OSHPD

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Standard Structural Review Comments
Based on the 2016 California Building Standards Code, (2016 CBSC)
Applicable to OSHPD 1 Projects received after January 1, 2017.

(1) Marked Plans and Response

The structural comments are shown on this set of drawings in red. Each comment is identified by a number such as S-1, S-2, S-3, etc., and is enclosed in a cloud.

The text of standard structural comments can be found in the attached list. The standard structural comments are called out on the review set by "2016(1)" etc. or circled here.

The comments are based on the California Building Code, 2016 (2016 CBC) and California Administrative Code, 2016 (2016 CAC).

In order to facilitate the back check, please respond in writing to each comment. Your response may be in the form of a letter or each response may be written on this final review set of drawings near the comment in a color other than red or green. If the responses are presented in a letter, identify the comment by drawing number and the comment number. In both cases, each response should specify how and where on the resubmitted drawings, specifications, or calculations the OSHPD comments have been resolved.

If you have any questions, please do not hesitate to call the Structural Reviewer:

_____
(name)

_____
(phone)

Reference: 2016 CBC Sections 105 and 107.

(2) Signature - Structural Engineer

All final structural drawings and specifications (construction documents) shall bear the structural engineer's stamp or seal and signature.

Reference: 2016 CAC Section 7-115.

(3) Intent of the Construction Documents

Due to the difficulty of anticipating every unsatisfactory condition that might exist in connection with the existing work where alteration or repair work is proposed, the following clause or one of similar meaning shall be included on the plans or in the specifications:

"The intent of the construction documents is to reconstruct the hospital building in accordance with the 2016 CBSC. Should any condition develop not covered by the approved construction documents, wherein the finished work will not comply with the 2016 CBSC, Amended Construction Documents (ACDs) detailing and specifying the required work shall be submitted to and approved by OSHPD before proceeding with the work."

Reference: 2016 CAC Section 7-109 and 2016 CBC Sections 107 and 116.

(4) Tests, Inspections, and Observations

A Testing, Inspection, and Observation (TIO) program shall be developed, submitted, and approved during the plan review process. An acceptable TIO form can be downloaded from the OSHPD website.

OSHPD approval of the TIO program including the individuals and/or firms who will perform the specified tests and/or inspections shall be required prior to issuance of a building permit.

Reference: 2016 CAC Section 7-141 and CBC 2016 Section 1701A.3.

(5) Documents for Approval

Separate the substantiating documentation (e. g. calculations, test reports, cost estimates, manufacturer cut sheets, etc.) from construction documents (e.g. drawings, specifications, TIO form, etc.) to be stamped "Reviewed for Code Compliance" by OSHPD and bind them separately. OSHPD only approves construction documents, it does not approve substantiating documentation. These substantiating documents should be submitted if they are required for approval of the construction documents, and should not be bound with the construction documents to be stamped "Reviewed for Code Compliance". For Amended Construction Documents (ACDs), clearly identify the documents to be stamped "Reviewed for Code Compliance" by numbering all of the sheets that comprise changes to the existing OSHPD approved construction documents. Provide a cover sheet with a complete index of the documents to be stamped "Reviewed for Code Compliance". Changes to the existing OSHPD approved construction documents shall be identified by clouding them on the construction documents or identifying them by some other means.

Reference: 2016 CBC Section 107.

(6) Structural Design Basis and Calculations

Provide structural design basis and calculations in accordance with the 2016

CBC Section 1603A.3.

When mathematical models are used for the analysis which represent the spatial distribution of the mass and stiffness of the structure to adequately capture the response of the building consistent with the construction documents, these models along with any assumptions and explanatory sketches shall be submitted along with the structural calculations

Reference: 2016 CBC Sections 1603A.3 and 107.

(7) Nonstructural Components and Equipment Supports and Attachments

Provide details on the construction documents and substantiating calculations (when necessary) for the supports and attachments of nonstructural components and equipment unless they are exempted from plan review by 2016 CBC Sections 1616A.1.18.

The supports and attachments detail shall be coordinated with the calculations and the manufacturer's literature. Sketches shown in the calculations for the purpose of illustrating the analytical method are not adequate. OSHPD does not approve calculations; therefore, they cannot appear on the construction documents that require approval.

Equipment/components, supports, and attachments installation should not proceed without OSHPD approved special seismic certification and/or supports and attachment details on the jobsite.

Manufacturer of each equipment/component that requires special seismic certification shall submit a certificate of compliance as required by 2016 CBC Section 1704A.5/ASCE 7 Section 13.2.2. Evidence demonstrating compliance with certification requirements shall be submitted for approval to OSHPD, after review and acceptance by a registered design professional.

These details and calculations may not necessarily be the responsibility of the Structural Engineer of Record.

Reference: 2016 CBC Sections 107, 1704A.5, 1705A.12, and 1705A.13.

(8) Temporary and Mobile Components and Equipment

Temporary and mobile components and equipment may be exempt from supports and attachments construction documents review in accordance with CAN 2-108 and the 2016 CBC Section 1616A.1.18. Where components are identified as “temporary”, the drawings should indicate the expected duration of use and intended permanent replacement component.

Components/equipment are considered “mobile” if they are moved from one point in the structure to another during ordinary use and are not permanently attached to the building utility systems. Components/equipment mounted on wheels to facilitate periodic maintenance or cleaning but which otherwise remain in the same location are not

considered mobile for the purpose of special seismic certification, supports and attachments.

Reference: CAN 2-108, 2016 CBC Sections 108, 1616A.1.18 and CAN 2-108.

(9) Equipment Specification

Design specifications for equipment shall specify the design lateral forces and special seismic certification requirements. Alternatively, the specifications may require that equipment be able to resist the forces and satisfy the structural integrity and functionality requirements in accordance with the 2016 CBC.

Reference: 2016 CBC Section 1616A and ASCE 7-10 Chapter 13.

(10) Equipment Supports and Attachments

Show the following note prominently on the drawings:

Supports and attachments of all equipment to be installed as a part of this project shall be detailed on construction documents, except those exempted by the 2016 CBC Section 1616A.1.18.

Equipment supports and attachments shall be approved by the appropriate Registered Design Professional (RDP) and OSHPD as a part of field reviews/observations. The Inspector of Record (IOR) shall assure that the above requirements are enforced.

Reference: 2016 CBC Sections 107 and 1616A.

(11) Pipes, Ducts, and Conduits Supports and Attachments

Provide calculations and details for the supports and attachments of all pipes, ducts, and conduits. If a pre-approved system is specified (the OPM numbers for the acceptable alternatives shall be specified on the drawings) certain calculations and details for the supporting structure may still be required. See comment 2016 (18).

Reference: 2016 CAC Sections 7-115, 7-126, and CBC 2016 Section 107.

(12) Building Separations

Pipes, ducts, and conduits which cross building separation spaces shall be designed and detailed to accommodate displacements in accordance with ASCE 7 Section 12.12. Show the required details on the drawings and provide the substantiating calculations, including a longitudinal seismic brace on each side of the building separation.

Reference: 2016 CBC Sections 1613A and 1616A.

(13) Equipment Not In Contract (NIC)

For all new or relocated equipment to be installed under the scope of this application and designated as "by others" or "not in contract," it is the responsibility of the architect and/or the structural engineer in responsible charge of the project to sign and submit the necessary construction documents to OSHPD for review and approval. Alternatively, exclude the equipment from the construction documents and the scope of this application. All equipment thus excluded can be installed only after obtaining the approval of OSHPD under a separate application.

Reference: 2016 CAC Sections 7-115 and 7-126.

(14) Equipment Supports, Attachments, and Special Seismic Certification Approval

Equipment support, attachments, and special seismic certification shall be approved by OSHPD, prior to fabrication and installation. If the equipment has been specified such that supports and attachments detail can be determined, then the details shall be shown on the construction documents. No reference to "or equal" is allowed unless it is clearly specified that any "or approved equal" substitutions shall be approved by OSHPD through amended construction documents.

Reference: 2016 CAC Sections 7-115, 7-126 and CBC 2016 Section 107.

(15) Deferred Approval

Design of the Seismic Force Resisting System (SFRS), Primary Gravity Load Resisting System (PGLRS) and Stairs shall not be deferred.

Where the supports, attachments, and special seismic certification cannot yet be determined, then their approval may be deferred if all of the following conditions are met:

1) The supports, attachments, and special seismic certification cannot be fully detailed on the approved construction documents because of variations in product design or manufacture; e.g., the manufacturer has not yet been chosen, or specified equipment has performance criteria only.

2) All items requiring deferred approval are listed under a separate heading on the drawings, preferably on the title sheet, and on a letter size sheet that will be attached to the building permit. This list shall include the maximum weight of the equipment for which the supporting structure was designed. Clearly indicate that OSHPD approval of the deferred portion is required prior to fabrication and/or installation.

3) The construction documents shall fully describe the performance and loading criteria for such work. The design of the supporting building structure cannot be deferred; therefore, show the maximum allowable equipment weight on the drawings. When the equipment is chosen, comparing the actual equipment weight to the maximum allowable equipment weight shown on the drawings can substantiate the adequacy of the supporting structure.

4) The architect and/or engineer responsible for preparation of construction documents for the main project, as listed on the applications, shall review and forward the construction documents for the deferred approval items to OSHPD with the appropriate application form.

5) Supports, attachments, special seismic certification, and associated calculations shall be submitted sufficiently in advance of the desired date of approval to provide time for the initial review by OSHPD and at least one cycle of response and back check review.

Reference: 2016 CAC Section 7-126 and 2016 CBC Section 107.3.4.2.

(16) Supports and Attachments Pre-approval

Where construction documents reference OSHPD Preapproval of Manufacturer's Certification (OPM) numbers for specific pieces of equipment, the RDP shall verify that the pre-approval is appropriate and review the pre-approved documents to determine what work the pre-approval requires the RDP to perform. If the installation varies in any way from that shown in the OPM, provide complete calculations for supports and attachments of the component and system or calculations that verify that the proposed supports and attachment detail are code compliant.

A copy of the chosen bracing system(s) installation guide/manual shall be on the jobsite prior to starting the installation of the component, equipment, hangers and/or braces.

Reference: 2016 CAC Sections 7-115 and 7-126.

(17) Pre-approved Component Supports and Attachments with "OPM" Numbers

Pre-approved nonstructural component supports and attachments installed under the 2016 CBC shall have an approved OPM number.

Reference: 2016 CAC Sections 7-115, 7-126, and CBC 2016 Section 107.

(18) Pre-approved Component Supports and Attachments Limitations

Some pre-approvals have limitations that may require either a deferred submittal (see comment 2016(15)) of layout drawings or submittal as part of construction documents. All of the preapproved systems require that the seismic lateral force, F_p, including consideration of a_p and R_p, be determined at each level of the building so that brace spacing, supports and attachments requirement can be determined. Provide all parameters required to compute F_p (e.g. a_p, R_p, S_{DS}, I_p, h, and z at each level) on construction drawings. The OSHPD District Structural Engineer (DSE) may approve the seismic lateral force computations.

Reference: 2016 CAC Sections 7-115 and 7-126 and CBC 2016 Section 107.

(19) Pre-approved Distribution System (pipes, HVAC ducts, and electrical raceways) Seismic Supports and Attachments (Anchorage & Bracings) Layout Drawings

Where construction documents reference OSHPD Preapproval of Manufacturer's Certification (OPM) number(s) for distribution system supports and attachments, distribution system layout drawings require OSHPD approval in accordance with PIN 62. Either submit distribution system layout drawings as part of original construction documents or specify them as deferred submittal items.

Reference: PIN 62.

(20) Fire Sprinklers

Show a note on the construction documents requiring that the spacing and details of the supports, attachments, and bracing of fire sprinkler piping shall comply with the NFPA 13 as modified by the 2016 CBC.

Provide details and calculations for the sway bracing supports and their attachments to the structure. Where applicable, details for the supports, attachments, and bracing may be referred to an OSHPD Preapproval of Manufacturer's Certification (OPM). All layout drawings of the sprinkler system shall be submitted to OSHPD for review and approval prior to installation.

Reference: 2016 CAC Sections 7-115, 7-126 and 2016 CBC Section 107.

(21) Vibration Isolators

For all vibration isolators and their supports & attachments, provide calculations, details, and/or test data to substantiate the isolator's capacity (strength and stiffness) for vertical and lateral loads or use isolators used in the shake table test of equipment. If the supports and attachments are not pre-approved, then calculations shall also be submitted to substantiate the size, quantity, location and connection to the structure of the isolators. The drawings shall be closely coordinated with the calculations and clearly specify the manufacturer, model type, model number, base plate size, quantity used and location at each piece of equipment, and how it is attached to the structure. Isolators, which support a component inside the prefabricated unit, will not be reviewed.

Reference: 2016 CAC Sections 7-115, 7-126 and 2016 CBC Section 107.

(22) Kitchen Equipment Supports and Attachments

Provide calculations and details for the supports and attachments of all kitchen equipment that is to be permanently attached to the building or utilities.

Reference: 2016 CAC Sections 7-115 and 7-126

(23) Grab Bars

Show on the drawings details of how grab bars and/or tub and shower seats, located in handicapped toilets and shower stalls, are connected to the supporting structure. See 2016 CBC Section 1607A for required strength.

Reference: 2016 CBC Section1607A.

(24) Television and Monitor Supports and Attachments

The design of wall or ceiling mounted television and/or monitor supports and attachments shall comply with Chapter 13 of ASCE 7 as modified by the 2016 CBC Sections 1613A and 1616A. The design shall include: 1) The connection between component/equipment and support(s)/attachment(s); 2) The support(s); 3) The attachment(s); and 4) The supporting structure(s).

Reference: 2016 CBC Sections 1613A and 1616A.

(25) Anchorage to Concrete

Anchorage to concrete shall be designed in accordance with the 2016 CBC Sections 1616A and 1901A.3.

Reference: 2016 CBC Sections 1616A and 1901A.3.

(26) Post-Installed Anchors

For all post installed anchors show on the construction documents the manufacturer, type, diameter, minimum embedment, concrete type(s) and strength(s). Indicate edge distance and anchor spacing. Reduce anchor capacities due to edge distance and spacing as recommended in the anchor Evaluation Report (ER). Show the actual magnitudes of the test loads on the construction documents. Testing is required in accordance with the 2016 CBC Section 1910A.5.

Reference: 2016 CBC Sections 1616A and 1910A.5.

(27) Installation of Post Installed Anchors

Show or reference the following note prominently on the drawings (non-applicable portion may be excluded):

“When installing drilled-in anchors and/or powder driven pins in existing non-prestressed reinforced concrete, use care and caution to avoid cutting or damaging the existing reinforcing bars. When installing them into existing prestressed concrete (pre- or post-tensioned) locate the prestressed tendons by using a non-destructive method prior to installation. Exercise extreme care and caution to avoid cutting or damaging the tendons during installation. Maintain a minimum clearance of one inch between the reinforcement and the drilled-in anchor and/or pin.”

Reference: 2016 CBC Section 1603A.1.9.

(28) Incomplete Submittals

The following comments are based on a preliminary or incomplete submittal. A more thorough review will be made upon resubmittal and additional comments will follow.

Reference: 2016 CAC Section 7-121.

(29) Underground Tanks

Underground Tanks shall be located so that loads from existing foundations and supports are not transmitted to the tank.

Underground tank designed to comply with ASCE 7 Section 13.6.9 and not within the influence area of foundations and not subject to the influence of vehicle traffic (unless specifically shown to be designed for those loads by the manufacturer), do not require structural calculations for OSHPD review.

Review for structural compliance of underground storage tanks, in general, will be limited to evaluating of supports & attachments and will not involve a structural analysis of the tank. The only exception is when the tank is under a driveway or parking lot. In that situation, OSHPD will verify that the tank has been listed and approved by a recognized testing agency, for the specific loading condition. For tanks not approved for the specific loading condition, structural calculations will be required.

Reference: 2016 CBC Section 107 and ASCE 7-10 Section 13.6.9.

(30) Pneumatic Tube Systems

Details for the bracing, supports, and attachments of piping associated with the installation of Pneumatic Tube Systems need not be provided to OSHPD for review, unless hospital desires the Pneumatic Tube System to be designed as an essential system with importance factor (I_p) equal to 1.5, for continued operation following a seismic event.

Piping associated with these systems is generally light (4.5 plf. or less) and has no weight inside the pipe except when the “slug” is moving from station to station. Details and calculations shall be required for the stations, diverters and blowers in accordance with Chapter 13 of ASCE 7 as modified by Sections 1613A and 1616A of the 2016 CBC.

Separation of 6" between the pneumatic tube system piping and suspended ceiling supports and attachments shall be provided in accordance with 2016 CBC Section 1616A.1.21/ASTM E580. Fire protection issues are addressed in Chapter 7 of the 2016 CBC.

Reference: 2016 CBC Sections 107, 1616A.1.21, and ASCE 7-10 Section 13.3.2.

(31) Earthquake/Seismic Design Data

Provide seismic parameters used in the design of the project on the construction documents as required by 2016 CBC Section 1603A.1.5.

Reference: 2016 CBC Sections 1603A.

(32) Site Data

Project cannot be approved prior to approval of the Geohazard Report (2016 CBC Section 1803A.6) and the Geotechnical Report (2016 CBC Section 1803A.7) in accordance with Section 7-117 of the 2016 CAC.

The current review has assumed that the values used for the seismic and geotechnical parameters are correct. If revisions are made to these parameters in the course of the separate review of the Geotechnical/Geohazard Report, further comments will be forthcoming and subsequent revisions may be required.

Geotechnical information shall be shown on the construction documents in accordance with Section 1603A.1.6 of the 2016 CBC.

Reference: 2016 CBC Sections 1603A and 1803A.

(33) Missing, Incomplete, or Incorrect Information or References, Details Not Clear

Add missing information, correct information or references, provide additional details to clarify work proposed where indicated on the construction documents.

Reference: 2016 CBC Section 107.

(34) Missing Dimensions, or Missing Size/Section of Structural Member, or Missing Weight of Nonstructural Equipment

Provide missing dimension, add missing size/section of structural member, provide missing weight of nonstructural equipment where indicated on the construction documents.

Reference: 2016 CBC Section 1603A.1.

(35) Inadequate Member or Connection Design

Provide calculations to prove that the member or connection indicated on the construction documents is adequate.

Reference: 2016 CBC Section 1603A.

(36) Inadequate Wind or Seismic Load Path

Provide calculations or revised details to prove that there exists an adequate load path as indicated on the construction documents.

Reference: ASCE 7-10 Sections 1.3.5 and 12.1.3.

(37) Missing Supports and Attachments Information

Provide missing supports and attachments information as indicated on the construction documents.

Reference: ASCE 7-10 Section 13.4.

(38) Equipment with OSHPD Special Seismic Certification Preapproval (OSP)

a. Provide the OSP number on the drawings – a copy of the OSP application and supporting documents is not required on the construction documents.
b. Specify the model number of the equipment/components used on the construction documents as it appears in the OSP.
c. OSP's do not cover supports and attachments. Provide support and attachment details and calculations for the equipment/components in accordance with the CBC 2016/ASCE 7.
d. For custom equipment, such as custom air handling units, that do not have model numbers assigned in the OSP submittal to OSHPD shall include:
    I. Schematic drawings equivalent to those in the OSP,
    II. Listing of major sub-assemblies and subcomponents, and
    III. Average area/floor loading.
e. Submit "Certificate of Compliance" in accordance with the CBC 2016 Sections 1704A.5 and 1705A.13.3.

Reference: 2016 CBC Section 1704A and 1705A.

(39) Welding - WPQR / WPS

Provide notes on the drawings that require submission of Welding Procedure Specifications (WPS) for all welding procedures, and Welding Procedure Qualification Records (WPQR) for non-prequalified welding procedures signed by the authorized representative of the manufacturer, fabricator or contractor, which will be reviewed by the Special Inspector. The WPS/WPQR shall be reviewed and accepted by a Registered Design Professional.

There should be a WPS/WPQR for each weld joint type, backing material (for CJP welds), welding process, welding electrode classification and base metal material ASTM/Grade/Alloy and recorded on forms recommended by the applicable AWS Standard.

For Demand Critical welds, current, voltage and travel speed combinations are to be substantiated to meet the heat input limits in AWS D1.8. There should be no allowed variations in the welding parameters (as permitted for no WPS re-qualification), except where the ratio between volts, current (amps) and travel speed remains the same.

Reference: 2016 CBC Sections 1704A and 1705A.

(40) Concrete Mix Design

Provide notes on the drawings that require submission of the concrete mix designs used in the project, which will be reviewed by Special inspector. The concrete mix designs shall be reviewed and accepted by a Registered Design Professional.

The concrete mix design shall include the test age for demonstrating compliance with the design strength (f'_c).

Reference: 2016 CBC Sections 1704A and 1705A.

(41) NPC Retrofit

Provide the following note on the drawings:

The intent of the seismic retrofit work reflected on these construction documents (drawings and specifications) is to provide a seismic retrofit in order to meet the nonstructural performance category NPC -2/3/4 or 5.

Approval of these construction documents by OSHPD does not infer or imply that the requirements of the targeted performance objectives have been met.

A separate nonstructural reconciliation report of the retrofitted building must also be prepared in accordance with the requirements of the 2016 California Administrative Code, Chapter 6, Sections 1.4.5.1.1 and 11.01, and approved by the Seismic Compliance Unit in OSHPD, in order to substantiate that the building as modified will be eligible to upgrade to NPC- 2/3/4 or 5.

Reference: 2016 CAC Chapter 6, Sections 1.4.5.1.1 and 11.01.

(42) SPC Retrofit

Provide the following note on the drawings:

The intent of the seismic retrofit work reflected on these construction documents (drawings and specifications) is to provide a seismic retrofit in order to meet the seismic performance category SPC-2, 4D or 5.

Approval of these construction documents by OSHPD does not infer or imply that the requirements of the targeted performance objectives have been met.

A separate seismic evaluation of the retrofitted building must also be conducted in accordance to the requirements of the 2016 California Administrative Code, Chapter 6, Section 1.4.5.1.1 and approved by Seismic Compliance Unit of OSHPD in order to substantiate that the building as modified will pass the evaluation procedure of Section 1.3.3 or Section 1.4.5.1.2.

Reference: 2016 CAC Chapter 6, Sections 1.4.5 and 1.3.3.

(43) SPC 4D Retrofit

Provide the following note on the drawings:

The intent of the seismic retrofit work reflected on these construction documents (drawings and specifications) is to provide a seismic retrofit in order to meet the seismic performance category SPC-4D.

Approval of these construction documents by OSHPD does not infer or imply that the requirements of the targeted performance objectives have been met.

The retrofitted building must meet the requirements of the 2016 California Building Code, Section 3412A.2.3, as approved by Seismic Compliance Unit of OSHPD in order to substantiate that the building as modified will meet the performance requirements of SPC-4D.

Reference: 2016 CBC Section 3412A.2.3.

(44) VSI Retrofit for possible SPC-4D upgrade

Provide the following note on the drawings:

The intent of the seismic retrofit work reflected on these construction documents (drawings and specifications) is to provide a voluntary seismic upgrade under the 2016 California Building Code.

Approval of these construction documents by OSHPD does not infer or imply that any of the requirements of the targeted performance objectives of SPC-4D have been met. The current retrofit work is performed at the owner's risk

For future upgrade to SPC-4D, the retrofitted building must meet the requirements of the 2016 California Building Code, Section 3412A.2.3. as approved by Seismic Compliance Unit of OSHPD. Further retrofit work may be required in order to substantiate that the building as modified will meet the performance requirements of SPC-4D.

Reference: 2016 CBC Section 3412A.2.3.

(45) Location of Emergency and Standby generators

Provide:

1. On-site supplies of water and holding tanks for sewage and liquid waste, sufficient to support 72 hours of emergency operations for the hospital or building, which are integrated into the building plumbing systems in accordance with the California Plumbing Code.
2. 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.

Reference: 2016 CBC Section 1616A.1.40

(46) Locate of emergency and standby generators

Locate emergency and standby generators above flood plan, where they can be easily accessed.

Reference: 2016 CBC Section 1616A.1.40

(47) Openings in Concrete

Locate all openings larger than 12 inches in any dimension on the structural drawings. Reference to other discipline drawings for openings larger than 12 inches in any dimension is not acceptable.

Reference: 2016 CBC Section 1901A.5 Item # 12.

(48) Certificate of Compliance

Submit "Certificate of Compliance" for equipment/components in accordance with the CBC 2016 Section 1704A.5 Items # 2 or # 3 or specify on the construction documents list of equipment/components for which "Certificate of Compliance" shall be provided to OSHPD prior to installation of equipment/components.

The Certificate of Compliance shall specify valid ranges for S_{DS} & z/h, and I_p.

Compliance shall be justified as follows:

1. Where Special Seismic Certification (which is not the same as Certificate of Compliance) is **not** required by the CBC 2016 Section 1705A.13.3.1:

    a. Components commonly designed by calculations (e.g. those listed in ASCE 7-10 Table 13.5-1), such as storage racks, shall be justified by calculations. These calculations shall be submitted for OSHPD review.

    b. Mechanical and Electrical components (e.g. those listed in ASCE 7-10 Table 13.6-1) can be justified by reference to applicable ANSI approved seismic design standards. The ANSI approved standards referenced shall be clearly specified on the Certificate of Compliance.

2. Where special seismic certification is required by the CBC 2016 Section 1705A.13.3.1, such certification shall be justified in accordance with the CBC 2016 Section 1705A.13.3 or through OSHPD Special Seismic Certification Preapproval (OSP), please see Items # 14 & # 38 above.

Reference: 2016 CAC Sections Section 1704A.5 Items # 2 or # 3 and 1705A.13.3.