospital defined as a Critical Community Provider in accordance with this Section is eligible for a Maximum Permitted Extension of up to seven years. The hospital may be classified as a Critical Community Provider if it meets the requirements of Section 1.5.2 Items 8.5(a), 8.5(b), 8.5(c), 8.5(d) or 8.5(e):

- (a) The hospital meets the requirements of (i) or (ii) below:
- i. Certified as a Sole Community Hospital, Critical Access Hospital, or Rural Referral Center by the Department of Health and Human Service Centers for Medicare & Medicaid Services.

ii. Disproportionate Share Hospital. For purposes of this section a hospital is deemed to be a disproportionate share hospital if it meets the eligibility requirements of the Welfare and Institutions Code, Section 14105.98 for at least two years during the five most current years prior to application for an extension.

- (b) The hospital provides care for uninsured/underinsured populations. To qualify, the hospital must meet or exceed all of the following minimum thresholds:
- i. 10 percent Medicaid Discharges.
  - ii. 10 percent Medicaid Emergency Department visits.
  - iii. 10 percent Uninsured Emergency Department visits.
  - iv. Inpatient Occupancy rate of the hospital general acute licensed beds greater than 50 percent.
- (c) The hospital is a critical service provider of any of the following specialized medical care within its service area as defined in Section 1.5.2 Item 8.5(f):
- i. Trauma Center as defined by CCR – Title 22, Division 9, Section 100248.
  - ii. Children’s Hospital as defined by the Welfare and Institutions Code, Section 10727.
  - iii. Burn Unit as defined by CCR – Title 22, Division 5, Section 70421.
  - iv. Emergency department provides 10 percent or more of the total Emergency Treatment Stations.
  - v. A hospital in which its service area has an average number of patient beds/1000 population below 1.5.
- (d) The hospital provides more than 20 percent of the licensed acute care beds in the hospitals’ service area as defined in Section 1.5.2 Item 8.5(f).
- (e) A tertiary or specialty hospital dedicated to specific sub-specialty care with volumes in excess of 50 percent of total annual discharges within the county in which the hospital is located.
- (f) Hospital Service Area. The total geographic area comprised by the sum of all patient origin regions that significantly contribute to the inpatient population of the subject hospital. For the purposes of determining the hospital service area,

conditions (i) and (ii) listed below shall be satisfied:

- (i) The number of regions considered shall include all the regions with a relative hospital ratio of inpatient discharges per region greater than 5 percent of the total hospital inpatient discharges. “Relative hospital ratio of inpatient discharges per region” means the number of hospital patients discharged in a region by the subject hospital in relation to the total hospital patients discharged for the same region by all hospitals.
- (ii) The number of regions considered shall include all the regions with a hospital ratio of inpatient discharges per region that cumulatively account for at least 70 percent of the total hospital patient discharges. “Hospital ratio of inpatient discharges per region” means the number of hospital patients discharged in a region by the subject hospital in relation to the total patients discharged by the subject hospital.

The data utilized to determine community access to essential hospital services shall be based on the hospital’s most current fiscal reporting information filed with the Office or on the hospital’s fiscal reporting information filed with the Office for any of the most current three years.

8.6. Financial Hardship. Evaluation of financial hardship shall be determined on a hospital-by-hospital basis. A building at a hospital that meets the financial hardship criteria of this section is eligible for a Maximum Permitted Extension of up to seven years. A hospital may be determined to have financial hardship if it meets at least one of the following requirements:

- (a) Financial performance. The hospital meets all of the following thresholds:
  - i. Negative operating margin for the hospital for at least two years during the five years prior to application for an extension.
  - ii. Days Cash-on-Hand less than 60.
  - iii. Current Ratio less than 1.5

(b) The hospital has a bond rating based on the following table:

**TABLE 1.5.2.8.6  
BOND RATING GRADES**

CREDIT RISK	MOODY’S	STANDARD AND POOR’S	FITCH RATINGS
Medium	Baa	BBB	BBB
Lower Medium	Ba	BB	BB
Lower Grade	B	B	B
Poor Grade	Caa	CCC	CCC
Speculative	Ca	CC	CC
No Payments/ Bankruptcy	C	D	C
In Default	C	D	D

(c) For public hospitals, voters rejected the most recent bond issue specifically related to seismic compliance construction work at the facility.

The data utilized to determine financial hardship shall be based on the hospital owner’s most current fiscal reporting information filed with the Office or on the hospital owner’s fiscal reporting information filed with the Office for any of the most current three years unless noted otherwise in subsection (a) above.

8.7. Extension Adjustments. A hospital may request an extension adjustment necessary to complete the construction for the building granted an extension pursuant to Section 1.5.2 Item 8. In order for this request to be considered, the hospital owner shall notify the Office in writing as soon as practicable, but in no event later than six months after the hospital owner discovered the change of circumstances. The request shall include at a minimum all of the following:

- (a) The length/duration of the additional extension time adjustment, but in no event the total extension including the adjustment shall exceed the period specified in Section 1.5.2 Item 8.
- (b) The name and OSHPD assigned number for the hospital building requiring the extension adjustment.
- (c) A narrative description and data supporting the discovered change of circumstances in completing the construction for the building granted an extension pursuant to Section 1.5.2 Item 8.
- (d) An amended bar graph schedule required by Section 1.5.2 Item 8.1(a)(iii).

8.8. Extension Revocation/Termination. An extension for any hospital building granted pursuant to Section 1.5.2 Item 8 may be revoked or terminated based on the following:

- (a) The Office determines that any information submitted pursuant to this section was falsified; or
- (b) The hospital failed to meet a milestone set forth in Sections 1.5.2 Item 8.1(a) (iii); or
- (c) Where the work of construction is abandoned or suspended for a period of at least six months, unless the hospital demonstrates in a publicly available document that the abandonment or suspension was caused by factors beyond its control.

**1.6 Dispute resolution/appeals process.** Dispute resolution and appeals shall be in conformance with Article 5, Chapter 7, Part 1 of Title 24.

**1.7 Notification from OSHPD.**

1. The Office shall issue written notices of compliance to all hospital owners that have attained the minimum required SPC and NPC performance levels by January 1, 2008, January 1, 2013, and January 1, 2030;
2. The Office shall issue written notices of violation to all hospital owners that are not in compliance with the minimum SPC and NPC performance levels by January 1, 2008, January 1, 2013, and January 1, 2030; and
3. The Office shall notify the State Department of Health Services of the hospital owners which have received a written notice of violation for failure to comply with these regulations.

**1.8 Collapse Probability Assessment.** Hospital owners may request a collapse probability assessment to reclassify buildings with an SPC-1 rating to SPC-2 in accordance with Section 1.4.5.1.2, or be used to determine eligibility for an extension in accordance with Section 1.5.2 Item 8.

**1.8.1** The collapse probability assessment by the Office shall be determined using the following:

1. Multi-Hazard Loss Estimation Methodology, Earthquake Module (HAZUS-MH) developed by the Federal Emergency Management Agency (FEMA)/National Institute of Building Sciences (NIBS).
2. Building specific input parameters required by the Advanced Engineering Building Module (AEBM) of the HAZUS methodology shall be obtained from Appendix H to Chapter 6.
3. Modifications by the Office to the AEBM input parameters are hereby adopted as shown in Appendix H to Chapter 6, which are based on the following:
  - a) Building type
  - b) Building height and number of stories
  - c) Building age
  - d) Significant Structural Deficiencies listed in Section 1.8.2 Item 2.

4. Site seismicity parameters adjusted for soil type, as determined by the Office, shall be the lesser of:

- a) Deterministic ground motion due to the maximum magnitude earthquake event on the controlling fault system.
- b) Probabilistic ground motion having 10 percent probability of being exceeded in 50 years.

**1.8.2** The collapse probability assessment for SPC-1 buildings shall be based on the following building information, parameters and documents:

1. A complete seismic evaluation of the building pursuant to Section 1.3.3.

**Exception:** Hospital owners who had submitted a complete structural evaluation report in compliance with Section 1.3.3, that is deemed to be complete by the Office, need not resubmit.

2. A supplemental evaluation report prepared by a California registered structural engineer that identifies the existence or absence of the building structural Lateral Force Resisting System (LFRS) properties and Significant Structural Deficiencies listed below:

- a. Age: Year of the *California Building Code* (CBC) used for the original building design.

**Exception:** For pre-1933 buildings, the design year shall be reported.

- b. Materials Tests: Office approved materials test results based on test plan preapproved by the Office (Section 2.1.2).
- c. Load path (Section 3.1)
- d. Mass irregularity (Section 3.3.4).
- e. Vertical discontinuity (Section 3.3.5).
- f. Adjacent buildings (Section 3.4).
- g. Short captive column (Section 3.6).
- h. Material deterioration (Section 3.7).
- i. Weak columns (Sections 4.2.8 and 4.3.6).
- j. Wall anchorage (Section 8.2).
- k. Redundancy (Section 3.2).
- l. Weak story irregularity (Section 3.3.1).
- m. Soft story irregularity (Section 3.3.2).
- n. Torsional irregularity (Section 3.3.6).
- o. Deflection incompatibility (Section 3.5).
- p. Cripple walls (Section 5.6.4).
- q. Openings (in diaphragm) at shear walls (Section 7.1.4).
- r. Topping slab missing (Sections 7.3 and 7.4) or the building type (structural system) is of lift slab construction.
- s. URM wall height to thickness ratio (Section 5.4.3).
- t. URM Parapets (Section 10.1.6).

This supplemental evaluation report shall include supporting documentation including existing construction drawings or reconstructed as-builts (Section 2.1.2) relating to the existence or absence of the Significant Structural Deficiencies listed above including calculations, where required, for review and acceptance by the Office, unless they are included in the complete structural evaluation.

3. Building systems shall be classified as to their Model Building Type per Table 1.8. For buildings with multiple building types, all types shall be listed. The building type resulting in the maximum collapse probability will be utilized by the Office to determine eligibility for reclassification.
4. Building height and number of stories above and below the seismic base shall be specified.

5. For SPC-1 buildings where the potential for surface fault rupture and surface displacement at the building site is present as determined by Section 9.3, a supplemental geologic hazards report prepared by a California registered engineering geologist/seismologist is required to address the following:
  - a. A site plan showing diagrammatically the location of the building footprint, the surface trace or traces of potential surface fault rupture.
  - b. The expected surface displacement during a rupture event.

TABLE 1.8—MODEL BUILDING TYPE

MODEL BUILDING TYPE (MBT)	DESCRIPTION
W1	Wood, Light Frame (≤ 5,000 sq ft)
W2	Wood, greater than 5,000 sq ft
S1	Steel Moment Frame
S2	Steel Braced Frame
S3	Steel Light Frame
S4	Steel Frame with Cast-In Place Concrete Shear Walls
S5	Steel Frame with Unreinforced Masonry Infill Walls
C1	Concrete Moment Frame
C2	Concrete Shear Walls
C3	Concrete Frame with Unreinforced Masonry Infill Walls
PC1	Precast Concrete Tilt-Up Walls
PC2	Precast Concrete Frames with Concrete Shear Walls
RM1	Reinforced-Masonry Bearing Walls with Flexible Diaphragms
RM2	Reinforced-Masonry Bearing Walls with Rigid Diaphragms
URM	Unreinforced-Masonry Bearing Walls
MH	Manufactured Housing

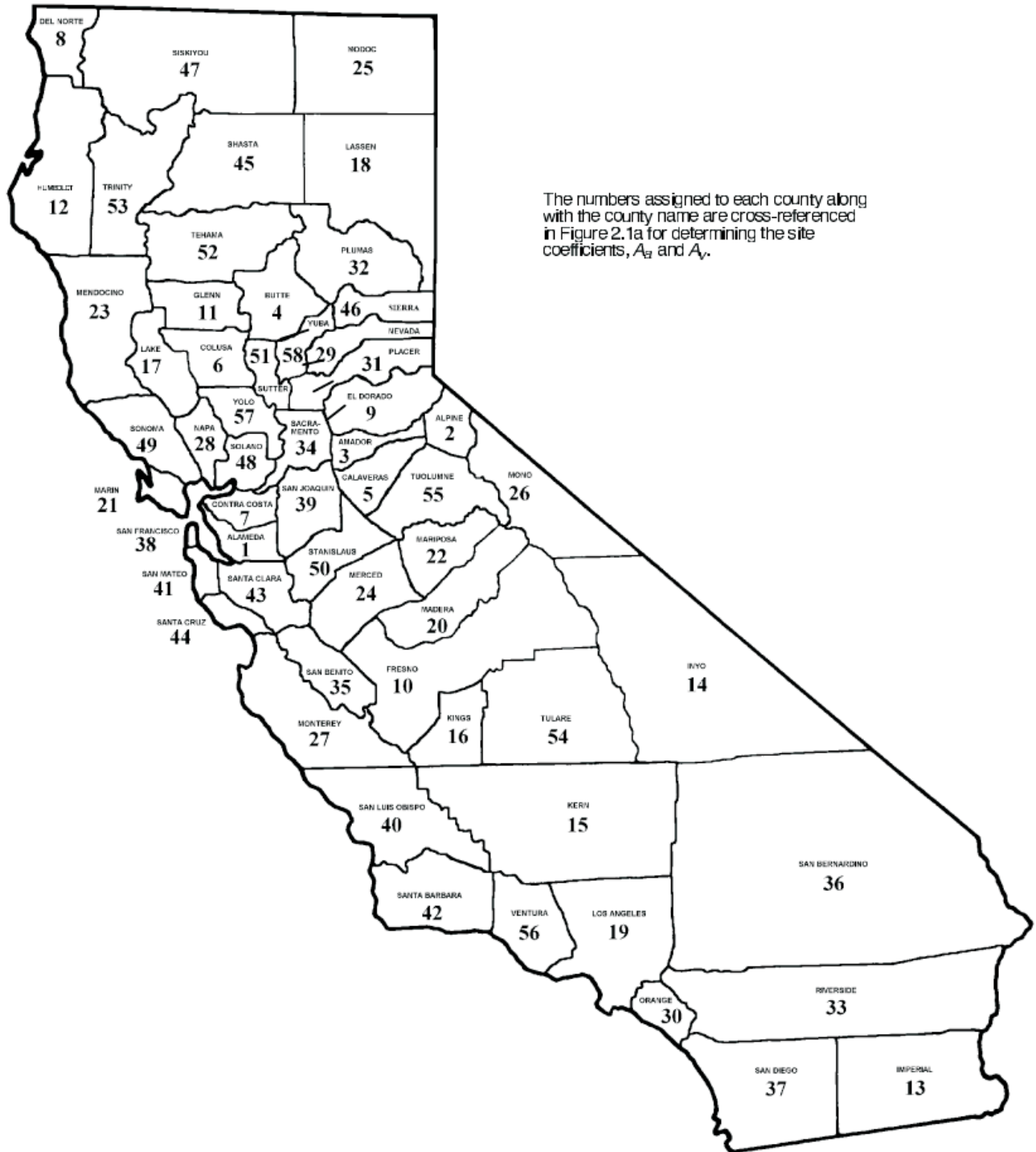


FIGURE 2.1

**ARTICLE 2  
PROCEDURES FOR STRUCTURAL  
EVALUATION OF BUILDINGS**

**2.0 General.**

**2.0.1 Structural evaluation procedure.**

1. The structural evaluation process shall include the following steps:
  - 1.1 Site visit and data collection;
  - 1.2 Identification of building type;
  - 1.3 Completion of evaluation statements in appendix;
  - 1.4 Follow-up field work, if required;
  - 1.5 Follow-up analysis for “False” evaluation statements;
  - 1.6 Final evaluation for the building;
  - 1.7 Preparation of the evaluation report; and
  - 1.8 Submittal of evaluation report to OSHPD.
2. A general acute care hospital facility building may be exempted from a structural evaluation upon submittal of a written statement by the hospital owner to OSHPD certifying the following conditions:
  - 2.1 A conforming building as defined in Article 1, Section 1.2, may be placed into SPC 5 in accordance with Table 2.5.3 under the following circumstances:
    - (a) The building was designed and constructed to the 1989 or later edition of Part 2, Title 24, and
    - (b) If any portion of the structure, except for the penthouse, is of steel moment resisting frame construction (Building Type 3, or Building Type 4 or 6 with dual lateral system, as defined in Section 2.2.3) and the building permit was issued after October 25, 1994.
  - 2.2 All other conforming buildings as defined in Article 1, Section 1.2, may be placed into SPC 4 in accordance with Table 2.5.3, except those required by Section 4.2.10 to be placed in SPC 3 in accordance with Table 2.5.3, without the need for any structural evaluation.
  - 2.3 Nonconforming buildings as defined in Article 1, Section 1.2 may be placed into SPC 1 in accordance with Table 2.5.3 without any structural evaluation.

**2.1 Site visit, evaluation and data collection procedures.**

**2.1.1 Site visit and evaluation.**

1. The evaluator shall visit the building to observe and record the type, nature and physical condition of the structure.

like a moment frame and should be evaluated as such. Check the elements in the precast shear wall system. When large open areas exist, check the transfer of shear between the diaphragm and the wall. Compare the lateral displacements of the wall due to shear and flexure. If more than 50 percent of the total lateral displacement is due to flexure, or if the width of the wall piers is less than five times the thickness, analyze the wall as a moment frame.

**5.2.3 Collectors.** Wall elements with openings larger than a typical panel at a building corner are connected to the remainder of the wall with collector reinforcing.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. The deficiency is in the configuration of the wall or the diaphragm. Find an adequately strong path of forces. If none is found, report this as a deficiency.

### 5.3 Reinforced masonry shear walls.

**5.3.1 Shearing stress check.** The building satisfies the Quick Check of the shearing stress in the reinforced masonry shear walls.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. Generate the lateral loads using the Quick Check procedure of Section 2.4.7.3. If  $v_{avg}$  is greater than 15 psi, a more detailed evaluation of the structure shall be performed. This evaluation shall employ a more accurate estimation of the level and distribution of the lateral loads, using the analysis procedures in Article 2.

**5.3.2 Reinforcing.** The total vertical and horizontal reinforcing steel in reinforced masonry walls is greater than 0.002 times the gross area of the wall with a minimum of 0.0007 in either of the two directions, the spacing of reinforcing steel is less than 48 inches and all vertical bars extend to the top of the walls.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. If the quantity of wall reinforcing is less than the specified amounts, report this condition as a deficiency.

**5.3.3 Reinforcing at openings.** All wall openings that interrupt rebar have trim reinforcing on all sides.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. The deficiency is in the lack of reinforcing at the end of wall elements adjacent to openings and at the corners of walls. Check the wall using only the length of piers between reinforcing steel.

**5.4 Unreinforced masonry shear walls.** Unreinforced masonry bearing wall buildings are automatically classified as SPC 1, unless reclassification is permitted per Section 1.4.5.1.2. The following provisions apply to unreinforced masonry shear wall structures that also possess a complete vertical load-carrying space frame.

#### 5.4.1 Shearing stress check.

The building satisfies the Quick Check of the shearing stress in the unreinforced masonry shear walls.

Generate the lateral loads using the Quick Check procedure of Section 2.4.7.3. The allowable stress (on the gross area) for solid brick masonry is 10 psi; for hollow unit masonry, 6 psi; and for grouted block masonry, 12.5 psi. If  $v_{avg}$  is greater than the allowable stress, an Alternative Analysis of the structure shall be performed, or the building shall be placed in SPC 1.

#### 5.4.2 Masonry lay-up.

Filled collar joints of multiwythe masonry walls have negligible voids.

The deficiency is in the lay-up of the wall that left voids between the wythes. Investigate the lay-up. This can be done when masonry units are removed for strength tests. If voids are present, report this condition as a deficiency.

**5.4.3 Proportions.** The height/thickness ratio of the wall panels is as follows:

One-story building  $h_w/t < 15$

Multistory building

Top story  $h_w/t < 9$

Other stories  $h_w/t < 13$

The deficiency is in the out-of-plane strength of the wall. Check the out-of-plane demand using the procedure for parts and portions of a building given in Section 2.4.6.

### 5.5 Unreinforced masonry infill walls in frames.

**5.5.1 Proportions.** The height/thickness ratio of the wall panels is as follows:

One-story building  $h_w/t < 14$

Multistory building

Top story  $h_w/t < 9$

Other stories  $h_w/t < 20$

The deficiency is in the out-of-plane strength of the wall. Check the out-of-plane demand using the procedure for parts and portions of a building given in Section 2.4.6.

**5.5.2 Solid walls.** The infill walls are not of cavity construction.

The deficiency is in the out-of-plane strength of the wall. If infill walls are of cavity construction, report this as a deficiency.

**5.5.3 Infill walls.** The infill walls are continuous to the soffits of the frame beams.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. The deficiency is in the strength of the columns. Check the shear capacity of the columns to develop opposing yield moments at top and bottom of the short free height or to resist required force amplified by the factor  $C_d/2$ , but not less than 1.5.

**5.5.4 Wall connections.** All infill panels are constructed to encompass the frames around their entire perimeter.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. The deficiency is in the connection of the infill panel to the frame. Determine the panel edge condition from available drawings or from field investigation. If the panels are not properly connected to the frame, report this condition as a deficiency.

### 5.6 Walls in wood frame buildings.

**5.6.1 Shearing stress check.** The building satisfies the Quick Check of the shearing stress in wood shear walls.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. Generate the lateral loads using the Quick Check procedure of Section 2.4.7.3 and compare to 400 pounds per foot of plywood wall or 50 pounds per foot of walls composed of gypsum board or other materials. If  $v_{avg}$  is greater than these values, a more

detailed evaluation of the structure shall be performed. This evaluation shall employ a more accurate estimation of the level and distribution of the lateral loads using the analysis procedures in Article 2.

**5.6.2 Openings.** Walls with garage doors or other large openings are braced with plywood shear walls or are supported by adjacent construction through substantial positive ties.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. The deficiency is in the strength of the lateral-force-resisting system. Check the ability of the walls and diaphragms to control, through torsional capacity, displacements at walls with large openings. Check that the diaphragm is a complete system with chords and collectors provided to deliver the lateral loads as required.

**5.6.3 Wall requirements.** All walls supporting tributary area of 24 to 100 square feet per foot of wall are plywood sheathed with proper nailing or rod braced and have a height-to-depth ( $H/D$ ) ratio of 1 to 1 or less or have properly detailed and constructed hold-downs.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. The deficiency is in the strength of the wall and/or in hold-downs to resist overturning forces. Check the walls using floor areas tributary to the walls. Check all portions of the load path to ensure proper force transfer.

**5.6.4 Cripple walls.** All exterior cripple walls below the first floor level are braced to the foundation with shear elements.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. The deficiency is in the shear strength of the cripple walls. Check all exterior cripple walls below the first floor level to ensure that they are braced to the foundation with shear elements.

**5.6.5 Narrow shear walls.** Narrow wood shear walls with an aspect ratio greater than 2 to 1 do not resist forces developed in the building.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. The deficiency is in the strength of the narrow walls. Determine the shear capacity of the wall and related overturning demand. This shear capacity and related overturning must be transferred to the foundation within allowable stresses.

**5.6.6 Stucco (exterior plaster) shear walls.** Multistory buildings do not rely on exterior stucco walls as the primary lateral-force-resisting system.

The deficiency is in the strength of the stucco walls. Inspect stucco-clad buildings to determine if there is a lateral system such as plywood or diagonal sheathing at all but the top floor. Where exterior plaster is present, verify that the wire reinforcing is attached directly to the wall framing and the wire is completely embedded into the plaster material. Conforming buildings which fail this check shall be placed into SPC 4.

**5.6.7 Plaster or gypsum wallboard shear walls.** Interior plaster or gypsum wallboard is not being used for shear walls in buildings over one story in height.

The deficiency is in the strength of the walls. Determine if there is a lateral system such as plywood or diagonal sheathing at all but the top floor. Multistory buildings shall not rely on interior plaster or gypsum wallboard walls as the primary lateral-force-resisting system. Conforming buildings which fail this check shall be placed into SPC 4.

## ARTICLE 6 PROCEDURES FOR BRACED FRAMES

**6.0 Introduction.** Braced frames develop their resistance to lateral forces by the bracing action of diagonal members. The braces induce forces in the associated beams and columns so that all work together like a truss with all members subjected to stresses that are primarily axial.

A **concentrically braced frame** has minor eccentricities in the joints of the frame that are accounted for in the design.

An **eccentrically braced frame** has elements that are strictly controlled to combine a stiffening effect due to the diagonal braces with yielding in the link beams. Eccentrically braced frames are present only in conforming buildings.

### 6.1 Concentrically braced frames.

**6.1.1 Stress check.** The building satisfies the Quick Check of the stress in the diagonals.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. Calculate the average axial stress in the diagonals using the procedures of Section 2.4.7.4. Increase the calculated stress to account for torsion, based on the amount of torsion (Section 3.3.6) present and the distance between braced frames. If the average stress exceeds 30 ksi, an accurate analysis of the stresses on the bracing elements shall be performed.

**6.1.2 Stiffness of diagonals.** All diagonal elements required to carry compression have  $Kl/r$  ratios less than 120.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. The deficiency is in the stiffness of the diagonals. Check the bracing elements, amplifying the seismic force by the factor 1.25.

**6.1.3 Tension-only braces.** Tension-only braces are not used as the primary diagonal bracing elements in structures over two stories in height.

The deficiency is in the strength of the braces. Check the braces. If they are tension-only, and the building is over two stories in height, place the building in SPC 1. Tension-only bracing of small penthouse structures may be reviewed using the procedures in Section 2.4.6. Conforming buildings which fail this check shall be placed in SPC 4.

**6.1.4 Chevron bracing.** The bracing system does not include chevron-, V-, or K-braced bays.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. Check all elements in the braced frames. For chevron- and V-braced frames, the beam shall be a single element that can carry the gravity loads without the intermediate support of the braces. Check the adequacy of the beam for the seismic forces amplified by  $C_d/2$ , but not less than 1.5. Consider the effect of



each cladding panel and there are at least four connections for each cladding panel capable of resisting out-of-plane forces.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. Verify that an adequate number of the appropriate connection types are present for each cladding panel.

**10.1.2.4 Cladding panel condition.** Cladding panel connections appear to be installed properly. No connection element is severely deteriorated or corroded. There is no cracking in the panel materials indicative of substantial structural distress. There is no substantial damage to exterior cladding due to water leakage. There is no substantial damage to exterior wall cladding due to temperature movements.

Substantial deterioration can lead to loss of cladding elements or panels. Exterior walls shall be checked for deterioration. Damage due to corrosion, rotting, freezing or erosion can be concealed within the wall. Probe into the wall space, if necessary, for signs of water leakage at vulnerable interior spaces (e.g., around windows and at floor areas). Check elements that tie cladding to the backup structure and that tie the back-up structure to floor and roof slabs. Check exterior walls for cracking due to thermal movements. Check the cladding systems with appropriate reductions in member capacities. Conforming buildings that fail this check shall be placed in SPC 4.

### 10.1.3 Metal stud back-up systems.

**10.1.3.1 General.** Additional steel studs frame window and door openings. Corrosion of veneer ties, tie screws, studs and stud tracks is minimal. Stud tracks are adequately fastened to the structural frame.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. Verify that adequate framing has been provided around openings in the exterior walls. Check the cladding systems with appropriate reductions in member capacities. Check the adequacy of the connection to the structural frame using the forces specified in Section 2.4.6.

**10.1.3.2 Masonry veneer with stud back-up.** Masonry veneer more than 30 feet above the ground is supported by shelf angles or other elements at each floor level. Masonry veneer is adequately anchored to the back-up at locations of through-wall flashing. Masonry veneer is connected to the back-up with corrosion-resistant ties spaced 24 inches on center maximum and with at least one tie for every  $2\frac{2}{3}$  square feet.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. Check that adequate supports and ties are provided.

### 10.1.4 Masonry veneer with concrete block back-up.

**10.1.4.1 General.** The concrete block back-up qualifies as reinforced masonry.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. Verify that the concrete block back-up meets the requirements of Sections 5.3.2 and 5.3.3.

**10.1.4.2 Masonry veneer support.** Masonry veneer more than 30 feet above the ground is supported by shelf angles or other elements at each floor level. Masonry veneer is adequately anchored to the back-up at locations of through-wall flashing. Masonry veneer is

connected to the back-up with corrosion-resistant ties spaced 24 inches on center maximum and with at least one tie for every  $2\frac{2}{3}$  square feet. The concrete block back-up is positively anchored to the structural frame at 4-foot maximum intervals along the floors and roofs.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. Check that adequate supports and ties are provided.

### 10.1.5 Other veneer/panel systems.

**10.1.5.1 Thin stone veneer panels.** Stone anchorages are adequate for computed loads.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. There are no visible cracks or weak veins in the stone. Check the adequacy of the connection to the stone anchorage using the forces specified in Section 2.4.6.

**10.1.5.2 Wood/aggregate panels.** There is no visible deterioration of screws or wood at panel attachment points.

The deficiency is in the strength of the connections. Determine the cause and extent of distress and check the attachment of the panels with appropriate reductions in capacity. Conforming buildings that fail this check shall be placed in SPC 4.

### 10.1.6 Parapets, cornices, ornamentation and appendages.

There are no laterally unsupported unreinforced masonry parapets or cornices above the highest anchorage level with height/thickness ratios greater than 1.5. Concrete parapets with height/thickness ratios greater than 1.5 have vertical reinforcement. Cornices, parapets, signs and other appendages that extend above the highest anchorage level or cantilever from exterior wall faces and other exterior wall ornamentation are reinforced and well anchored to the structural system.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. If any of these items are of insufficient strength and/or are not securely attached to the structural elements, they may break off and fall, becoming significant life-safety hazards. Check the adequacy of these items using the forces specified in Section 2.4.6. The maximum height of an unbraced URM parapet shall be determined based on the height dimension measured above the lower of either the level of tension anchors or roof sheathing to the top of the wall parapet. The minimum height of a parapet above the wall anchor should be 12 inches.

**Exception:** If a reinforced concrete beam is provided at the top of the wall, the minimum height above the wall anchor may be 6 inches.

**10.1.7 Means of egress.** Canopies are anchored and braced to prevent collapse and blockage of building exits.

For conforming buildings, the evaluator may consider this condition as mitigated, and no calculations are necessary. Check canopies for the forces specified in Section 2.4.6.

## ARTICLE 11 EVALUATION OF CRITICAL NONSTRUCTURAL COMPONENTS AND SYSTEMS

**11.0 Introduction.** This article covers nonstructural components and systems critical to patient care.

**11.01 Nonstructural evaluation procedure.**

1. The nonstructural performance evaluation shall examine the respective critical nonstructural systems and elements for the planned NPC as specified in Table 11.1, “Nonstructural Performance Categories.” The nonstructural evaluation process shall include the following steps:
  1. Site visit and data collection;
  2. Identification of building SPC;
  3. Identification of critical nonstructural systems for the planned NPC;

4. Identification of critical care services housed in the building;
  5. Final evaluation for the critical nonstructural elements and systems for the planned NPC;
  6. Preparation of evaluation report; and
  7. Submittal of evaluation report to OSHPD.
2. A general acute care hospital facility may be exempted from a nonstructural evaluation upon submittal of a written statement by the hospital owner to OSHPD certifying the following conditions:

**TABLE 11.1—NONSTRUCTURAL PERFORMANCE CATEGORIES**

TIMEFRAMES	NONSTRUCTURAL PERFORMANCE CATEGORY <sup>1</sup>	DESCRIPTION
	NPC 1	Buildings with equipment and systems not meeting the bracing and anchorage requirements of any other NPC.
January 1, 2002	NPC 2	The following systems are braced or anchored in accordance with Part 2, Title 24 <sup>1</sup> : <ul style="list-style-type: none"> <li>• communications systems,</li> <li>• emergency power supply,</li> <li>• bulk medical gas systems,</li> <li>• fire alarm systems and</li> <li>• emergency lighting equipment and signs in the means of egress.</li> </ul>
January 1, 2008	NPC 3/NPC 3R	The building meets the criteria for NPC “2” and in critical care areas, clinical laboratory service spaces, pharmaceutical service spaces, radiological service spaces, and central and sterile supply areas, the following components meet the bracing and anchorage requirements of Part 2, Title 24 <sup>2</sup> : <ul style="list-style-type: none"> <li>• Nonstructural components, listed in the 1995 CBC, Part 2, Title 24, Table 16A-0.                             <p><b>Exception:</b> For NPC 3R, lateral bracing of suspended ceiling systems may be omitted in rooms with a floor area less than 300 square feet, provided the room is not an intensive care or coronary care unit patient room, angiography laboratory, cardiac catheterization laboratory, delivery room, operating room or post-operative recovery room.</p> </li> <li>• “Equipment,” as listed in the 1995 CBC, Part 2, Title 24, Table 16A-0, “Equipment,” including equipment in the physical plant that service these areas.                             <p><b>Exceptions:</b> 1. Seismic restraints need not be provided for cable trays, conduit and HVAC ducting. Seismic restraints may be omitted from piping systems, provided that an approved method of preventing release of the contents of the piping system in the event of a break is provided.</p> <p>2. Only elevator(s) selected to provide service to patient, surgical, obstetrical and ground floors during interruption of normal power need to meet the structural requirements of Part 2, Title 24.</p> </li> <li>• Fire sprinkler systems comply with the bracing and anchorage requirements of NFPA 13, 1994 edition, or subsequent applicable standards.                             <p><b>Exception:</b> Acute care hospital facilities in both a rural area as defined by Section 70059.1, Division 5 of Title 22 and Seismic Zone 3 shall comply with the bracing and anchorage requirements of NFPA 13, 1994 edition, or subsequent applicable standards by January 1, 2013.</p> </li> </ul>
	NPC 4	The building meets the criteria for NPC “3” and all architectural, mechanical, electrical systems, components and equipment, and hospital equipment meet the bracing and anchorage requirements of Part 2, Title 24 <sup>2</sup> . This category is for classification purposes of the Office of Emergency Services.
January 1, 2030	NPC 5	The building meets the criteria for NPC “4” and onsite supplies of water and holding tanks for wastewater, sufficient for 72 hours emergency operations, are integrated into the building plumbing systems. As an alternative, hook-ups to allow for the use of transportable sources of water and sanitary waste water disposal have been provided. An onsite emergency system as defined within Part 3, Title 24 is incorporated into the building electrical system for critical care areas. Additionally, the system shall provide for radiological service and an onsite fuel supply for 72 hours of acute care operation.

1. For the purpose of NPC 2 and NPC 5, all enumerated items within Table 11.1 shall meet the requirements of Section 1632A of 2001 *California Building Code* (CBC) or equivalent provision in later version of the CBC by the specified timeframe as indicated by their respective NPC.

2. For the purposes of NPC 3 and NPC 4 in SPC 2, SPC 3 or SPC 4 buildings, all enumerated items within Table 11.1 shall meet the requirements of the 1998 CBC, Section 1630B or equivalent provision in later version of the CBC, by the specified timeframe. For the purposes of NPC 3R, all enumerated items within Table 11.1 shall meet the requirements of the 1995 CBC, Section 1630A, using  $I_p = 1.0$  or equivalent provision in later version of the CBC, by the specified timeframe.

**Concrete moment frames—cont.**

- T F N/A BEAM-BAR SPLICES: The lap splices for the longitudinal beam reinforcing are located within the center half of the member lengths or in the vicinity of potential plastic hinges. (Section 4.3.11)
- T F N/A STIRRUP SPACING: All beams have stirrups spaced at  $d/2$  or less throughout their length and at  $8d_b$  or less at potential hinge locations. (Section 4.3.12)
- T F N/A BEAM TRUSS BARS: Bent-up longitudinal steel is not used for shear reinforcement. (Section 4.3.13)
- T F N/A JOINT REINFORCING: Column ties extend at their typical spacing through all beam-column joints at exterior columns. (Section 4.3.14)
- T F N/A FLAT SLAB FRAMES: The system is not a frame consisting of a flat slab/plate without beams. (Section 4.3.15)

**Precast concrete moment frames**

- T F N/A PRECAST FRAMES: The lateral loads are not resisted by precast concrete frame elements. (Section 4.4.1)
- T F N/A PRECAST CONNECTIONS: For buildings with concrete shear walls, the connection between precast frame elements such as chords, ties and collectors in the lateral-force-resisting system can develop the capacity of the connected members. (Section 4.4.2)

**Frames not part of the lateral-force-resisting system**

- T F N/A COMPLETE FRAMES: The steel or concrete frames form a complete vertical load-carrying system. (Section 4.5.1)

**SHEAR WALLS**

**Concrete shear walls**

- T F N/A SHEARING STRESS CHECK: The building satisfies the Quick Check of the shearing stress in the shear walls. (Section 5.1.1)
- T F N/A OVERTURNING: All shear walls have  $h_w/l_w$  ratios less than 4 to 1. (Section 5.1.2)
- T F N/A COUPLING BEAMS: The stirrups in all coupling beams are spaced at  $d/2$  or less and are anchored into the core with hooks of 135 degrees or more. (Section 5.1.3)
- T F N/A COLUMN SPLICES: Steel column splice details in shear wall boundary elements can develop the tensile strength of the column. (Section 5.1.4)
- T F N/A WALL CONNECTIONS: There is positive connection between the shear walls and the steel beams and columns. (Section 5.1.5)

- T F N/A CONFINEMENT REINFORCING: For shear walls with  $h_w/l_w$  greater than 2.0, the boundary elements are confined with spirals or ties with spacing less than  $8d_b$ . (Section 5.1.6)
- T F N/A REINFORCING STEEL: The area of reinforcing steel for concrete walls is greater than 0.0025 times the gross area of the wall along both the longitudinal and transverse axes and the maximum spacing of reinforcing steel is 18 inches. (Section 5.1.7)
- T F N/A REINFORCING AT OPENINGS: There is special wall reinforcement around all openings. (Section 5.1.8)

**Precast concrete shear walls**

- T F N/A PANEL-TO-PANEL CONNECTIONS: Adjacent wall panels are not connected by welded steel inserts. (Section 5.2.1)
- T F N/A WALL OPENINGS: Openings constitute less than 75 percent of the length of any perimeter wall with the wall piers having  $h_w/l_w$  ratios of less than 2.0. (Section 5.2.2)
- T F N/A COLLECTORS: Wall elements with openings larger than a typical panel at a building corner are connected to the remainder of the wall with collector reinforcing. (Section 5.2.3)

**Reinforced masonry shear walls**

- T F N/A SHEARING STRESS CHECK: The building satisfies the Quick Check of the shearing stress in the unreinforced masonry shear walls. (Section 5.4.1)
- T F N/A REINFORCING: The total vertical and horizontal reinforcing steel in reinforced masonry walls is greater than 0.002 times the gross area of the wall with a minimum of 0.0007 in either of the two directions, the spacing of reinforcing steel is less than 48 inches and all vertical bars extend to the top of the walls. (Section 5.4.2)
- T F N/A REINFORCING AT OPENINGS: There is special wall reinforcement around all openings. (Section 5.1.8)

**Unreinforced masonry shear walls**

- T F N/A SHEARING STRESS CHECK: The building satisfies the Quick Check of the shearing stress in the unreinforced masonry shear walls. (Section 5.4.1)
- T F N/A MASONRY LAY-UP: Filled collar joints of multiwythe masonry walls have negligible voids. (Section 5.4.2)
- T F N/A PROPORTIONS: The height/thickness ratio of the wall is as follows: (Section 5.4.3)
 

One-story building	$h_w/t < 15$
Multistory building	
Top story	$h_w/t < 9$
Other stories	$h_w/t < 13$

**Infill walls in frames**

- T F N/A PROPORTIONS: The height/thickness ratio of the wall panels is as follows (Section 5.5.1):  
 One-story building  $h_w/t < 14$   
 Multistory building  
     Top story  $h_w/t < 9$   
     Other stories  $h_w/t < 20$
- T F N/A SOLID WALLS: The infill walls are not of cavity construction. (Section 5.5.2)
- T F N/A CONTINUOUS WALLS: The infill walls are continuous to the soffits of the frame beams. (Section 5.5.3)
- T F N/A WALL CONNECTIONS: All infill panels are constructed to encompass the frames around their entire perimeter. (Section 5.5.4)

**Walls in wood-frame buildings**

- T F N/A SHEARING STRESS CHECK: The building satisfies the Quick Check of the shearing stress in the wood shear walls. (Section 5.6.1)
- T F N/A OPENINGS: Walls with garage doors or other large openings are braced with plywood shear walls or are supported by adjacent construction through substantial positive ties. (Section 5.6.2)
- T F N/A WALL REQUIREMENTS: All walls supporting tributary area of 24 to 100 square feet per foot of wall are plywood sheathed with proper nailing, or rod braced and have a height-to-depth (H/D) ratio of 1 to 1 or less, or have properly detailed and constructed hold downs. (Section 5.6.3)
- T F N/A CRIPPLE WALLS: All exterior cripple walls below the first floor level are braced to the foundation with shear elements. (Section 5.6.4)
- T F N/A NARROW SHEAR WALLS: Narrow wood shear walls with an aspect ratio greater than 2 to 1 do not resist forces developed in the building. (Section 5.6.5)
- T F N/A STUCCO (EXTERIOR PLASTER) SHEAR WALLS: Multistory buildings do not rely on exterior stucco walls as the primary lateral-force-resisting system. (Section 5.6.6)
- T F N/A PLASTER OR GYPSUM WALLBOARD SHEAR WALLS: Interior plaster or gypsum wallboard is not being used for shear walls in buildings over one story in height. (Section 5.6.7)

**BRACED FRAMES**

**Concentric braced frames**

- T F N/A STRESS CHECK: The building satisfies the Quick Check of the stress in the diagonals. (Section 6.1.1)
- T F N/A STIFFNESS OF DIAGONALS: All diagonal elements required to carry compression have  $Kl/r$  ratios less than 120. (Section 6.1.2)
- T F N/A TENSION-ONLY BRACES: Tension-only braces are not used as the primary diagonal bracing elements in structures over two stories in height. (Section 6.1.3)
- T F N/A CHEVRON BRACING: The bracing system does not include chevron-, V- or K-braced bays. (Section 6.1.4)
- T F N/A CONCENTRIC JOINTS: All the diagonal braces frame into the beam-column joints concentrically. (Section 6.1.5)
- T F N/A CONNECTION STRENGTH: All the brace connections are able to develop the yield capacity of the diagonals. (Section 6.1.6)
- T F N/A COLUMN SPLICES: All column splice details of the braced frames can develop the column yield capacity. (Section 6.1.7)
- T F N/A CONCRETE BRACED FRAMES: None of the braces in the framing system are of reinforced concrete construction. (Section 6.1.8)

**Eccentric braced frames**

- T F N/A LINK BEAM LOCATION: The link beams are not connected to the columns. (Section 6.2.1)

**EVALUATION STATEMENTS FOR DIAPHRAGMS**

Address the following evaluation statements, marking each either true (T), false (F) or not applicable (N/A). Statements that are found to be true identify issues that are acceptable according to the criteria of these regulations; statements that are found to be false identify issues that need investigation. For guidance in the investigation, refer to the section number indicated in parentheses at the end of the statement.

**General**

- T F N/A PLAN IRREGULARITIES: There is significant tensile capacity at reentrant corners or other locations of plan irregularities. (Section 7.1.1)
- T F N/A CROSS TIES: There are continuous cross ties between diaphragm chords. (Section 7.1.2)
- T F N/A REINFORCING AT OPENINGS: There is reinforcing around all diaphragm openings larger than 50 percent of the building width in either major plan dimension. (Section 7.1.3)
- T F N/A OPENINGS AT SHEAR WALLS: Diaphragm openings immediately adjacent to the shear walls constitute less than 25 percent of the wall length, and the available length appears sufficient. (Section 7.1.4)

## APPENDIX H TO CHAPTER 6

### HAZUS AEBM REGULATIONS

**6-A1 HAZUS AEBM Technology.** The Federal Emergency Management Agency (FEMA)/National Institute of Building Sciences (NIBS) Multi-Hazard Loss Estimation Technology (HAZUS-MH MR2) and, specifically, the HAZUS Advanced Engineering Building Module (AEBM) are used by the Office with building-specific parameters, described in this appendix, to evaluate the Probability of Collapse of SPC-1 buildings.

**6-A2 Probability of Collapse.** The Probability of Collapse, P[COL], is calculated by Equation (A6-1):

$$P[\text{COL}] = P[\text{COL}|\text{STR}_s] \times P[\text{STR}_s] \quad (\text{A6-1})$$

where:

$P[\text{COL}|\text{STR}_s]$  = collapse factor of the HAZUS AEBM, as modified herein, and

$P[\text{STR}_s]$  = probability of Complete Structural Damage, based on HAZUS AEBM methods and parameters, as modified herein.

**6-A3 Building-Specific Properties.** Building-specific properties are based on the building type (structural system), or Model Building Type (MBT), building height (number of stories above seismic base), building age (pre-1933, 1933 – 1961 or post-1961 design vintage), availability of materials testing data, and Significant Structural Deficiencies.

Table A6-1 lists Significant Structural Deficiencies. Table A6-1 includes older buildings (pre-1933 buildings) and buildings that do not have available materials test data, and treats these conditions as Significant Structural Deficiencies.

SPC-1 buildings with no Significant Structural Deficiencies are evaluated using “Baseline” values of building-specific properties. SPC-1 buildings with one or more Significant Structural Deficiencies are evaluated using Sub-Baseline (SubBase), or Ultra-Sub-Baseline (USB) building-specific properties, as specified in Table A6-1.

Building-specific properties include parameters related to (1) building capacity, (2) building response, (3) Complete Structural Damage, and (4) building collapse. Appendix H Sections 6-A4 through 6-A7, define the parameters of interest related to building capacity, building response, Complete Structural Damage and building collapse, respectively, and specify appropriate values of these parameters.

**6-A4. Building Capacity.** Building-specific capacity properties of interest include the yield capacity control point ( $D_y, A_y$ ) and the ultimate capacity control point ( $D_u, A_u$ ), as calculated by Equations (A6-2 through A6-5, respectively):

$$A_y = C_s \cdot \gamma / \alpha_1 \quad (\text{A6-2})$$

$$D_y = 9.8 \cdot A_y \cdot T_e^2 \quad (\text{A6-3})$$

$$A_u = \lambda \cdot A_y \quad (\text{A6-4})$$

$$D_u = \lambda \cdot \mu \cdot D_y \quad (\text{A6-5})$$

where:

$C_s$  = seismic design coefficient — values of  $C_s$  are given in Tables A6-2a and A6-2b, respectively,

$\alpha_1$  = modal weight factor, Alpha 1 — values of  $\alpha_1$  are given in Table A6-4,

$T_e$  = elastic period, in seconds — values of  $T_e$  are given in Table A6-3,

$\gamma$  = yield strength factor, Gamma — values of  $\gamma$  are given in Table A6-5,

$\lambda$  = “overstrength” factor, Lambda — values of  $\lambda$  are given in Table A6-5, and

$\mu$  = “ductility” factor, Mu — values of  $\mu$  are given in Table A6-6.

**6-A5 Building Response.** Building-specific response parameters of interest include the elastic damping factor,  $\beta_e$ , and the degradation factor, Kappa. Values of  $\beta_e$  are given in Table A6-7 and values of the Kappa factor are given in Table A6-8.

**6-A-6 Complete Structural Damage.** Building-specific damage parameters of interest include the median spectral displacement of the Complete Structural Damage state,  $S_{dC}$  and the associated lognormal standard deviation (Beta) factor,  $\beta_c$ . Values of  $\beta_c$  are given in Table A6-11. Median spectral displacement at the Complete Structural Damage state,  $S_{dC}$  is calculated using Equation (A6-6):

$$S_{dC} = \Delta_c \cdot H_R \cdot \alpha_2 / \alpha_3 \quad (\text{A6-6})$$

where:

$\Delta_c$  = interstory drift ratio (of the story with maximum drift) at the threshold of Complete Structural Damage — values of  $\Delta_c$  are given in Table A6-9,

$H_R$  = height of building at the roof level, in inches — default values of  $H_R$  are given in Table A6-3 as a function of the number of stories above grade,

$\alpha_2$  = modal height factor, Alpha 2 — values of  $\alpha_2$  are given in Table A6-4, and

$\alpha_3$  = modal shape factor, Alpha 3, relating maximum-story drift and roof drift, values of  $\alpha_3$  are given in Table A6-10.

**6-A-7 Building Collapse.** Building-specific values of the collapse factor, P[COL|STR<sub>s</sub>], that describe the fraction of the building likely to be collapsed given that the building has reached the Complete Structural Damage state, STR<sub>s</sub>, are given in Table A6-12.

TABLE A6-1—SIGNIFICANT STRUCTURAL DEFICIENCY MATRIX

Significant Structural Deficiency/Condition <sup>1</sup>	Capacity		Response		Structural Damage - Complete Damage State						Collapse	
	Over-Strength		Duration		Fragility Curve Median <sup>4</sup>				Fragility Curve Variability - Beta Factor ( $\beta$ )		Collapse Factor (P[COL STR <sub>s</sub> ])	
	Gamma and Lambda Factors		Degradation (Kappa) Factor		Maximum Story Drift Ratio ( $\delta$ )		Mode Shape (Alpha 3) Factor					
	SubBase	USB	SubBase	USB <sup>5</sup>	SubBase	USB	SubBase	USB <sup>6</sup>	SubBase	USB <sup>5</sup>	SubBase	USB <sup>6</sup>
Age (Pre-1933 buildings)	X	X <sup>7</sup>										
Materials Testing (None)	X								X			
No Redundancy									X		X	X <sup>6</sup>
Weak Story Irregularity					X		X	X <sup>6</sup>			X	X <sup>6</sup>
Soft Story Irregularity					X		X	X <sup>6</sup>			X	X <sup>6</sup>
Mass Irregularity					X							
Vertical Discontinuity	X				X							
Torsional Irregularity						X					X	X <sup>6</sup>
Deflection Incompatibility <sup>2</sup>					X				X		X	X <sup>6</sup>
Short Column <sup>3</sup>	X					X						
Wood Deterioration		X	X									
Steel Deterioration		X	X									
Concrete Deterioration		X	X									
Weak Column-Steel	X				X							
Weak Column-Concrete	X		X		X							
No Cripple Wall Bracing					X		X	X <sup>6</sup>			X	X <sup>6</sup>
Topping Slab	X		X						X		X	X <sup>6</sup>
Inadequate Wall Anchorage/Parapet Bracing		X							X			
Load Path/Diaphragm Openings									X		X	X <sup>6</sup>
URM Wall Thickness Ratio											X	X <sup>6</sup>

<sup>1</sup> Sub-Baseline (SubBase) and Ultra-Sub-Baseline (USB) properties are based on one, or more, significant structural deficiencies.

<sup>2</sup> The Deflection Incompatibility structural deficiency applies only to concrete systems (C1, C2 and C3).

<sup>3</sup> The Short Column structural deficiency applies only to concrete and masonry systems (C1, C2, C3, RM1 and RM2).

<sup>4</sup> Effects of deficiencies related to drift and mode shape limited to a combined factor of 5 reduction in Complete median (of HAZUS default value).

<sup>5</sup> Grey shading indicates USB performance is not defined/used for deficiencies related to degradation (kappa) and fragility curve (beta) factors.

<sup>6</sup> USB performance required for systems with multiple, SubBase deficiencies related to either the mode shape (Alpha 3) factor or the collapse rate.

<sup>7</sup> USB performance required for pre-1933 buildings with other over-strength-related deficiencies (else use SubBase performance for pre-1933 buildings).

TABLE A6-3—DEFAULT BUILDING HEIGHTS AND ELASTIC PERIODS

No. of Stories	Default Building Height, $H_R$ , and Elastic Period, $T_e$ , Properties													
	Structural System (MBT)													
	W1 and W2 (MH)		S1		C1		S2		S4 and S5		C2, C3, PC2, RM1, RM2, URM		S3 and PC1	
	$H_R$ (ft)	$T_e$ (sec)	$H_R$ (ft)	$T_e$ (sec)	$H_R$ (ft)	$T_e$ (sec)	$H_R$ (ft)	$T_e$ (sec)	$H_R$ (ft)	$T_e$ (sec)	$H_R$ (ft)	$T_e$ (sec)	$H_R$ (ft)	$T_e$ (sec)
1	14	0.35	14	0.40	12	0.40	14	0.40	14	0.35	12	0.35	15	0.35
2	24	0.38	24	0.50	20	0.40	24	0.43	24	0.35	20	0.35	25	0.39
3	34	0.49	36	0.69	30	0.48	36	0.59	36	0.44	30	0.39	35	0.50
4	44	0.60	48	0.87	40	0.62	48	0.73	48	0.55	40	0.48		
5	54	0.70	60	1.04	50	0.76	60	0.86	60	0.65	50	0.57		
6			72	1.20	60	0.89	72	0.99	72	0.74	60	0.65		
7			84	1.36	70	1.03	84	1.11	84	0.84	70	0.73		
8			96	1.51	80	1.16	96	1.22	96	0.92	80	0.81		
9			108	1.66	90	1.29	108	1.34	108	1.01	90	0.88		
10			120	1.81	100	1.41	120	1.45	120	1.09	100	0.95		
11			132	1.95	110	1.54	132	1.55	132	1.17	110	1.02		
12			144	2.09	120	1.67	144	1.66	144	1.25	120	1.09		
13			156	2.23	130	1.79	156	1.76	156	1.33	130	1.16		
14			168	2.36	140	1.91	168	1.86	168	1.40	140	1.23		
15			180	2.50	150	2.04	180	1.96	180	1.48	150	1.29		
16			192	2.63	160	2.16	192	2.06	192	1.55	160	1.35		
17			204	2.76	170	2.28	204	2.15	204	1.62	170	1.42		
18			216	2.89	180	2.40	216	2.25	216	1.70	180	1.48		
19			228	3.02	190	2.52	228	2.34	228	1.77	190	1.54		
>= 20			240	3.14	200	2.64	240	2.43	240	1.84	200	1.60		

TABLE A6-4—ALPHA 1 AND ALPHA 2, MODAL FACTORS

No. of Stories	Alpha 1 ( $\alpha_1$ ) - Modal Weight Factor				Alpha 2 ( $\alpha_2$ ) - Modal Height Factor	
	Structural System (MBT)				Structural System (MBT)	
	S1 and C1	W1, W2, S2, S3, S4, C2, C3, PC2, RM1 and RM2	PC1 and URM	MH	MH	All Systems (except MH)
1	0.75	0.8	0.75	1.00	1.00	0.75
2	0.75	0.8	0.75			0.75
3	0.75	0.8	0.75			0.75
4	0.75	0.8	0.75			0.75
5	0.75	0.8	0.75			0.75
6	0.73	0.79				0.72
7	0.71	0.78				0.69
8	0.69	0.77				0.66
9	0.67	0.76				0.63
10	0.65	0.75				0.60
11	0.65	0.75				0.60
12	0.65	0.75				0.60
13	0.65	0.75				0.60
14	0.65	0.75				0.60
>= 15	0.65	0.75				0.60

TABLE A6-5—LAMBDA FACTOR

No. of Stories	Gamma Factor ( $\gamma$ )	Lambda Factor ( $\lambda$ )														
		Baseline Performance					SubBase Performance					USB Performance				
		Structural System (MBT)					Structural System (MBT)					Structural System (MBT)				
		W1, S1, C1	W2, C2	S4, C3	Other MBT	PC1, URM	W1, S1, C1	W2, C2	S4, C3	Other MBT	PC1, URM	W1, S1, C1	W2, C2	S4, C3	Other MBT	PC1, URM
1	2.70	2.00	2.00	1.83	1.67	1.33	1.75	1.75	1.63	1.50	1.25	1.50	1.50	1.42	1.33	1.17
2	2.50	2.00	2.00	1.83	1.67	1.33	1.75	1.75	1.63	1.50	1.25	1.50	1.50	1.42	1.33	1.17
3	2.25	2.00	2.00	1.83	1.67	1.33	1.75	1.75	1.63	1.50	1.25	1.50	1.50	1.42	1.33	1.17
4	2.00	2.00	2.00	1.83	1.67	1.33	1.75	1.75	1.63	1.50	1.25	1.50	1.50	1.42	1.33	1.17
5	1.88	2.00	2.00	1.83	1.67	1.33	1.75	1.75	1.63	1.50	1.25	1.50	1.50	1.42	1.33	1.17
6	1.80	2.00	2.00	1.83	1.67	1.33	1.75	1.75	1.63	1.50	1.25	1.50	1.50	1.42	1.33	1.17
7	1.75	2.00	2.00	1.83	1.67	1.33	1.75	1.75	1.63	1.50	1.25	1.50	1.50	1.42	1.33	1.17
8	1.71	2.00	2.00	1.83	1.67	1.33	1.75	1.75	1.63	1.50	1.25	1.50	1.50	1.42	1.33	1.17
9	1.69	2.00	2.00	1.83	1.67	1.33	1.75	1.75	1.63	1.50	1.25	1.50	1.50	1.42	1.33	1.17
10	1.67	2.00	2.00	1.83	1.67	1.33	1.75	1.75	1.63	1.50	1.25	1.50	1.50	1.42	1.33	1.17
11	1.65	2.00	2.00	1.83	1.67	1.33	1.75	1.75	1.63	1.50	1.25	1.50	1.50	1.42	1.33	1.17
12	1.65	2.00	2.00	1.83	1.67	1.33	1.75	1.75	1.63	1.50	1.25	1.50	1.50	1.42	1.33	1.17
13	1.65	2.00	2.00	1.83	1.67	1.33	1.75	1.75	1.63	1.50	1.25	1.50	1.50	1.42	1.33	1.17
14	1.65	2.00	2.00	1.83	1.67	1.33	1.75	1.75	1.63	1.50	1.25	1.50	1.50	1.42	1.33	1.17
>= 15	1.65	2.00	2.00	1.83	1.67	1.33	1.75	1.75	1.63	1.50	1.25	1.50	1.50	1.42	1.33	1.17

TABLE A6-6—DUCTILITY FACTOR  $Mu$

No. of Stories	$Mu$ ( $\mu$ ) Factor (All Systems)
1	6.00
2	6.00
3	4.94
4	4.41
5	4.07
6	3.82
7	3.63
8	3.48
9	3.35
10	3.24
11	3.15
12	3.07
13	3.00
14	3.00
>= 15	3.00



TABLE A6-7—ELASTIC DAMPING

Structural System (MBT)	Elastic Damping <sup>E</sup> (% of Critical)
MH	5%
S1, S2, S3 and S4	5%
C1, C2, PC1 and PC2	7%
RM1 and RM2	7%
URM, C3 and S5	7%
W1 and W2	10%

TABLE A6-8—DEGRADATION KAPPA FACTORS

Scenario Earthquake Criteria		Degradation (Kappa) Factors - ( $\kappa_S$ , $\kappa_M$ and $\kappa_L$ )			
Minimum Distance Site to Fault <sup>1</sup> (km)	Maximum Magnitude <sup>2</sup>	Baseline Performance		SubBase Performance	
		Post-61	Pre-1961	Post-61	Pre-1961
< 5	All	0.8	0.7	0.6	0.5
5 - 10	$M_{max} \leq 6.5$	0.8	0.7	0.6	0.5
5 - 10	$M_{max} > 6.5$	0.7	0.6	0.5	0.4
10 - 25	$M_{max} \leq 6.5$	0.7	0.6	0.5	0.4
10 - 25	$7.0 \geq M_{max} > 6.5$	0.6	0.5	0.4	0.3
10 - 25	$M_{max} > 7.0$	0.5	0.4	0.3	0.2
25 - 50	$M_{max} \leq 7.0$	0.5	0.4	0.3	0.2
25 - 50	$M_{max} > 7.0$	0.4	0.3	0.2	0.1
> 50	All	0.4	0.3	0.2	0.1

1. Minimum distance to the fault that controls 1-second period ground motions at the building site.
2. Maximum magnitude ( $M_{max}$ ) of fault that controls 1-second ground motions at the building site

TABLE A6-9—INTERSTORY DRIFT RATIO — MEDIAN COMPLETE STRUCTURAL DAMAGE

Structural System (MBT)	Interstory Drift Ratio (max story) - Median Complete Structural Damage ( $\Delta_c$ )					
	Baseline Performance		SubBase Performance		USB Performance	
	Post-61	Pre-61	Post-61	Pre-61	Post-61	Pre-61
W1, W2 (MH)	0.075	0.075	0.060	0.060	0.038	0.038
S1, C1, S2 and C2	0.060	0.050	0.050	0.040	0.030	0.025
S3, S4, PC1, PC2, RM1 and RM2	0.053	0.044	0.044	0.035	0.027	0.022
S5, C3 and URM		0.035		0.028		0.018

TABLE A6-10—ALPHA 3 ( $\alpha_3$ ) MODAL SHAPE FACTOR

No. of Stories	Alpha 3 ( $\alpha_3$ ) Modal Shape Factor - Ratio of Maximum Interstory Drift to Average Interstory Drift								
	When Combined with Baseline Interstory Drift Ratios (Table A6-9)			When Combined with SubBase Interstory Drift Ratios (Table A6-9)			When Combined with USB Interstory Drift Ratios (Table A6-9)		
	Baseline Performance	SubBase Performance	USB Performance	Baseline Performance	SubBase Performance	USB Performance	Baseline Performance	SubBase Performance	USB Performance
1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2	1.21	1.62	2.03	1.21	1.62	2.03	1.21	1.62	2.03
3	1.35	2.04	2.73	1.35	2.04	2.73	1.35	2.04	2.50
4	1.45	2.36	3.27	1.45	2.36	3.27	1.45	2.36	2.50
5	1.54	2.63	3.72	1.54	2.63	3.72	1.54	2.50	2.50
6	1.62	2.87	4.11	1.62	2.87	4.00	1.62	2.50	2.50
7	1.69	3.07	4.46	1.69	3.07	4.00	1.69	2.50	2.50
8	1.75	3.26	4.77	1.75	3.26	4.00	1.75	2.50	2.50
9	1.81	3.43	5.00	1.81	3.43	4.00	1.81	2.50	2.50
10	1.86	3.59	5.00	1.86	3.59	4.00	1.86	2.50	2.50
11	1.91	3.73	5.00	1.91	3.73	4.00	1.91	2.50	2.50
12	1.96	3.87	5.00	1.96	3.87	4.00	1.96	2.50	2.50
13	2.00	4.00	5.00	2.00	4.00	4.00	2.00	2.50	2.50
14	2.04	4.12	5.00	2.04	4.00	4.00	2.04	2.50	2.50
>= 15	2.08	4.23	5.00	2.08	4.00	4.00	2.08	2.50	2.50

TABLE A6-11—LOGNORMAL STANDARD DEVIATION (BETA) VALUES — COMPLETE STRUCTURAL DAMAGE

No. of Stories	Lognormal Standard Deviation (Beta) Values - Complete Structural Damage ( $\beta_c$ )			
	Baseline Performance		SubBase Performance	
	Post-61	Pre-61	Post-61	Pre-61
1	0.85	0.90	0.95	1.00
2	0.85	0.90	0.95	1.00
3	0.85	0.90	0.95	1.00
4	0.84	0.89	0.94	0.99
5	0.83	0.88	0.93	0.98
6	0.82	0.87	0.92	0.97
7	0.81	0.86	0.91	0.96
8	0.80	0.85	0.90	0.95
9	0.79	0.84	0.89	0.94
10	0.78	0.83	0.88	0.93
11	0.77	0.82	0.87	0.92
12	0.76	0.81	0.86	0.91
13	0.75	0.80	0.85	0.90
14	0.75	0.80	0.85	0.90
>= 15	0.75	0.80	0.85	0.90

TABLE A6-12—COLLAPSE FACTOR

Structural System (MBT)	Collapse Factor - Likelihood of Collapse given Complete Structural Damage - $P[COL STR_s]$		
	Baseline Performance	SubBase Performance	USB Performance
W1 and W2 (MH)	0.05	0.10	0.20
S1, S2, S3, S4 and S5	0.08	0.15	0.30
C1, C2 and C3	0.13	0.25	0.50
RM1 and RM2	0.13	0.25	0.50
PC1 and PC2	0.15	0.30	0.60
URM	0.15	0.30	0.60



## HISTORY NOTE APPENDIX FOR CHAPTER 6

### Administrative Regulations for the Office of Statewide Health Planning and Development (Title 24, Part 1, California Code of Regulations)

The format of the history notes has been changed to be consistent with the other parts of the *California Building Standards Code*. The history notes for prior changes remain within the text of this code.

1. (OSHPD 1/96) Adoption of Chapter 6, Seismic Evaluation Procedures for Hospital Buildings, Part 1, Title 24, C.C.R. Filed with the secretary of state on April 8, 1997, effective April 8, 1997. Approved by the California Building Standards Commission on February 6, 1997.
2. (OSHPD 1/97) New Article 1-Definitions and Requirements based on SB 1953. Approved by the California Building Standards Commission on March 18, 1998. Filed with the Secretary of State on March 25, 1998, effective March 25, 1998.
3. (BSC 2/99) Article 1-7, Conflict of Interest Code. Amend Section 1-701. Approved by the Fair Political Practices Committee on October 29, 1999. Filed with the Secretary of State on December 31, 1999, effective January 30, 2000.
4. (OSHPD EF 1/00) Part 1, Chapter 6, Articles 1, 10, 11 and Appendix. Approved as submitted by the California Building Standards Commission on February 28, 2000. Filed with the Secretary of State on March 3, 2000, effective March 3, 2000. Permanent approval by California Building Standards Commission on May 24, 2000. Certification of Compliance filed with Secretary of State May 26, 2000.
5. (OSHPD EF 2/00) Part 1, Amend Chapter 6, Articles 1, 2, 10 and 11. Emergency approval by the California Building Standards Commission on May 24, 2000. Filed with the Secretary of State on May 26, 2000, effective May 26, 2000. Permanent approval by California Building Standards Commission September 20, 2000. Certification of Compliance filed with Secretary of State November 15, 2000.
6. (OSHPD EF 5/01) Emergency adoption of amendments to hospital seismic safety evaluation regulations contained in Title 24, C.C.R., Part 1, Chapter 6. Approved by the California Building Standards Commission on November 28, 2001. Filed with the Secretary of State on December 4, 2001, effective December 4, 2001.
7. (OSHPD EF 01/02) Amend Chapter 6 and 7 of Part 1. Approved as emergency by the California Building Standards Commission on January 15, 2003, and filed with the Secretary of State on January 16, 2003. Effective January 16, 2003.
8. (OSHPD EF 01/02) Amend Chapters 6 and 7 of Part 1. Approved as permanent emergency by the California Building Standards Commission. Permanent approval on May 14, 2003. Certification of Compliance filed with the Secretary of State on May 15, 2003. Effective January 16, 2003.
9. (OSHPD EF 01/05) Amend Part 1, Chapter 6, Article 11 and Table 11.1. Approved as emergency by the California Building Standards Commission on December 13, 2005. Filed with the Secretary of State on December 14, 2005 with an effective date of December 14, 2005.
10. (OSHPD EF 01/05) Amend Part 1, Chapter 6, Article 11 and Table 11.1. Re-adopted/approved as emergency by the California Building Standards Commission on March 22, 2006. Filed with the Secretary of State on March 30, 2006 with an effective date of March 30, 2006.
11. (OSHPD 01/04) Amend Article 1 for nonconforming hospital buildings. Filed with Secretary of State on May 23, 2006, and effective on the 30th day after filing with the Secretary of State.
12. (OSHPD EF 01/05) Amend Title 24, Part 1, Chapter 6, Article 11 and Table 11.1. The language for the permanent rule will remain effective and unchanged from the readoption/approval of Emergency Finding (OSHPD EF 01/05) Supplement dated May 30, 2006. Approved as permanent by the California Building Standards Commission on July 27, 2006 and filed with the Secretary of State on July 28, 2006.
13. (OSHPD EF 01/07) Amend Title 24, Part 1, Chapter 6, Article 1, Article 2, Article 4, Article 6, Article 11, Table 11.1. Approved by the California Building Standards Commission on July 19, 2007. Filed with the Secretary of State July 20, 2007, effective January 1, 2008.
14. (OSHPD EF 01-07) Amend Title 24, Part 1, Chapter 6, Article 1, Article 2, Article 4, Article 6, Article 11 and Table 11.1. Approved by the California Building Standards Commission on July 19, 2007. Filed with the Secretary of State on July 20, 2007, effective January 1, 2008. It was approved as permanent by the California Building Standards Commission on May 21, 2008 and filed with the Secretary of State on May 23, 2008.
15. (OSHPD EF 02/07) Amend Title 24, Part 1, Chapter 6, definitions added and Chapter amended throughout with a new Appendix H to Chapter 6. Approved as an emergency regulation by the California Building Standards Commission on November 14, 2007, filed with the Secretary of State on November 29, 2007. Effective November 29, 2007. It was approved as permanent by the California Building Standards Commission on May 21, 2008 and filed with the Secretary of State on May 23, 2008.
16. (OSHPD 08/09) Amend Title 24, Part 1, Chapter 6 with amendments throughout. Effective on February 13, 2010.
17. (OSHPD EF 01/10) Amend Title 24, Part 1, Chapter 6 with updates to HAZUS standards pursuant to SB 499 (Chapter 601, Statutes of 2009). Effective on February 13, 2010.
18. (OSHPD 02/10) Amend Article 1, Title 24, Chapter 6, effective on August 28, 2011.
19. OSHPD EF 01-11 – Emergency regulations to amend provisions from Chapter 6, Article 1, 5, 10 and 11 of Part 1 Title 24. Approved as an emergency on January 18, 2012, filed with Secretary of State on January 19, 2012 and effective June 22, 2012.



(c) Construction, in accordance with the approved construction documents, shall commence within one year after obtaining the written approval of construction documents, or this approval shall become void. Prior to the approval becoming void, the applicant may apply for one extension of up to one year. The Office may require that the construction documents be revised to meet current regulations before granting an extension. The extensions must be requested in writing and justifiable cause demonstrated.

(d) If the work of construction is suspended or abandoned for any reason for a period of one year following its commencement, the Office's approval shall become void. Prior to the approval becoming void, the applicant may apply for one extension of up to one year. The Office may require that the construction documents be revised to meet current regulations before granting an extension. The extensions must be requested in writing and justifiable cause demonstrated.

**Exception:** The time limitations and deadlines specified in Section 7-129 shall not apply to managed projects as defined in Section 7-111. This includes, but is not limited to, projects approved for phased plan review, as described in Section 7-130, or incremental review, as described in Section 7-131.

**Authority:** Health and Safety Code Sections 18929 and 129675–130070.

**Reference:** Health and Safety Code Section 129850.

**HISTORY:**

1. (OSHPD 2/95) Regular order by the Office of Statewide Health Planning and Development to amend Section 7-129. Filed with the secretary of state on August 14, 1996, becomes effective September 13, 1996. Approved by the California Building Standards Commission on March 19, 1996.

**7-130. Phased submittal, review and approval.**

The Office, in its sole discretion, may enter into a written agreement with the hospital governing board or authority for the phased submittal, review and approval of construction documents.

**7-131. Incremental design, bidding and construction.**

(a) In accordance with Section 107.3.3, Part 2, Title 24, the Office is authorized to review and approve construction documents and issue a permit for increments of a building or structure prior to the construction documents for the entire building or structure have been submitted and approved, provided that adequate information and detailed statements have been filed complying with pertinent requirements of applicable codes. For other regulations pertaining to incremental design, bidding and construction, see Section 107.3.3, Part 2, Title 24.

(b) Increments shall be limited to complete phases of construction, such as demolition, site work and utilities, foundations and basement walls, structural framing, architectural work, mechanical work, electrical work, etc. A master plan indentifying the work to be completed in each increment and a chart showing the proposed coordination of the design, bidding and construction schedules, state and local plan review times, and estimated completion and occupancy of the project shall be submitted with the first increment.

(c) The incremental submittals and construction shall be continuous to conclusion without suspension or unnecessary delay unless specifically approved by the Office.

**Authority:** Health and Safety Code Sections 18929 and 129675–130070.

**Reference:** Health and Safety Code Section 129850.

**HISTORY:**

1. (OSHPD 2/95) Regular order by the Office of Statewide Health Planning and Development to amend Section 7-131. Filed with the secretary of state on August 14, 1996, becomes effective September 13, 1996. Approved by the California Building Standards Commission on March 19, 1996.

**7-132. Design/build method.**

Projects prepared under the design/build delivery method shall comply with all applicable requirements of Title 24, Part 1, California Administrative Code including but not limited to Sections 7-115, 7-141, 7-143, 7-144, 7-145, 7-149, 7-151, 7-153 and 7-155.

**Authority:** Health and Safety Code Section 18929 and 129675–130070

**Reference:** Health and Safety Code Section 129850

**7-133. Fees.**

(a) **Plan review and field observation.** The fee for plan review and field observation shall be based on the estimated cost of construction as specified below. If the actual construction cost for a hospital or skilled nursing facility project exceeds the estimated construction cost by more than five percent (5%), a further fee shall be paid to the Office, based on the applicable schedule specified in (a) (1) or (2) and computed on the amount by which the actual cost exceeds the estimated cost.

1. The fee for hospital buildings is 1.64 percent of the estimated construction cost. The estimated construction cost shall include fixed equipment but exclude imaging equipment, design fees, inspection fees and off-site construction work. The fee for imaging equipment (X-ray, MRI, CT Scan, etc.) shall be 0.164 percent of the equipment cost or estimated value. In any event, the minimum fee for review of imaging equipment shall be \$250.00.
  - A. The Office shall charge actual costs for review and approval of seismic evaluations and compliance plans prepared pursuant to Article 8, Chapter 1, Part 7, Division 107, (commencing with Section 130000) of the Health and Safety Code. Total cost paid for these review services shall be nonrefundable and shall be deducted from the fee for a future project involving seismic retrofit or new construction pursuant to the hospital building compliance plan approved by the Office.
2. The fee for skilled nursing and intermediate care facilities, as defined in Subdivision (c), (d), (e) or (g) of Section 1250, Health and Safety Code, is 1.5 percent of the estimated construction cost. The estimated construction cost shall include fixed equipment but exclude design fees, inspection fees and off-site work.
3. The minimum filing fee shall be \$250.00. This filing fee is nonrefundable and shall be applied toward the total fee for plan review and field observation.
  - (b) The fee for submitting an amended seismic evaluation report or compliance plan is \$250. The fee for review and approval of the amended report or compliance plan shall be subject to Section 7-133 (a) 1A above.
  - (c) The fee for submitting an application for extension to seismic compliance is \$250.

(d) **Preliminary review.** The fee for review of preliminary plans and outline specifications pursuant to Section 7-121 is 10% of the fee indicated in Section 7-133 (a) and shall be due upon the submission of preliminary plans and outline specifications. The preliminary review fee shall be deducted from the application fee specified in Section 7-133 (a).

(e) **Incremental projects.** The fee for incremental projects pursuant to Section 7-131 is (70%) of the fee, based upon the estimated construction cost of the entire facility, as calculated in accordance with Section 7-133 (a), and shall be due upon the submission of the construction documents of the first construction increment. The final fee shall be based upon the determination of the final actual construction cost.

(f) **Annual permit for hospital projects.** A hospital may choose to apply for an annual permit for one or more small projects of \$50,000 or less in cumulative total estimated construction cost. The annual permit is applicable to only the project(s) submitted within the state's fiscal year in which the Office issues the annual permit. An application filing fee of \$500.00 is due upon submittal of the annual permit and is in lieu of an application filing fee specified in (a) of this Section.

(g) **Annual permit for skilled nursing facility projects.** A skilled nursing facility may choose to apply for an annual permit for one or more small projects of \$25,000 or less in cumulative total estimated construction cost. The annual permit is applicable to only the project(s) submitted within the state's fiscal year in which the Office issues the annual permit. An application filing fee of \$250.00 is due upon submittal of the annual permit and is in lieu of an application filing fee, as specified in (a) of this Section.

(h) **Phased submittal review.** The fee for phased submittal, review and approval pursuant to Section 7-130 shall be based on the written agreement, which shall include a schedule for payment. The phased review fee shall not exceed the fee required by Section 7-133 (a).

(i) **Geotechnical/Geohazard reports.** The fee for review of a geotechnical/geohazard report shall be \$5,000.00.

(j) **Deferral of fee payment for disaster-related projects.**

1. A health facility may request to defer payment of the filing fee, as described in this section, for up to one year, for a construction or alteration project to repair damage resulting from an event which the governor has declared as a disaster. The request for payment deferral must be submitted to the Office, in writing, and accompany the application for plan review. The request may be on a form, as provided by the Office, or other written format and shall identify the facility name, project number, estimated construction cost and shall certify to the following:
  - A. The repair project is necessary due to damage sustained by the [name of the specified event] which was declared to be a disaster by the governor on [date of the declaration].
  - B. The facility cannot presently afford to pay the filing fee.
  - C. On [date of application], the health facility applied for federal disaster relief from the Federal Emergency Agency (FEMA) with respect to the disaster identified in this request.

D. The facility expects to receive financial assistance within one year of the date of the application for disaster relief.

Payment deferral requests shall be signed by the health facility's chief executive officer or chief financial officer.

2. Within ten business days of receipt of a facility's payment deferral request, the facility will be given written notice by the deputy director either approving or denying the deferral of the project plan review fee. Incomplete requests will be returned to the facility by facsimile within five business days, accompanied by a statement describing what is needed for the request to be complete.
3. If the deferral request is denied by the deputy director, the health facility may appeal this decision to the director of the Office. The appellant must submit a written appeal to the Office within ten business days of receipt of the denial. If an appeal is not received by the Office within the ten business days, the project will be returned to the health facility as incomplete.
4. The plan review fees deferred under this section shall be due and paid in full by the applicant facility within one year from the date of the Office's approval of the project plans. Failure to submit the deferred fee payment will result in an offset against any amount owed by the state to the health facility.

(k) **SPC-1 hospital building reassessment.** The Office shall charge actual costs for the seismic collapse probability assessment of a hospital building, pursuant to Section 129835 of the Health and Safety Code. The total cost paid for these services shall be nonrefundable.

(l) **SPC-1 hospital building seismic compliance extensions.** The Office shall charge actual costs to cover the review and verification of the extension documents submitted, pursuant to Section 130060(g) of the Health and Safety Code. The total cost paid for these services shall be nonrefundable.

**Authority:** Health and Safety Code Sections 18929 and 129675-130070.

**Reference:** Health and Safety Code Section 129850.

**HISTORY:**

1. (OSHPD 2/95) Regular order by the Office of Statewide Health Planning and Development to amend Section 7-133. Filed with the secretary of state on August 14, 1996, becomes effective September 13, 1996. Approved by the California Building Standards Commission on March 19, 1996.
2. (OSHPD/EF 1/91) Emergency order by the Office of Statewide Health Planning and Development to amend Section 7-133, Part 1, Title 24, California Code of Regulations. Filed as an emergency order with the secretary of state September 25, 1991; effective September 25, 1991. Approved as an emergency by the California Building Standards Commission on September 20, 1991.
3. (OSHPD/EF 1/91) Permanent order by the Office of Statewide Health Planning and Development to amend Section 7-133, Part 1, Title 24, California Code of Regulations. Filed as a permanent order with the secretary of state February 25, 1992; effective September 25, 1991. Approved as an emergency by the California Building Standards Commission on February 24, 1992.

**7-134. Fee refund**

(a) Upon written request from the applicant, a fee refund may be issued pursuant to this section.

1. The written refund request must be submitted to the Office within:
  - a. One year of the date that a project is closed,



Section 7-2100 (a) (1), (2) or (3), the unexpended balance of fees paid to the Office for actual cost of plan review services provided shall be refunded to the applicant.

**Exception:** Refunds for building(s) described in Section 7-2104 shall be calculated pursuant to the applicable requirements of Section 7-134.

(d) If an applicant requests a refund of fees for a project that has been submitted to the Office for plan review and building inspection, as described in Section 7-2100(a) (4), a fee may be refunded to the applicant pursuant to the applicable requirements of Section 7-134.

**Authority:** Health and Safety Code Sections 1226, 18929 and 129675–130070.

**Reference:** Health and Safety Code Section 129885.

## HISTORY NOTE APPENDIX FOR CHAPTER 7

### Administrative Regulations for the Office of Statewide Health Planning and Development (Title 24, Part 1, California Code of Regulations)

The format of the history notes has been changed to be consistent with the other parts of the *California Building Standards Code*. The history notes for prior changes remain within the text of this code.

1. (OSHPD 1/97) Regular order by the Office of Statewide Health and Planning and Development to amend Chapters 6 and 7 as a result of SB 1953. Filed at the secretary of state on March 25, 1998; effective March 25, 1998. Approved by the California Building Standards Commission on March 18, 1998.
2. (OSHPD-EF 1/98) Emergency order by the Office of Statewide Health Planning and Development to adopt administrative regulations specific to Hospital Inspector Citizenship/Alien Certification. Filed at the secretary of state on March 25, 1998; effective March 25, 1998. Approved by the California Building Standards Commission on March 18, 1998.
3. BSC 1997 Triennial Code Adoption Cycle (OSHPD 1/97, OSHPD 2/97, OSHPD 3/97). Approved by the California Building Standards Commission on May 6, 1998. Filed at the secretary of state's office on September 29, 1998, effective October 29, 1998.
4. Erratum to correct printing errors. Correction to Section 7-101 to change the date of the Alfred E. Alquist Act to 1983. Correction of grammatical error in Section 7-111. Publication date February 15, 2001.
5. (OSHPD 9/99) Testing, Inspection, and Observation Program. Various sections in Chapter 7. Approved as submitted by the California Building Standards Commission on May 24, 2000. Filed with the Secretary of State on June 8, 2000, effective July 7, 2000.
6. (OSHPD 10/99) Filing Fee/Personal Knowledge Verified Reports. Amend Sections 7-103, 7-111, 7-113, 7-133, 7-151. Approved as submitted by the California Building Standards Commission on May 24, 2000. Filed with the Secretary of State on June 8, 2000, effective July 7, 2000.
7. (OSHPD 3/99) Class C Hospital Inspector. Amend Sections 7-200, 7-204, 7-206. Approved as submitted by the California Building Standards Commission on May 24, 2000. Filed with the Secretary of State on June 8, 2000, effective July 7, 2000.
8. (OSHPD 01/01) 7-115 Preparation of Plans and Specifications. 7-152 Supplantation of an Architect, Engineer or Inspector of Record, Special Inspector or Contractor. Approved as submitted by the California Building Standards Commission on September 25, 2001. Files with the Secretary of State on November 6, 2001, effective December 6, 2001.
9. October 1, 2002 Errata adding Number 8 above.
10. (OSHPD EF 01/02) Amend Chapter 6 and 7 of Part 1. Approved as emergency by the California Building Standards Commission on January 15, 2003, and filed with the Secretary of State on January 16, 2003. Effective January 16, 2003.
11. (OSHPD 4/02) Chapter 7, amend various sections. Safety Standards for Health Facilities. Article 3, Section 7-125, Final Review of Plans and Specification. Article 3, Section 7-129, Time Limitations for Approval. Article 4, Section 7-135, Time of Beginning Construction. Article 4, Section 7-141, Administration of Construction. Article 4, Section 7-155, Final Approval of the Work. Article 19, Section 7-203, Applying for the Certification Examination. Article 21, Section 7-2100 through 7-2106, Scope of Responsibilities. Approved by the Building Standards Commission on May 14, 2003 and effective June 13, 2003.
12. (OSHPD EF 01/02) Amend Chapters 6 and 7 of Part 1. Approved as permanent emergency by the California Building Standards Commission. Permanent approval on May 14, 2003. Certification of Compliance filed with the Secretary of State on May 15, 2003. Effective January 16, 2003.
13. (OSHPD 01/04) Amend Chapter 6, Article 1 for change in Seismic Performance Category nonconforming building. Amend Chapter 7, Article 3 for plan review, Article 4 for construction inspection, Article 5 for appeals to the Hospital Building Safety Board, Article 6 for contract services, Article 19 for certification of hospital inspectors, and Article 21 for fees for review of specified clinics. Filed with Secretary of State on May 23, 2006, and effective on the 30th day of filing with the Secretary of State.
14. (OSHPD 01/06) Amendments to administrative standards for the review and construction of health facilities: preparation of plans and specifications, Hospital Inspector certification, and plan review and inspection of outpatient clinics. Filed with the Secretary of State on February 15, 2007, and effective 30 days thereafter.
15. (OSHPD EF 01/07) Amend Title 24, Part 1, Chapter 7, Article 1, Article 2, Article 3, Article 20. Approved by the California Building Standards Commission on July 19, 2007. Filed with the Secretary of State on July 20, 2007, effective on January 1, 2008.
16. (OSHPD 01/07) Amend Chapter 7, Safety Standards for Health Facilities. Approved by the California Building Standards Commission on July 17, 2008. Filed with the Secretary of State on July 18, 2008, and effective 30 days thereafter.
17. (OSHPD 04/09) Amend Chapter 7, Safety Standards for Health Facilities. Effective on February 13, 2010.
18. (OSHPD EF 01/10) Amend Chapter 7 with HAZUS updates pursuant to SB 499 (Chapter 601, Statutes of 2009). Effective on February 13, 2010.
19. (OSHPD 01/10) Amend Article 1, Title 24, Chapter 7, Article 7-111, effective on August 28, 2011.
20. (OSHPD EF 01/11) – Emergency regulations to amend provisions from Chapter 7, Article 3, of Part 1 Title 24. Approved as an emergency on January 18, 2012, filed with the Secretary of State on January 19, 2012 and effective on June 22, 2012.