# 2016 CALIFORNIA ADMINISTRATIVE CODE
# OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT
# STRUCTURAL FINAL EXPRESS TERMS INDEX

**FINAL EXPRESS TERMS**
**FOR**
**PROPOSED BUILDING STANDARDS**
**OF THE**
**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT**

**REGARDING PROPOSED CHANGES TO**
**CALIFORNIA ADMINISTRATIVE CODE**
**CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 1**

**LEGEND FOR EXPRESS TERMS**

1. Code language being modified: All such language appears in *italics and underlined*.
2. Repealed text: Repeal of 2013 CAC language appears in ~~strikeout~~.

**Note:**
Following each chapter of the proposed regulations is a notation that cites specific statute(s) that authorizes the adoption of these regulations and statute that allows for regulations to clarify the subject matter being implemented, interpreted or made specific by the authority statute(s).

The Office of Statewide Health Planning and Development (OSHPD) propose to adopt the 2016 edition of the California Administrative Code, which will be based on the 2013 California Administrative Code with amendments presented on the following pages:

## CHAPTER 6
## SEISMIC EVALUATION PROCEDURES FOR HOSPITAL BUILDINGS

### 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.

**…**

**1.2 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.

**…**

**CONFORMING BUILDING** means a building originally constructed in compliance with the requirements of the 1973 or subsequent edition of the California Building Code *or classified as SPC-4D, as defined in this section*.

**…**

***DAMAGE CONTROL STRUCTURAL PERFORMANCE CATEGORY*** *is a performance category that has been demonstrated either by analysis or retrofit to satisfy the requirements of Section 1.4.5.1.3 and the 2016 California Building Code (2016 CBC) Section 3412A.2.3 or equivalent provisions in later editions of the CBC. Buildings satisfying this structural performance standard shall be deemed to satisfy the requirements of the Structural Performance Category SPC-4D.*

**…**

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

**…**

**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.

**…**

***STRUCTURAL PERFORMANCE CATEGORY SPC-4D*** *is a performance category assigned to previously nonconforming hospital buildings that have been demonstrated either by analysis or retrofit to be equivalent to the minimum prescriptive requirements of the 1979 Uniform Building Code (UBC 1979) including the California amendments, hereafter called the 1980 CBC, in accordance with Section 1.4.5.1.3 and the CBC 2016 Section 3412A.2.3.*

*…*

**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.

> ***Exception:*** *The Structural Performance Category of SPC-4D shall be established in accordance with Section 1.4.5.1.3 and the 2016 California Building Code (2016 CBC) Section 3412A.2.3 or equivalent provisions in later editions of the CBC.*

**…**

**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.

**...**

**1.4 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 non-acute 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. 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.

**...**

**1.4.5 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 Sections 1.3.3 or 1.3.4 provided the building has been modified to comply with the requirements of Chapter 34A, *California Building Code (*Part 2 of Title 24) for the specified SPC or NPC. *The SPC of a hospital building shall also be permitted to be changed on the basis of the following:*

*1.* ~~The SPC of a hospital building may also be changed by the Office on the basis of c~~ *C*ollapse probability assessments in accordance with Section 1.4.5.1.2*; or*

*2. Analysis or retrofit in accordance with Section 1.4.5.1.3.*

**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, *California Building Code (*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) *are not eligible for reclassification*.

**…**

***1.4.5.1.3*** *Nonconforming hospital buildings shall be permitted to be reclassified to SPC-4D, pursuant to Table 2.5.3, in accordance with the CBC 2016 Section 3412A.2.3 or equivalent provisions in later editions of the CBC.*

***Exceptions:*** *Hospital buildings with the following deficiencies are not eligible for reclassification to SPC-4D:*

1. *Hospital buildings with the potential for surface fault rupture and surface displacement at the building site (Section 9.3.3).*
2. *Unreinforced Masonry shear wall buildings (Section 5.4), and*
3. *Precast Concrete buildings (Sections 4.4, 5.2 & 7.4).*

***1.4.5.1.4*** ~~**1.4.5.1.3**~~ Except as provided in Section *1.4.5.1.5* ~~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 multi-story 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.

***1.4.5.1.5*** ~~**1.4.5.1.4**~~ A hospital building from which acute care services and beds have been removed *or a nonconforming hospital building without SPC or NPC rating* shall not provide ~~such~~ *general acute care* services unless it has been modified to comply with the requirements of *SPC-4D or* 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 *or 1.4.5.1.3*.

**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**

**…**

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, *4D* 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**

**…**

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 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.

**...**

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:

   7.1 The hospital shall meet the anchorage and bracing requirements for NPC 2.

   7.2 All building(s) shall be upgraded to either NPC 4 or NPC 5 by January 1, 2020.

   7.3 By January 1, 2014, the hospital owner shall submit to the Office a complete nonstructural evaluation up to NPC 5, for each building.

   7.4 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.

   7.5 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 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.

**...**

**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 pre-approved 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 & 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 & 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.

**...**

**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 non-availability of materials test is identified as a deficiency per Section ~~1.4.5.1.2.2.2.2 (b)~~ *1.8.2.2(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 *to verify that field conditions substantially match the construction documents in accordance with data collection requirements in Section 3413A.1.3, or equivalent provisions in later editions of the CBC.*

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 non-structural 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.

*The owner or the owner's authorized agent shall submit the following to the office for review and approval:*

1. *Complete set of construction documents.*
2. *Field test report(s) in accordance with Section 2.1.2.2.*
3. *Field observation report, which shall verify that field conditions substantially match the construction documents.*

**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. Non-destructive techniques such as radiographic, electromagnetic, and other methods may be used to supplement destructive techniques.

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 the reinforcing system, such as lap splice length, presence of hooks, development within concrete, degree of corrosion, and integrity of the construction shall be established in sufficient detail to perform the structural evaluation.

3. **Masonry Elements** - The configuration and dimensions of masonry elements shall be established. The configuration and condition of reinforcing-steel shall be assessed, through removal of masonry cover and direct visual inspection, and through nondestructive inspection using electromagnetic, radiographic, and other methods. Critical parameters of the reinforcing system, such as lap splice length, presence of hooks, development within concrete, degree of corrosion, and integrity of the construction shall be established in sufficient detail to perform the structural evaluation.

4. **Wood Elements** - The configuration and dimensions of wood elements; the connections between wood elements; and the connections between wood and other structural components or elements such as concrete or masonry walls shall be established. The configuration and condition of wood members, including size, type, grade, condition and quality shall be assessed, though removal of finish materials, and examination of unfinished areas such as attics, crawl spaces, and basements. Critical connections and elements shall be visually inspected, using invasive procedures or removal of finishes where necessary. For shear walls, select locations shall be exposed to allow evaluation of sheathing material, nail size, spacing and installation (e.g., overdriven or nails that miss or split the framing members). The base connections of shear resisting elements shall be inspected and evaluated for their adequacy to connect the base of the structure to the foundation or structure below.

5. **Foundation Elements** - In the absence of dependable construction drawings, determination of the size and detailing of the foundation system requires invasive procedures. The evaluator shall select representative footings for exposure to establish footing size and depth. Conservative assumptions regarding the reinforcement may be made considering code requirements and local practice at the time of the design. In the absence of evidence to the contrary, it may be assumed that the foundation elements were adequately designed to resist actual gravity loads to which the building has been subjected.

**2.1.2.2 Material Properties.** The building evaluation shall be based on the strength and deformation properties of the existing materials and components. The strength of existing components shall be calculated using data on their configuration, obtained from the original construction documents, supplemented by field observations, and the test values of material properties. Where such effects may have a deleterious effect on component or structural behavior, allowances shall be made for the likely effects of strain hardening or degradation. Test values may be obtained from samples extracted from the structure, or from original materials and compliance certificates. The Office will determine the adequacy of the *test results based upon the approved material* testing program.

*The materials testing program shall require approval by the Office prior to testing. Prior to performing destructive materials test and non-destructive tests requiring modification to existing conditions, the owner or the owner's authorized agent shall obtain a building permit.*

*The materials testing shall be in accordance with the California Building Code 2016 (2016 CBC) Section 3413A.1.3, or equivalent provisions in later editions of the CBC.*

**2.1.2.2.1 Nonconforming Buildings with Construction Documents.** The material properties for nonconforming buildings for which original construction documents of sufficient detail are available shall be confirmed by testing or from acceptable original materials and compliance certificates. If original materials and compliance certificates are available, they must provide the information specified in Items 1 through 4 of this section to be considered acceptable.

1. **Steel Elements** - The following properties are required for each member type (e.g., beams, columns, braces) and each steel grade used in the structure:
   (a) Ultimate tensile and yield capacities;
   (b) Modulus of elasticity, and
   (c) Deformation characteristics including mode of failure.

2. **Concrete Elements** - The following material properties are required for each member type (e.g., beams, columns, walls) in the structure:
   (a) Concrete compressive strength;
   (b) Concrete unit weight;
   (c) Concrete modulus of elasticity;
   (d) Reinforcing steel tensile yield point;
   (e) Reinforcing steel modulus of elasticity;
   (f) Reinforcing steel chemical composition and carbon equivalent, and
   (g) Reinforcing steel surface deformations.

3. **Masonry Elements** - The following material properties are required for each type of masonry in the structure:
   (a) Masonry compressive strength;
   (b) Masonry unit weight;
   (c) Masonry modulus of elasticity;
   (d) Reinforcing steel tensile yield point;
   (e) Reinforcing steel modulus of elasticity;
   (f) Reinforcing steel chemical composition and carbon equivalent, and
   (g) Reinforcing steel surface deformations.

4. **Wood Elements** - The following material properties are required for each type of wood element in the structure:
   (a) Identification of Wood Species, and
   (b) Grade Material. (Note: This may be established by visual inspection or stamped labels on the element)

**2.1.2.2.2 Nonconforming Buildings without Construction Documents.** The material properties for nonconforming buildings for which original construction documents of sufficient detail are unavailable shall be confirmed by testing. The number and location of tests shall be selected so as to provide sufficient information to adequately define the existing condition of materials in the building. The evaluator shall determine the number and location of tests. The test locations shall be located throughout the entire building in those components which provide the primary path of lateral force resistance.

**...**

**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:

1. Data collection on the structure and site conditions shall be performed in accordance with the appropriate Sections of Article 2 of these regulations. Depending upon the type of analysis to be performed, additional data regarding the as built condition and material properties may be required;
2. ~~The Alternative Analysis shall be based on a site specific ground motion as specified in Section 3413A.1.2 of the *2013* California Building Code (CBC);~~
*2.* ~~3.~~ The analysis of the structure shall determine the distribution of strength and deformation demands produced by the design ground shaking and other seismic hazards. The analysis shall address seismic demands and capacities to resist these demands for all elements in the structure that either:
   - Are essential to the lateral stability of the structure (primary elements); or
   - Are essential to the vertical load carrying integrity of the building.

*3.* ~~4.~~ The analysis procedure may consist of a linear or nonlinear analysis. The analytical methods and acceptance criteria shall conform to ~~Section 3412A of the *2013 CBC*~~ *Chapter 34A of the California Building Code.* ~~and nonlinear response history analysis procedure shall be reviewed and approved, in advance, by OSHPD.~~

**...**

**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.<br><br>Where the office has performed a collapse probability assessment, buildings with Probability of Collapse greater than 1.20% 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.<br><br>Where the office has performed a collapse probability assessment, buildings with Probability of Collapse less than or equal to 1.20% 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 through OSHPD. 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-4D* | *Nonconforming hospital buildings satisfying the requirements of Section 1.4.5.1.3 and the CBC 2016 Section 3412A.2.3 or equivalent provisions in later editions of the CBC. These buildings may experience structural damage which may inhibit ability to provide services to the public following strong ground motion. 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. |

**...**

**Table 11.1**
**Nonstructural Performance Categories**

| Time frames | Nonstructural Performance Category[1] | 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 are braced or anchored in accordance with Part 2, Title 24[1]:<br>• communications systems,<br>• emergency power supply,<br>• bulk medical gas systems,<br>• fire alarm systems; and<br>• emergency lighting equipment and signs in the means of egress. |

| | | |
|---|---|---|
| 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 [2] :<br><br>• Nonstructural components, listed in the 1995 CBC, Part 2, Title 24, Table 16A-O, Part 2 .<br>Exception: 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.<br><br>• Equipment, as listed in the 1995 CBC, Part 2, Title 24, Table 16A-O, "equipment" including equipment in the physical plant that service these areas.<br>Exceptions:<br>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.<br><br>2. Only elevator(s) selected to provide service to patient, surgical, obstetrical, and ground floors during interruption of normal power need meet the structural requirements of Part 2, Title 24.<br><br>• Fire sprinkler systems comply with the bracing and anchorage requirements of NFPA 13, 1994 edition or subsequent applicable standards.<br>Exception: 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. |
| | 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 [2]. 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 on-site supplies of water and holding tanks for sewage and liquid waste, sufficient to support 72 hours emergency operations, are integrated into the building plumbing systems in accordance with the California Plumbing code. An on-site emergency system as defined in the California Electrical Code 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 purposes 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*, or SPC 4D,* buildings, all enumerated items within Table 11.1 shall meet the requirements of the 1998 CBC, or equivalent provision in later version of the CBC, Section 1630B, 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.

**...**

**11.2 EVALUATION OF BUILDINGS.** Conforming and nonconforming buildings shall be placed in an NPC based upon the degree of anchorage and bracing for those systems and equipment specified in Table 11.1. The scope of the nonstructural evaluation may be limited to the nonstructural systems and elements specified in Table 11.1 for the planned NPC. Buildings which do not meet the requirements for NPC 2 as defined in Table 11.1 shall be placed in NPC 1.

**11.2.1. Evaluation Procedures for NPC 2.** The following steps shall determine if the building meets the criteria for NPC 2:

a) Identify the specific nonstructural components and equipment that are subject to the requirements of NPC 2 as specified in Table 11.1;

b) Conduct an inventory of components and equipment noting whether the items are anchored or braced;

c) Determine if the anchorage or bracing of the identified components and equipment complies with the following conditions:

1. Installed under a permit issued by OSHPD. Drawings showing the installation and bearing an OSHPD approval stamp are required to show that the installation conforms to Part 2, Title 24; or,

2. Reviewed and approved by the Department of General Services, Office of Architecture and Construction, Structural Safety Section. Drawings showing: a) the installation; b) bear an Office of Architecture and Construction, Structural Safety Section approval stamp; and c) a five digit project number on the approval that begins with the "H" prefix, are required to demonstrate that the installation conforms to Part 2, Title 24. It shall also be demonstrated by a written report submitted by the structural engineer, acceptable to the enforcement agency, that an investigation of the anchorage and bracing of components and equipment identified in Section 11.2.1(a) shows it to be constructed in reasonable conformity with these drawings.

Anchorage and bracing of elements that comply with either of these conditions are considered to meet the requirements of NPC 2;

Installation is defined as that which shows the size and type of material for all components of the system, including the anchor or fastener manufacturer (if proprietary), type, total number and embedment if connected to structural concrete, masonry or wood.

d) If the components and equipment inventoried in 11.2.1(b) is anchored or braced, but do not meet the requirements of Section 11.2.1(c), determine if the bracing and anchorage is sufficient to meet the code requirements specified in Table 11.1. The bracing capacity shall be

determined by calculations based upon information shown in the construction documents. If these documents are incomplete or unavailable, the evaluation shall be based on the as-built conditions, with the capacity of fasteners to masonry, concrete, or wood determined by approved tests, and

e) If any of the items inventoried in 11.2.1(b) are unanchored or inadequately braced as determined by Section 11.2.1(d), the building shall be placed in NPC 1.

...

**11.2.2 Evaluation Procedures for NPC 3 and NPC-3R**

The following steps shall determine if the building meets the criteria for NPC 3 or NPC 3R:

a) Identify the specific nonstructural components and equipment that are subject to the requirements of NPC 2 and NPC 3 or NPC 3R;

b) Conduct an inventory of components and equipment specified in Table 11.1, NPC 3 and NPC 3R, noting whether the components and equipment are anchored or braced;

***Exception:*** Any general acute care hospital facility located in both a "rural area" as defined in Section 70059.1, Division 5, Title 22 and Seismic Zone 3 per 1995 California Building Code (CBC) or later version of the CBC shall comply with the fire sprinkler system anchorage and bracing requirements of NFPA 13, 1994 edition or subsequent standard by January 1, 2013.

c) Determine the level of NPC-3 conformance desired.

1. Buildings classified as SPC 1 or SPC 2 are permitted to meet the NPC 3 performance level, or the NPC-3R performance level. See also Section 11.2.3(c).

2. Buildings classified as SPC 3 or higher must meet the NPC 3 performance level.

d) Determine if the anchorage or bracing of the identified components and equipment complies with the following conditions:

1. Installed under a permit issued by OSHPD. Drawings showing the installation and bearing an OSHPD approval stamp are required to show that the installation conforms to Part 2, Title 24; or,

2. Reviewed and approved by the Department of General Services, Office of Architecture and Construction, Structural Safety Section. Drawings showing: a) the installation; b) bear an Office of Architecture and Construction, Structural Safety Section approval stamp; and c) a five-digit project number on the approval stamp that begins with an "H" prefix, are required to demonstrate that the installation conforms to Part 2, Title 24. It shall also be demonstrated by a written report submitted by the structural engineer, acceptable to the enforcement agency, that an investigation of the anchorage and bracing of components and equipment identified in Section 11.2.2(a) shows it to be constructed in reasonable conformity with these drawings.

Anchorage and bracing of elements that comply with either of these conditions are considered to meet the requirements of NPC 2 and NPC 3 or NPC 3R.

Installation is defined as that which shows the size and type of material for all components of the system including the anchor or fastener manufacturer (if proprietary), type, total number and embedment if connected to structural concrete, masonry or wood.

e) If the components and equipment inventoried in 11.2.2(b) are anchored or braced, but do not meet the requirements of Section 11.2.2(d), determine if the bracing and anchorage is sufficient to meet the code requirements specified in Table 11.1 for NPC 3 or NPC 3R. The bracing capacity shall be determined by calculations based upon information shown in the construction documents. If these documents are incomplete or unavailable, the evaluation shall be based on the as-built conditions, with the capacity of fasteners to masonry, concrete, or wood determined by approved tests. For NPC 3R, the investigation of the adequacy of anchorage and bracing may be limited to the connection of the component or equipment to the support when the total reaction at the point of support (including the application of $F_p$) ~~is less than~~ *exceeds the following limits*:

1. 250 pounds for components or equipment attached to light frame walls. For the purposes of this requirement, the sum of the absolute value of all reactions due to component loads on a single stud shall not exceed 250 pounds.

2. 1,000 pounds for components or equipment attached to roofs, or walls of reinforced concrete or masonry construction.

3. 2,000 pounds for components or equipment attached to floors or slabs-on-grade.

**Exception:** If the anchorage or bracing is configured in a manner that results in significant torsion on a supporting structural element, the effects of the nonstructural reaction force on the structural element shall be considered in the anchorage design.

f) If any of the items inventoried in 11.2.2(b) are inadequately anchored or braced, as determined by Section 11.2.2(d), the building shall be placed in NPC 2.

**...**

*(All existing amendments that are not revised above shall continue without any change)*

**NOTATION:**
- Authority: Health and Safety Code Section 130005(g) & 130021
- Reference: Health and Safety Code Section 1275, 129850 & 130005(g)

## CHAPTER 7
## SAFETY STANDARDS FOR HEALTH FACILITIES

### ARTICLE 1
### GENERAL

**7-101. Scope.** The regulations in this part shall apply to the administrative procedures necessary to implement the Alfred E. Alquist Act of 1983 and to comply with State Building Standards Law.

Section 129680, Health and Safety Code, authorizes the OSHPD to enforce and amend the California Building Standards Code for the safety of hospitals, skilled nursing facilities and intermediate care facilities.

Unless otherwise stated, all references to sections of statute are sections found in the Health and Safety Code.

**…**

**ARTICLE 2**
**DEFINITIONS**

Unless otherwise stated, the words and phrases defined in this article shall have the meaning stated therein throughout Chapter 7, Part 1, Title 24.

**7-111. Definitions.**

**…**

**CONFORMING BUILDING** means a building originally constructed in compliance with the requirements of the 1973 or subsequent edition of the California Building Code *or classified as SPC-4D, as defined in Chapter 6 of this code*.

**…**

*(All existing amendments that are not revised above shall continue without any change)*

**NOTATION:**

- Authority: Health and Safety Code Section 130005(g) & 130021
- Reference: Health and Safety Code Section 1275, 129850 & 130005(g)