REVISION RECORD FOR THE STATE OF CALIFORNIA

EMERGENCY SUPPLEMENT

October 23, 2008

2007 Title 24, Part 1, California Administrative Code

PLEASE NOTE: The date of this Emergency Supplement 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suggested that the section number as well as the page number be checked when inserting this material and removing the superseded material.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 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.

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specifications, and construction for that permit, it is strongly recommended that the removed pages be retained for historical reference.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	Insert Blue Pages
57 through 66	57 through 66.2
75 and 76	75 and 76
	106.1 through 106.10
107 and 108	107 and 108

Item No. 5510S002

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.

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.

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.

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.

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 $8^1/_2$″ x 11″ format;
2. All site, architectural, and engineering plans shall be formatted on 11- by 17-inch sheets (folded to $8^1/_2$ 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;

(d) Pharmaceutical service spaces;

(e) Radiological service spaces; and

(f) Sterile supply areas.

2.2 Diagrammatic or narrative descriptions of the following major building systems where deficiencies are identified that are within the scope of the evaluation, including primary source location or point(s) of entry into the building and major distribution routes of each utility or system.

(a) Mechanical systems including:

i. Air supply equipment, piping, controls and ducting;

ii. Air exhaust equipment and ducting;

iii. Steam and hot water piping systems, including boilers, piping systems, valving and components; and

iv. Elevators selected to provide service to patient, surgical, obstetrical and ground floors.

(b) Plumbing systems including:

i. Domestic water supply system, including heating equipment, valving, storage facilities and piping;

ii. Medical gas supply system, including storage facilities, manifolding and piping;

iii. Fire protection system, including sprinkler systems, wet and dry standpipes, piping systems and other fire suppression systems; and

iv. Sanitary drainage system, including storage facilities and piping.

(c) Electrical systems, including:

i. Essential electrical system, including emergency fuel storage;

ii. Internal communication systems;

iii. External communication systems;

iv. Fire alarm systems; and

v. Elevators selected to provide service to patient, surgical, obstetrical and ground floors.

Building name/ designation	OSHPD (or local building) permit date/ number	Governing building code	Construction completion date	Building type (per Section 2.2.3)	SPC	NPC

3. A synopsis of the evaluation and all the calculations used in the course of the evaluation for the planned level of nonstructural performance;

4. A list of the deficiencies identified in the course of the evaluation for the planned level of nonstructural performance;

5. Provide an 11- by 17-inch scaled Site Plan which identifies the boundaries of the facility property, locates all buildings, roadways, parking and other significant site features and improvements. Identify boundaries between buildings which were constructed at different times. For all buildings, note the names of the buildings and date of each related building permit. Provide the SPC and NPC for all buildings.

6. Provide the following matrix of construction information for each building of the facility under the acute care license, include the Structural Performance Category (SPC) and Nonstructural Performance Category (NPC) for all hospital buildings (see Tables 2.5.3 and 11.1). Identify each building addition separately. For buildings constructed, reconstructed or remodeled under a building permit issued by the Office, provide the OSHPD application number and the date of the initial submittal.

1.4 Compliance plans. A compliance plan shall be prepared and submitted for each building subject to these regulations. All general acute care hospital owners shall formulate a compliance plan which shall indicate the facilities intent to do any of the following:

1. Building retrofit for compliance with these regulations for continued acute care operation beyond 2030;
2. Partial retrofit for initial compliance, with closure or replacement expected by 2002, 2008, 2013 or 2030;
3. Removal from acute care service with conversion to nonacute care health facility use; or
4. No action, building to be closed, demolished or replaced.

This plan must clearly indicate the actions to be taken by the facility and must be in accordance with the timeframes set forth in Article 2 (Structural Performance Category-"SPC") and Article 11 (Nonstructural Performance Category-"NPC") of the Seismic Evaluation Procedure regulations.

1.4.1 Preparation of the compliance plan. The Compliance Plan shall be prepared and submitted in conformance with these regulations in the following format:

1. Compliance Plans shall be submitted in an $8^1/_2$- by 11-inch format;
2. All site, architectural, and engineering plans shall be formatted on 11- by 17-inch sheets (folded to $8^1/_2$ by 11 inches);
3. Larger sheets, if required to clearly describe the requested information, shall be appended to the compliance plan; and
4. Other supporting documents in addition to those meeting the minimum requirements of Section 1.4.4 may be appended to the compliance plan.

1.4.2 Compliance plan submittal. Hospital owners shall submit the compliance plan to the Office by January 1, 2001, unless the owner requests an extension pursuant to Section 1.4.3. The hospital owners shall submit the compliance plan in accordance with Section 7-113, "Application for Plan or Report Review" and Section 7-133, "Fees" of Article 3, Chapter 7, Part 1, Title 24.

1.4.3 Compliance plan submittal extension. Hospital owners may request an extension from the Office for submission of the compliance plan. Any hospital owner requesting an extension for submittal of the compliance plan shall make such request in writing to the Office up to 180 days prior to, but no later than January 1, 2001. The compliance plan must be submitted no later than January 1, 2002. All hospital owners requesting an extension for submittal of the compliance plan shall certify to OSHPD that all hospital buildings continuing acute care operation beyond January 1, 2002 meet the standards of NPC 2 by January 1, 2002.

1.4.4 Compliance plan requirements. Each compliance plan shall contain the following elements:

1. An Existing Site/Campus Description;
2. A Compliance Plan Description;
3. A Compliance Site Plan;
4. A Compliance Plan Schedule; and
5. An Existing and Planned Buildings Matrix.

1.4.4.1 Existing site/campus description. If the compliance plan is submitted separately from the seismic evaluation, it will be necessary to resubmit the information as specified in Section 1.3.4.5, of the Nonstructural Evaluation Report.

1.4.4.2 Compliance plan description. Provide a comprehensive narrative description of the Compliance Plan, including the projected schedule for compliance.

1.4.4.3 Compliance site plan. Provide Compliance Site Plans, indicating the configuration of the facility at the 2008 and 2030 milestones. The plans shall indicate conforming and nonconforming buildings and identify the final configuration of the facility at each milestone, after completion of compliance measures.

1.4.4.4 Compliance plan schedule. Provide a bar graph schedule which describes the schedule for compliance with the SPC and NPC seismic performance categories, indicating the schedule of the following major phases of the plan:

1. Obtain a geotechnical report (if necessary);
2. Architecture and engineering design/construction document preparation;
3. Local approvals;
4. Office review, approval and permitting;
5. Approval of Department of Health Services Licensing and Certification, and any other required licensing;
6. Permanent relocation of acute care services to other buildings or facilities (identify services affected);
7. Temporary/interim relocation of acute care services to other buildings including the duration of the approved program flexibility plan pursuant to Health and Safety Code Section 1276.05;
8. Construction period; and
9. Beneficial occupancy.

Building name/ designation	Building type (per Section 2.2.3)	SPC existing	SPC planned	NPC existing	NPC planned

1.4.4.5 Existing and planned buildings matrix. Provide the following matrix of construction information for each building of the facility under the acute care license, include the Structural Performance Category (SPC) and Nonstructural Performance Category (NPC) for all hospital buildings (see Tables 2.5.3 and 11.1). Identify each building addition separately.

1.4.5 Compliance plan update/change notification. Should a hospital owner change an approved Compliance Plan, the hospital shall document any changes and submit for review and approval to the Office an amended Compliance Plan. Changes are defined as alterations to the planned level of seismic performance or compliance schedule. Submittal of an amended compliance plan shall require a hospital owner to comply with one or more of the following provisions, if applicable:

1. A hospital owner shall submit to the Department of Health Services' Seismic Safety Unit (DHS) an Office-approved compliance plan that includes interim relocation of general acute care services in accordance with a program flexibility plan pursuant to Health and Safety Code Section 1276.05. This submittal by the hospital owner to DHS shall occur within 30 days of the Office's approval.
2. A hospital owner shall comply with the requirements of Section 1.5.2, "Delay in Compliance" for any amended compliance plan.
3. A hospital owner amending a compliance plan to attain a higher NPC level will perform a nonstructural evaluation of the systems and components required for the planned level of nonstructural performance identified in Table 11.1, "Nonstructural Performance Categories."

1.4.5.1 Change in seismic performance category. The SPC or NPC for a hospital building may be changed by the Office from the initial determination in Section 1.3.3 or 1.3.4, provided the building has been modified to comply with the requirements of Chapter 34A, Part 2 of Title 24 for the specified SPC or NPC. The SPC of a hospital building may also be changed by the Office on the basis of collapse probability assessments in accordance with Section 1.4.5.1.2.

1.4.5.1.1 The SPC or NPC for a hospital building may be changed by the Office from the initial determination made per Sections 2.0.1.2.3 or 11.0.1.2.1 upon the following:

1. A Seismic Evaluation Report shall be submitted and approved which shall include either or both of the following:
   1.1 A structural evaluation report in accordance with Section 1.3.3;

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, 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).

b) Buildings with unreinforced masonry bearing wall construction (Section 5.4).

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

1. Multi-Hazard Loss Estimation Methodology, Earthquake Module (HAZUS-MH MR 2) 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 1.4.5.1.2.2.2.2.
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% probability of being exceeded in 50 years.

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

1. 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 Section 1.4.5.1.2.
2. For a building to be considered for reclassification, the hospital owner shall submit the following by July 1, 2009:

2.1 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.

2.2 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. Mass irregularity (Section 3.3.4).

d. Vertical discontinuity (Section 3.3.5).

e. Short captive column (Section 3.6).

f. Material deterioration (Section 3.7).

g. Weak columns (Sections 4.2.8 and 4.3.6).

h. Wall anchorage (Section 8.2).

i. Redundancy (Section 3.2).

j. Weak story irregularity (Section 3.3.1).

k. Soft story irregularity (Section 3.3.2).

l. Torsional irregularity (Section 3.3.6).

m. Deflection incompatibility (Section 3.5).

n. Cripple walls (Section 5.6.4).

o. Topping slab missing (Sections 7.3 and 7.4) or the building type (structural system) is of lift slab construction.

This supplemental evaluation report shall include supporting documentation 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.

2.3 Building systems shall be classified as to their Model Building Type per Table 1.4.5.1. 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.

TABLE 1.4.5.1—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 Wood or Metal Deck Diaphragms
RM2	Reinforced-masonry Bearing Walls with Concrete Diaphragms
URM	Unreinforced-masonry Bearing Walls
MH	Manufactured Housing

2.4 Building height and number of stories above and below the seismic base shall be specified.

1.4.5.1.2.3 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.

1.4.5.1.2.4 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 compliance 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, Item 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 Zone 3, as defined by Section 1627B.2 of the 1998 *California Building Code,* may request an exemption from the anchorage and bracing requirements of NPC 3 if all the following conditions are met:

   2.1 The hospital must meet the anchorage and bracing requirements for NPC 2 by January 1, 2002;

   2.2 The hospital shall submit a site-specific engineering geologic report, prepared in accordance with Section 1634A.1 of the 1995 *California Building Code.* The report shall include estimates of the effective peak ground acceleration (EPA) with a 10 percent probability of exceedance in 50 years;

   2.3 The California Geological Survey (CGS) reviews and approves the findings of the site-specific engineering geologic report;

   2.4 The site-specific engineering geologic report demonstrates that the estimated EPA with a 10 percent probability of exceedance in 50 years is less than 0.25 g;

   2.5 The hospital owner requesting the exemption shall pay the actual costs of OSHPD and CGS for the review and approval of the site-specific engineering geologic report.

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:

(a) The owner must apply for an extension with the Office no later than January 1, 2004;

(b) The owner must submit an amended compliance plan to the Office by July 1, 2004; and

(c) 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:

5.1 The owner must apply for an extension with the Office no later than January 1, 2004;

5.2 The owner must submit an amended compliance plan to the Office by July 1, 2004;

5.3 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:

(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.

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.

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.

2. The evaluator shall review an *Engineering Geological Report* on site geologic and seismic conditions. The report shall be prepared in accordance with Title 24, Section 1634A of 1995 *California Building Code* (CBC) or equivalent provision in later version of the CBC.

   Exceptions:

   1. Reports are not required for one-story, wood-frame and light steel-frame buildings of Type II or Type V construction and 4,000 square feet or less in floor area;
   2. A previous report for a specific site may be resubmitted, provided that a reevaluation is made and the report is found by the Office to be currently appropriate.

3. Establish the following *site and soil parameters:*

   a. The value of the effective peak acceleration coefficient (A_a) from Figure 2.1 and 2.1a;

   b. The value of the effective peak velocity-related acceleration coefficient (A_v) from Figure 2.1 and 2.1a;

   c. The soil profile type (S_1, S_2, S_3 or S_4) derived from the geotechnical report or from Table 2.1;

   d. The site coefficient, (S), from Table 2.1; and

   e. The ground motion parameters and near field effects in strong ground shaking required for the evaluation of welded steel moment frame structures per Sections 4.2.0.1, 4.2.0.2 and 4.2.10.

4. Assemble building design data including:

   a. Construction drawings, specifications and calculations for the original building (Note: when reviewing and making use of existing analyses and structural member checks, the evaluator shall assess and report the basis of the earlier work);

   b. All drawings, specifications and calculations for remodeling work; and

   c. Material tests and inspection reports for nonconforming buildings. If the original drawings are available, but material test and inspection reports are not available, perform the testing program as specified in Section 2.1.2.2.

   If structural drawings are not available, the site visit and evaluation shall be performed as described in Section 2.1.1.5, and structural data shall be collected using the procedures in Sections 2.1.2.1 and 2.1.2.2.

5. During the site visit, the evaluator shall:

   a. Verify existing data;

   b. Develop other needed data (e.g., measure and sketch building as outlined in Section 2.1.2);

   c. Verify the vertical and lateral systems;

   d. Check the condition of the building; and

   e. Identify special conditions, anomalies and oddities.

6. Review other data available such as assessments of building performance following past earthquakes.
7. Prepare a summary of the data using an OSHPD-approved format.
8. Perform the evaluation using the procedures in Sections 2.2 through 2.5.
9. Prepare a report of the findings of the evaluation using an OSHPD-approved format.

2.1.2 Data collection. Building information pertinent to a structure's seismic performance, including condition, configuration, detailing, material strengths and foundation type, shall be obtained in accordance with this section, and documented on drawings and/or sketches that shall be included with the structural calculations.

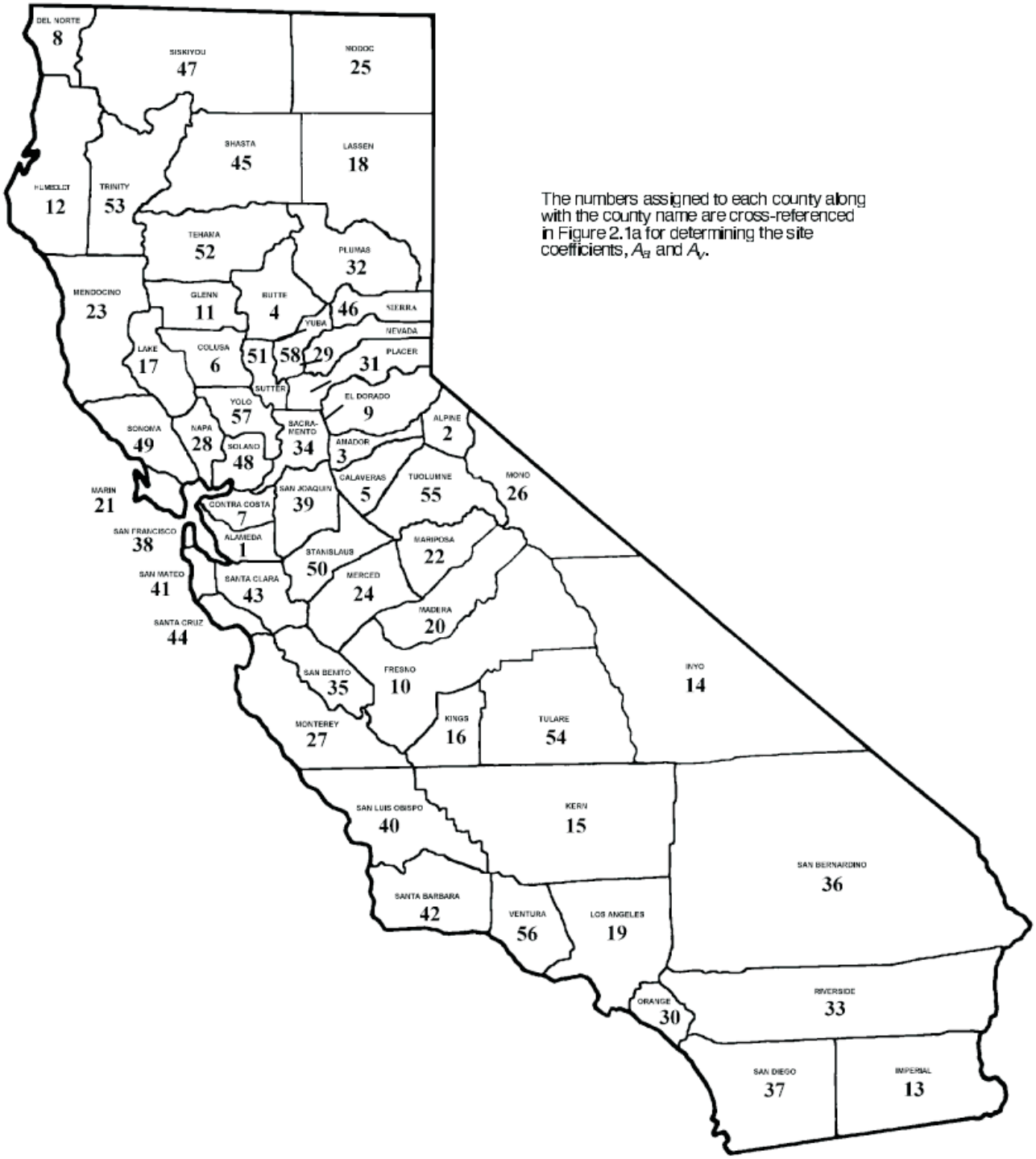
Exception: Materials testing is not required for reclassification by the collapse probability assessment option as permitted by Section 1.4.5.1.2, where nonavailability of materials test is identified as a deficiency per Section 1.4.5.1.2.2.2.2 (b).

2.1.2.1 Building characteristics. Characteristics of the building relevant to its seismic performance shall be obtained for use in the building evaluation. This shall include current information on the building's condition, configuration, material strengths, detailing and foundation type. This data shall be obtained from:

1. Review of construction documents;
2. Destructive and nondestructive testing and examination of selected building components; and
3. Field observation of exposed conditions.

The characteristics of the building shall be established, including identification of the gravity- and lateral-load-carrying systems. The effective lateral-load carrying system may include structural and nonstructural elements that will participate in providing lateral resistance, although these elements may not have intended to provide lateral resistance. The load path shall be identified, taking into account the effects of any modifications, alterations or additions.

2.1.2.1.1 Nonconforming buildings without construction documents. Where the available construction documents do not provide sufficient detail to characterize the structure, the evaluation may be based on field surveys, summarized in as-built drawings. These drawings must depict building dimensions, component sizes, reinforcing information (for concrete and masonry elements), connection details, footing information, and the proximity of neighboring structures. All parts of the building that may contribute to the seismic resistance or that may be affected by the seismic response of the structure must be identified. The field survey shall establish the physical existence of the structural members, and identify critical load bearing members, transfer mechanisms, and connections. The survey shall include information on the structural elements and connector materials and details. Performing the field survey will entail removal of fireproofing or concrete encasement at critical locations to permit direct visual inspection and measurement of elements and connections. Nondestructive techniques such as radiographic, electromagnetic and other methods may be used to supplement destructive techniques.



The numbers assigned to each county along with the county name are cross-referenced in Figure 2.1a for determining the site coefficients, A_a and A_v.

FIGURE 2.1

FIGURE 2.1a—EFFECTIVE PEAK ACCELERATION COEFFICIENT (A_a) AND EFFECTIVE PEAK VELOCITY COEFFICIENT (A_v) FOR CALIFORNIA

No.	County	EPA A_a	EPV A_v		No.	County	EPA A_a	EPV A_v
1	Alameda	0.40	0.40		30	Orange	0.40	0.40
2	Alpine	0.20	0.20		31	Placer	0.20	0.20
3	Amador	0.20	0.20		32	Plumas	0.20	0.20
4	Butte	0.20	0.20		33	Riverside	0.40	0.40
5	Calaveras	0.20	0.20		34	Sacramento	0.20	0.30
6	Colusa	0.20	0.30		35	San Benito	0.40	0.40
7	Contra Costa	0.40	0.40		36	San Bernardino	0.40	0.40
8	Del Norte	0.20	0.20		37	San Diego	0.40	0.40
9	El Dorado	0.20	0.20		38	San Francisco	0.40	0.40
10	Fresno	0.40	0.40		39	San Joaquin	0.30	0.30
11	Glenn	0.20	0.20		40	San Luis Obispo	0.40	0.40
12	Humboldt	0.20	0.30		41	San Mateo	0.40	0.40
13	Imperial	0.40	0.40		42	Santa Barbara	0.40	0.40
14	Inyo	0.40	0.40		43	Santa Clara	0.40	0.40
15	Kern	0.40	0.40		44	Santa Cruz	0.40	0.40
16	Kings	0.40	0.40		45	Shasta	0.20	0.20
17	Lake	0.30	0.30		46	Sierra	0.20	0.20
18	Lassen	0.20	0.20		47	Siskiyou	0.20	0.20
19	Los Angeles	0.40	0.40		48	Solano	0.40	0.40
20	Madera	0.20	0.30		49	Sonoma	0.40	0.40
21	Marin	0.40	0.40		50	Stanislaus	0.40	0.40
22	Mariposa	0.20	0.30		51	Sutter	0.20	0.20
23	Mendocino	0.40	0.40		52	Tehama	0.20	0.20
24	Merced	0.40	0.40		53	Trinity	0.20	0.30
25	Modoc	0.20	0.20		54	Tulare	0.40	0.40
26	Mono	0.40	0.40		55	Tuolumne	0.20	0.20
27	Monterey	0.40	0.40		56	Ventura	0.40	0.40
28	Napa	0.40	0.40		57	Yolo	0.20	0.30
29	Nevada	0.20	0.20		58	Yuba	0.20	0.20

TABLE 2.1—SOIL PROFILE TYPES AND SITE COEFFICIENTS

SOIL PROFILE TYPE	PROFILE WITH	SITE COEFFICIENT, *S*
*S*1	Rock of any characteristic, either shalelike or crystalline in nature. Such material may be characterized by a shear wave velocity greater than 2,500 feet per second or by other appropriate means of classification.	1.0
	or	
	Stiff soil conditions where the soil depth is less than 200 feet and the soil types overlying rock are stable deposits of sands, gravels or stiff clays.	
*S*2	Deep cohesionless or stiff clay conditions, including sites where the soil depth exceeds 200 feet and the soil types overlying rock are stable deposits of sands, gravels or stiff clays.	1.2
*S*3	Soft- to medium-stiff clays and sands characterized by 30 feet or more of soft- to medium-stiff clays with or without intervening layers of sand or other cohesionless soils.	1.5
*S*4	More than 70 feet of soft clays or silts characterized by a shear wave velocity less than 400 feet per second.	2.0

1. **Steel elements.** Steel elements shall be classified by structural member type (e.g., rolled or build-up, material grade, and general properties). The survey shall note the presence of degradation or indications of plastic deformation, integrity of surface coatings, and signs of any past movement. For degraded elements, the lost material thickness and reduction of cross-sectional area and moment of inertia shall be determined. Visual inspection of welds shall be per American Welding Society D1.1, "Structural Welding Code-Steel." Structural bolts shall be verified to be in proper configuration and tightened as required in the AISC Steel Construction Manual. Rivets shall also be verified to be in proper configuration and in full contact, with "hammer sounding" conducted on random rivets to ensure they are functional. Nondestructive testing methods, such as dye penetrant and magnetic particle testing, acoustic emission, radiography and ultrasound shall be used when visual inspection identifies degradation or when a particular element or connection is critical to seismic resistance and requires further verification. For buildings in which archaic cast and wrought irons are employed, additional investigations to confirm ductility and impact resistance shall be conducted.
2. **Concrete elements.** The configuration and dimensions of primary and secondary structural elements shall be established. The configuration and condition of reinforcing steel shall be assessed, through removal of concrete cover and direct visual inspection, and through nondestructive inspection using electromagnetic, radiographic and other methods. Critical parameters of

(TEXT CONTINUES ON PAGE 67)

tors that include the factor of 1.0 for earthquake effects (see Equations 2-1 and 2-2).

2.4.9.4 Masonry. The basic document is Chapter 8 of the 1994 *NEHRP Recommended Provisions,* as modified in Article 5 of these regulations.

2.4.10 Dynamic analysis. Unless otherwise noted, the procedures given in Articles 3 through 10 use the equivalent lateral force procedure. The use of a dynamic analysis procedure is required for the following:

1) Buildings 240 feet or more in height;
2) Buildings with vertical irregularities caused by significant mass or geometric irregularities;
3) Buildings where the distribution of the lateral forces departs from that assumed in the equivalent lateral force procedure; and
4) Where required by the evaluation statements in Articles 3 through 10.

Dynamic analysis procedures shall conform to the criteria established in this section. The analysis shall be based on an appropriate ground motion representation as specified in this section and shall be performed using accepted principles of dynamics. Structures that are evaluated in accordance with this section shall comply with all other applicable requirements.

2.4.10.1 Ground motion. The ground motion representation shall be an elastic response spectra developed for mean values for the specific site, in accordance with the procedures in Title 24, Section 1629A.2 of 1995 *California Building Code* (CBC) or equivalent provision in later version of the CBC.

2.4.10.2 Mathematical model. A mathematical model of the physical structure shall represent the spatial distribution of the mass and stiffness of the structure to calculate the significant features of its dynamic response. A three-dimensional model shall be used when the dynamic analysis involves a structure with an irregular plan configuration and rigid or semirigid diaphragms.

2.4.10.3 Analysis procedure.

2.4.10.3.1 Response spectrum analysis. An elastic dynamic analysis of a structure shall use the peak dynamic response of all modes having a significant contribution to total structural response. This requirement may be satisfied by demonstrating that for the modes considered, at least 90% of the participating mass of the structure is included in the calculation of response in each principal horizontal direction. Peak modal responses are calculated using the ordinates of the appropriate response spectrum curve that corresponds to the modal periods. Maximum modal contributions shall be combined in a statistical manner using recognized combination methods to obtain an approximate total structural response.

2.4.10.3.2 Scaling of results. When the base shear for a given direction is less than that required by the equivalent lateral force procedure, the base shear shall be increased to the value prescribed in that procedure. All corresponding response parameters, including deflections, member forces and moments, shall be increased proportionately.

When the base shear for a given direction is greater than that required by the equivalent lateral force procedure, the base shear may be decreased to the value prescribed in that procedure. All corresponding response parameters, including deflections, member forces, and moments, may be decreased proportionately.

2.4.10.3.3 Post-yield analyses. Post-yield analyses of a simplified model of the building may be made to estimate the nonlinear displacements of the structural system. If the analyses is made with a two-dimensional planar model, the additive torsional displacement shall be established through methods that are equivalent to those used for response spectra analyses.

The displacements or rotations of structural members estimated by the post-yield analysis shall be compared with relevant experimental data to determine the adequacy of the member or system.

2.4.10.4 Torsion. The analysis shall account for torsional effects, including accidental torsional effects, as prescribed in Section 2.4.3.9. Where three-dimensional models are used for analysis, effects of accidental torsion shall be accounted for by appropriate adjustments in the model such as adjustment of mass locations or by equivalent static procedures such as provided in Section 2.4.3.9.

2.4.11 Acceptance criteria. The elements to be analyzed are specified in the procedures given in Articles 3 through 10. The total demand, Q, is calculated by Equation 2-1 or 2-2 as modified below. The capacity, C, is calculated according to the procedures of Section 2.4.9. The basic acceptance criterion is:

$$Q \leq C \qquad (2\text{-}17)$$

Where elements or portions of a lateral force resisting system are expected to behave in a less ductile manner than the system as a whole, the term Q_E in Equation 2-1 or 2-2 shall be modified or special calculations be made to account for the different failure modes of the various elements. Modification of Q_E, and special calculation procedures and when they shall be used, are described in Articles 3 through 8.

If all significant elements meet the basic acceptance criteria as specified herein, no further analysis is needed.

2.4.12 Assessment of element deficiencies. The result of the checks specified in Articles 3 through 10 will show whether or not the elements meet the requirements of the 1994 *NEHRP Recommended Provisions* as modified herein.

For those elements not meeting the specified acceptance criteria, the relative hazard or seriousness of the deficiencies shall be assessed. Deficiencies shall be ranked according to:

1) Degrees of "overstress" (both total and seismic);
2) Element importance in the load path; and
3) Building, ductile and element stability.

2.5 Final evaluation.

2.5.1 Review the statements and responses. Upon completion of the analysis and field work, the evaluator shall review the evaluation statements and the responses to the statements to ensure that all of the concerns have been addressed.

2.5.2 Assemble and review the results of the procedures. Upon completion of the procedures given in Articles 3 through 10, the evaluator shall assemble and review the results.

2.5.2.1 *Q* versus *C*. The criterion $Q \leq C$ is an indication of whether an element meets the requirements of the 1994 *NEHRP Recommended Provisions* as modified for these regulations. However, because Q involves gravity effects, the ratio

of Q to C for an element must be considered in light of the seismic demand versus capacity in order to fully determine the seriousness of the earthquake hazard.

2.5.2.2 D_E/C_E Ratios. The severity of the deficiencies shall be assessed by listing the D_E/C_E ratios in descending order. The element with the largest value is the weakest link in the building. If the element can fail without jeopardizing the building, then the SPC may be based upon the element with the next lower ratio, and so on. Failure of an element will not jeopardize the building provided an alternate load path (neglecting the failed element) exists, and the vertical and lateral stability of the structure, or portions of the structure, is not impaired. The presence of an element with a D_E/C_E greater than one, where failure of that element will jeopardize the stability of the building or element, requires that nonconforming buildings be placed in SPC 1. For conforming buildings, see the appropriate evaluation statement.

2.5.2.3 Qualitative issues. Some of the procedures identify specific deficiencies without any calculation. These deficiencies will automatically place buildings in SPC 1, 3 or 4.

2.5.3 Final evaluation. The final evaluation will place the building in the appropriate the SPC (Table 2.5.3), based on a review of the qualitative and quantitative results of the procedures and the list of deficiencies. In general, an unmitigated "false" answer to an evaluation statement will lower the SPC of the Building. A "false" evaluation statement may be considered mitigated if the building, element or component is justified using the procedure outlined in the evaluation statement, or the effects of the condition are incorporated in the overall evaluation, as described in Section 2.5.2.2. Alternatively, the SPC rating of a building may be assigned by the Office on the basis of a collapse probability assessment performed in accordance with Section 1.4.5.1.2.

2.5.3.1 Conforming buildings. Conforming buildings, other than those of welded steel moment frame construction (Building Type 3 and possibly Building Types 4 and 6, if a dual system is present), without any unmitigated "false" evaluation statements shall be placed in SPC 5. Other conforming buildings shall be placed in the lowest SPC directed by the evaluation statements.

2.5.3.2 Nonconforming buildings. An unmitigated "False" answer to any evaluation statement shall result in nonconforming buildings being placed in SPC 1, unless directed otherwise by the procedures for that particular evaluation statement. All other nonconforming buildings shall be placed in SPC 2.

2.6 The final report. The report shall include the following elements:

1. A description of the building, including photographs, and sketches of the lateral-force-resisting system using an OSHPD approved format;
2. The set of statements from the Appendix, with a synopsis of the investigation and supporting calculations that were made;
3. A list of the deficiencies that must be remedied in order to change statement responses from false to true;
4. The SPC for the building, with comments on the relative importance of the deficiencies; and
5. The NPC for the building.

2.7 Alternative analysis. The owner of a building may elect to perform an Alternative Analysis, to evaluate a structure in more detail than that provided by the evaluation procedures specified in these regulations. The methodology of an Alternative Analysis must be approved in advance by OSHPD, and shall meet the following criteria:

TABLE 2.5.3—STRUCTURAL PERFORMANCE CATEGORIES (SPC)

SPC	DESCRIPTION
SPC 1	Buildings posing a significant risk of collapse and a danger to the public. These buildings must be brought up to the SPC 2 level by January 1, 2008, or be removed from acute care service. Where the office has performed a collapse probability assessment, buildings with Probability of Collapse greater than 0.75% shall be placed in this category.
SPC 2	Buildings in compliance with the pre-1973 *California Building Standards Code* or other applicable standards, but not in compliance with the structural provisions of the Alquist Hospital Facilities Seismic Safety Act. These buildings do not significantly jeopardize life, but may not be repairable or functional following strong ground motion. These buildings must be brought into compliance with the structural provisions of the Alquist Hospital Facilities Seismic Safety Act, its regulations or its retrofit provisions by January 1, 2030, or be removed from acute care service. Where the office has performed a collapse probability assessment, buildings with Probability of Collapse less than or equal to 0.75% shall be placed in this category.
SPC 3	Buildings in compliance with the structural provisions of the Alquist Hospital Facilities Seismic Safety Act, utilizing steel moment-resisting frames in regions of high seismicity as defined in Section 4.2.10 and constructed under a permit issued prior to October 25, 1994. These buildings may experience structural damage which does not significantly jeopardize life, but may not be repairable or functional following strong ground motion. Buildings in this category will have been constructed or reconstructed under a building permit obtained throughOSHPD. These buildings may be used to January 1, 2030, and beyond.
SPC 4	Buildings in compliance with the structural provisions of the Alquist Hospital Facilities Seismic Safety Act, but may experience structural damage which may inhibit ability to provide services to the public following strong ground motion. Buildings in this category will have been constructed or reconstructed under a building permit obtained through OSHPD. These buildings may be used to January 1, 2030, and beyond.
SPC 5	Buildings in compliance with the structural provisions of the Alquist Hospital Facilities Seismic Safety Act, and reasonably capable of providing services to the public following strong ground motion. Buildings in this category will have been constructed or reconstructed under a building permit obtained through OSHPD. These buildings may be used without restriction to January 1, 2030, and beyond.

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):

$$P[COL] = P[COL|STR_5] \times P[STR_5] \quad \text{(A6-1)}$$

where:

$P[COL|STR_5]$ = collapse factor of the HAZUS AEBM, as modified herein, and

$P[STR_5]$ = 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,

α_1 = modal weight factor, Alpha 1 — values of α_1 are given in Table A6-4,

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

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

λ = "overstrength" factor, Lambda — values of λ are given in Table A6-5, and

μ = "ductility" factor, Mu — values of μ are given in Table A6-6.

6-A5 Building Response. Building-specific response parameters of interest include the elastic damping factor, β_E, and the degradation factor, Kappa. Values of β_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, β_C. Values of β_C are given in Table A6-11. Median spectral displacement at the Complete Structural Damage state, S_{dC}, is calculated using Equation (A6-6):

$$S_{d,C} = \Delta_C \cdot H_R \cdot \alpha_2 / \alpha_3 \quad \text{(A6-6)}$$

where:

Δ_C = interstory drift ratio (of the story with maximum drift) at the threshold of Complete Structural Damage — values of Δ_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,

α_2 = modal height factor, Alpha 2 — values of α_2 are given in Table A6-4, and

α_3 = modal shape factor, Alpha 3, relating maximum-story drift and roof drift, values of α_3 are given in Table A6-10.

6-A-7 Building Collapse. Building-specific values of the collapse factor, $P[COL|STR_5]$, that describe the fraction of the building likely to be collapsed given that the building has reached the Complete Structural Damage state, STR_5, are given in Table A6-12.

TABLE A6-1—SIGNIFICANT STRUCTURAL DEFICIENCY MATRIX

Significant Structural Deficiency/Condition[1]	Capacity		Response		Complete Structural Damage State						Collapse	
	Over-Strength		Duration		Fragility Curve Median[4]				Fragility Curve Variability - Beta Factor (β_C)		Collapse Factor (P[COL|STR$_5$])	
	Gamma and Lambda Factors		Degradation (Kappa) Factor		Maximum Story Drift Ratio (Δ_C)		Mode Shape (Alpha 3) Factor					
	SubBase	USB	SubBase	USB[5]	SubBase	USB	SubBase	USB[6]	SubBase	USB[5]	SubBase	USB[6]
Age (Pre-1933 buildings)	X	X[7]										
Materials Testing (None)	X								X			
No Redundancy									X		X	X[6]
Weak Story Irregularity					X		X	X[6]			X	X[6]
Soft Story Irregularity					X		X	X[6]			X	X[6]
Mass Irregularity					X							
Vertical Discontinuity	X				X							
Torsional Irregularity						X					X	X[6]
Deflection Incompatibilty[2]					X				X		X	X[6]
Short Column[3]	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[6]			X	X[6]
Topping Slab	X		X						X		X	X[6]
Inadequate Wall Anchorage		X							X			

1. Sub-Baseline (SubBase) and Ultra-Sub-Baseline (USB) properties are based on one, or more, significant structural deficiencies.
2. The Deflection Incompatibility structural deficiency applies only to concrete systems (C1, C2 and C3).
3. The Short Column structural deficiency applies only to concrete and masonry systems (C1, C2, C3, RM1 and RM2).
4. Effects of deficiencies related to drift and mode shape limited to a combined factor of 5 reduction in Complete median (of HAZUS default value).
5. Grey shading indicates USB performance is not defined/used for deficiencies related to degradation (kappa) and fragility curve (beta) factors.
6. USB performance required for systems with multiple, SubBase deficiencies related to either the mode shape (Alpha 3) factor or the collapse rate.
7. USB performance required for pre-1933 buildings with other over-strength-related deficiencies (else use SubBase performance for pre-1933 buildings).

TABLE A6-2a—SEISMIC DESIGN COEFFICIENT, Cs UBC SEISMIC ZONE 4

No. of Stories	Seismic Design Coefficient, C_s - UBC Seismic Zone 4 Locations (Zone 3 of older editions of the UBC)					
	Structural System (MBT)					
	S1 and C1		S2, S3, S4, S5, C2 and C3 (MH)		W1, W2, PC1, PC2, RM1, RM2, URM	
	Post-61	Pre-61	Post-61	Pre-61	Post-61	Pre-61
1	0.072	0.109	0.100	0.109	0.133	0.109
2	0.057	0.092	0.100	0.092	0.133	0.092
3	0.050	0.080	0.086	0.080	0.114	0.080
4	0.045	0.071	0.078	0.071	0.104	0.071
5	0.042	0.063	0.073	0.063	0.098	0.063
6	0.040	0.057	0.069	0.057	0.092	0.057
7	0.038	0.052	0.066	0.052	0.088	0.052
8	0.036	0.048	0.064	0.048	0.085	0.048
9	0.035	0.044	0.062	0.044	0.082	0.044
10	0.034	0.041	0.060	0.041	0.080	0.041
11	0.032	0.039	0.058	0.039	0.078	0.039
12	0.032	0.036	0.057	0.036	0.076	0.036
13	0.031	0.034	0.056	0.034	0.074	0.034
14	0.030	0.032	0.055	0.032	0.073	0.032
15	0.029	0.031	0.054	0.031	0.072	0.031
16	0.029	0.029	0.053	0.029	0.070	0.029
17	0.028	0.028	0.052	0.028	0.069	0.028
18	0.028	0.027	0.051	0.027	0.068	0.027
19	0.027	0.026	0.051	0.026	0.067	0.026
>= 20	0.027	0.024	0.050	0.024	0.067	0.024

TABLE A6-2b—SEISMIC DESIGN COEFFICIENT, Cs UBC SEISMIC ZONE 3

No. of Stories	Seismic Design Coefficient, C_s - UBC Seismic Zone 3 Locations (Zone 2 - older editions of the UBC)					
	Structural System (MBT)					
	S1 and C1		S2, S3, S4, S5, C2 and C3 (MH)		W1, W2, PC1, PC2, RM1, RM2, URM	
	Post-61	Pre-61	Post-61	Pre-61	Post-61	Pre-61
1	0.036	0.055	0.050	0.055	0.066	0.055
2	0.028	0.046	0.050	0.046	0.066	0.046
3	0.025	0.040	0.043	0.040	0.057	0.040
4	0.023	0.035	0.039	0.035	0.052	0.035
5	0.021	0.032	0.037	0.032	0.049	0.032
6	0.020	0.029	0.035	0.029	0.046	0.029
7	0.019	0.026	0.033	0.026	0.044	0.026
8	0.018	0.024	0.032	0.024	0.043	0.024
9	0.017	0.022	0.031	0.022	0.041	0.022
10	0.017	0.021	0.030	0.021	0.040	0.021
11	0.016	0.019	0.029	0.019	0.039	0.019
12	0.016	0.018	0.029	0.018	0.038	0.018
13	0.015	0.017	0.028	0.017	0.037	0.017
14	0.015	0.016	0.027	0.016	0.036	0.016
15	0.015	0.015	0.027	0.015	0.036	0.015
16	0.014	0.015	0.026	0.015	0.035	0.015
17	0.014	0.014	0.026	0.014	0.035	0.014
18	0.014	0.013	0.026	0.013	0.034	0.013
19	0.014	0.013	0.025	0.013	0.034	0.013
>= 20	0.013	0.012	0.025	0.012	0.033	0.012

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 (α_1) - Modal Weight Factor				Alpha 2 (α_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
5	0.75	0.8				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 (γ)	Lambda Factor (λ)														
		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* (μ) 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)	β_E Elastic Damping (% of Critical)
S1, S2, S3 and S4	5
C1, C2, PC1 and PC2	7
RM1 and RM2	7
C3 and S5	7
W1 and W2	10

TABLE A6-8—DEGRADATION KAPPA FACTORS

Scenario Earthquake Criteria		Degradation (Kappa) Factors - (κ_S, κ_M and κ_L)			
Minimum Distance Site to Fault[1] (km)	Maximum Magnitude[2]	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} <= 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} <= 6.5	0.7	0.6	0.5	0.4
10 - 25	7.0 >= 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} <= 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 (Mmax) 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 (Δ_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 (À3) MODAL SHAPE FACTOR

No. of Stories	Alpha 3 (α_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 (β_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$_5$]		
	Baseline Performance	SubBase Performance	USB Performance
W1 and W2	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

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.