

STATE OF CALIFORNIA  
STATE AND CONSUMER SERVICES AGENCY  
CALIFORNIA BUILDING STANDARDS COMMISSION  
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Office Use Item No. \_\_\_\_\_

**PARTICIPATION COMMENTS FOR THE NOTICES DATED APRIL 22, 2011**  
Written comments are to be sent to the above address.

**WRITTEN COMMENT DEADLINE: JUNE 6, 2011**

Date: 06/06/2011

From:

Mike Moore, P.E.  
Name (Print or type)

Mike Moore  
(Signature)

Newport Ventures, representing the Steel Framing Alliance  
Agency, jurisdiction, chapter, company, association, individual, etc.

23 Jay St.                      Schenectady                      NY                      12305  
Street                                      City                                      State                                      Zip

I/We ~~(do)~~(do not) agree with:

[ X ] The Agency proposed modifications As Submitted on Section No. CBGSC 5.507.4 & 5.714.7

and request that this section or reference provision be recommended:

[ ] Approved    [ ] Disapproved    [ ] Held for Further Study    [ X ] Approved as Amended

**Suggested Revisions to the Text of the *PROPOSED REGULATIONS*:**

**A). CHANGE THE PROPOSED REGULATIONS FOR SECTION 5.507.4 AS FOLLOWS:**

**5.507.4 Acoustical control.** Acoustical control shall be provided in accordance with 5.507.4.1 or 5.507.4.2. Where required, Employ building assemblies and components with Sound Transmission Class (STC) values shall be determined in accordance with ASTM E90 and ASTM E413 or and Outdoor-Indoor Sound Transmission Class (OITC) shall be determined in accordance with ASTM E1332.

**Exception:** Buildings with few or no occupants and where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures, and utility buildings.

**5.507.4.1 Exterior noise transmission, prescriptive method.** Wall and roof-ceiling assemblies making up the building envelope shall have exterior wall and roof ceiling assemblies meeting a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

1. Within the 65 CNEL noise contour of an airport

**Exceptions:**

1. Ldn or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICUZ) plan.

2. Ldn or CNEL for other airports and heliports for which a land use plan has not been developed shall be determined by the local general plan noise element.

2. Within the 65 CNEL or Ldn noise contour of a road or railroad, ~~transportation source or fixed noise source~~ as determined by the Noise Element of the General Plan

~~5.507.4.1.1 Noise exposure in other areas. Buildings exposed to a noise level of 65 dB Leq-1 hr during any hour of operation shall have exterior wall and roof-ceiling assemblies meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).~~

**5.507.4.2 Exterior noise transmission, performance alternative method.** For buildings located as defined in Sections A5.507.4.1 or ~~A5.507.4.1.1~~, wall and roof-ceiling assemblies making up the building envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq-1Hr) of 50dBA in occupied areas during any hour of operation.

**5.507.4.2.1 Documentation of compliance.** An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.

~~**Exception:** Buildings with few or no occupants and where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures, and utility buildings.~~

## **B). CHANGE THE PROPOSED REGULATIONS FOR SECTION 5.714.7 AS FOLLOWS:**

**5.714.7.1 Acoustical control.** Acoustical control shall be provided in accordance with 5.714.7.1.1 or 5.714.7.1.2. Where required, ~~Employ building assemblies and components with Sound Transmission Class (STC) values shall be determined in accordance with ASTM E90 and ASTM E413 or and Outdoor-Indoor Sound Transmission Class (OITC) shall be determined in accordance with ASTM E1332.~~

**Exception:** Buildings with few or no occupants and where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures, and utility buildings.

~~**5.714.7.1.21 Exterior noise transmission, prescriptive method.** Exterior wall and roof-ceiling assemblies shall comply with either 5.407.4.1.1 or 5.407.4.1.2 as applicable.~~

~~**5.714.7.1.2.1 Exposure to airport, road, or railroad noise.**~~ Buildings exposed to airport, road, or railroad noise shall have exterior wall and roof-ceiling assemblies meeting a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

1. Within the 65 CNEL noise contour of an airport

**Exceptions:**

1. Ldn or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICUZ) plan.

2. Ldn or CNEL for other airports and heliports for which a land use plan has not been developed shall be determined by the local general plan noise element.

2. Within the 65 CNEL or Ldn noise contour of a road or railroad as determined by the Noise Element of the General Plan

3. Within 1000 ft. of the horn-sounding zone of active railroad tracks

~~**5.714.7.1.2.2 Noise exposure in other areas.** Buildings exposed to noise exceeding sound levels in Section 5.407.4.1, Item 4 shall have exterior wall and roof-ceiling assemblies meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).~~

**5.714.7.1.42 Exterior noise transmission, performance method.** For buildings located as defined in Section 5.714.7.1.1, wall and roof-ceiling assemblies making up the building envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq-1Hr) of 50dBA in occupied areas during any hour of operation.

**5.714.7.1.2.1 Documentation of compliance.** An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.

~~Wall and roof-ceiling assemblies making up the building envelope shall be constructed to provide an interior noise environment that does not exceed an hourly equivalent noise level (Leq-1Hr) of 50 dBA in occupied areas for any of the following building locations:~~

~~1. Within 1000 ft. (300 m.) of right of ways of expressways or freeways.~~

~~2. Within 5 mi. (8 km.) of airports serving more than 10,000 commercial jets per year.~~

~~3. Within 2,000 ft. (600 m) of active railroad tracks~~

- ~~4. Other than occasional sound due to church bells, train horns, emergency vehicles and public warning systems, where exterior sound levels exceed one of the following during occupied hours:~~
- ~~a. An Leq 1Hr of 65 dBA~~
  - ~~b. A 65 day night noise level (DNL/Ldn)~~
  - ~~c. A 65 community noise exposure level (CNEL)~~

~~**Exception:** Buildings with few or no occupants and where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures, and utility buildings.~~

**Reason:** [The reason should be concise if the request is for “Disapproval,” “Further Study,” or “Approve As Amend” and identify at least one of the 9-point criteria (following) of Health and Safety Code §18930.]

In the language proposed by CBSC, there are several inconsistencies between the structure and requirements of the code language addressing prescriptive and performance methods for existing buildings and new buildings. This comment proposes language that would bring consistency and clarity across both sections, resulting in greater alignment with Section 18930(a)6 Health and Safety Code. Proposed improvements in this comment include the following:

- Clarify that the user must follow either the prescriptive OR performance path (this is not currently specified, and users may think that they need to follow both).
- Insert the exception to the acoustical requirements prior to delving into the prescriptive and performance path options. Code language convention is to place exceptions prior to the details, not after. This change makes the code clearer and easier to navigate.
- Bring consistency to the cases where acoustical requirements are in place for buildings in proximity to railroads. Currently, CBSC’s proposal uses a metric of 2000 feet in one area (5.714.7.1.1 #3), 1000 feet in another (5.714.7.1.2 #3), and a reference to the Noise Element of the General Plan in another (5.507.4.1 #2). This comment proposes referencing the Noise Element of the General Plan for all instances. One good reason for referencing the Noise Element of the General Plan is that these plans may pursue alternative measures for noise abatement of railroads that can effectively reduce the CNEL experienced at a building site that is within a certain distance of railroad tracks or crossings. For example, Kern County’s Noise Element of the General Plan states that, “Railroad yards and rail alignments adjacent to residential areas should have noise barriers. Acoustical noise barriers could reduce existing rail noise up to 20 dB (A)” (<http://www.co.kern.ca.us/planning/pdfs/kcgp/kcgpchapter3.pdf>). In the case where such measures are already being installed and CNELs are within acceptable levels at the building site, redundant and expensive building-based acoustical controls may not be warranted.
- Bring consistency around the language used in the performance path method for both existing buildings and new construction.
  - Change the numbering/order of the prescriptive and performance paths under the existing buildings section to follow conventional code ordering and that used in the new buildings section: prescriptive first, performance second.
  - Require documentation of compliance for the performance method for existing buildings (similar to the documentation of compliance for the performance method for new buildings). Omission of documentation requirements for the performance path appears to be a mistake based on the requirement existing for new buildings.
  - Edit titles of sections to reflect whether they are describing the prescriptive or the performance method of compliance.
- Remove errant references. The following references were found to point to sections that do not exist in the code, and were therefore removed or corrected by this comment: 5.407.4.1, Item 4; 5.407.4.1.1; 5.407.4.1.2; A5.507.4.1; A5.597.4.1.1.
- Increase the enforceability of the code: Noise contours of airports and roads can be easily determined from available resources. Similarly, it is easy to determine buildings that are within 1000 ft from the horn-sounding zone of active railroad tracks. However, identifying when the “Noise exposure in other areas” requirement applies is much more difficult. First, there is a problem with this requirement in Section 5.714.7.1.2.2, in that it cites a non-existent section of the code (Section 5.407.4.1, Item 4 does not exist). Secondly, if we are to assume that if the intent of this reference is to mirror the text in 5.507.4.1.1, which refers to “buildings exposed to a noise level of 65 dB Leq-1-hr during any hour of operation”, then the code official is somehow required to identify where this condition occurs. Unlike noise contours of airports, roads, and railroads, identifying exposure to 65 dB Leq-1-hr noise level exposures for “other areas” is not trivial, and would likely be difficult to enforce uniformly and cost effectively. For these reasons, we propose that the requirements referencing “Noise exposure in other areas” be removed.

This change will still permit the code to address those areas that are known to be critical for noise management: roads, airports, and railways.

- Remove vague language concerning a “fixed noise source”. Because this language is vague and difficult to enforce, we propose that it be removed from 5.507.4.1 #2. Again, referring to Kern County’s Noise Element of the General Plan as an example, the plan states, “Noise contours have been prepared for all airports in the County, major railroad and highways within urban areas.” In other words, it will be easy for a building official to identify when buildings must employ acoustical controls for buildings in proximity to these transportation noise sources. However, Kern County treats fixed noise sources differently. For fixed noise sources, Kern County’s Noise Element of the General Plan requires that “proposed commercial and industrial uses or operations be designed or arranged so that they will not subject residential or other noise sensitive land uses to exterior noise levels in excess of 65 dB Ldn and interior noise levels in excess of 45 dB Ldn.” In other words, it is fairly straight forward to identify noise contours for airports, roads, and railroads in Kern County, but “fixed noise sources” are not necessarily identified within the plan. Instead, these fixed noise sources must be controlled at the source. To avoid redundant acoustic control measures and ensure that the code language is clear and enforceable, we recommend removing “fixed noise source” from 5.507.4.1 #2.

## HEALTH & SAFETY CODE SECTION 18930

### SECTION 18930. APPROVAL OR ADOPTION OF BUILDING STANDARDS; ANALYSIS AND CRITERIA; REVIEW CONSIDERATIONS; FACTUAL DETERMINATIONS

- (a) Any building standard adopted or proposed by state agencies shall be submitted to, and approved or adopted by, the California Building Standards Commission prior to codification. Prior to submission to the commission, building standards shall be adopted in compliance with the procedures specified in Article 5 (commencing with Section 11346) of Chapter 3.5 of Part 1 of Division 3 of Title 2 of the Government Code. Building standards adopted by state agencies and submitted to the commission for approval shall be accompanied by an analysis written by the adopting agency or state agency that proposes the building standards which shall, to the satisfaction of the commission, justify the approval thereof in terms of the following criteria:
- (1) The proposed building standards do not conflict with, overlap, or duplicate other building standards.
  - (2) The proposed building standard is within the parameters established by enabling legislation and is not expressly within the exclusive jurisdiction of another agency.
  - (3) The public interest requires the adoption of the building standards.
  - (4) The proposed building standard is not unreasonable, arbitrary, unfair, or capricious, in whole or in part.
  - (5) The cost to the public is reasonable, based on the overall benefit to be derived from the building standards.
  - (6) The proposed building standard is not unnecessarily ambiguous or vague, in whole or in part.
  - (7) The applicable national specifications, published standards, and model codes have been incorporated therein as provided in this part, where appropriate.
    - (A) If a national specification, published standard, or model code does not adequately address the goals of the state agency, a statement defining the inadequacy shall accompany the proposed building standard when submitted to the commission.
    - (B) If there is no national specification, published standard, or model code that is relevant to the proposed building standard, the state agency shall prepare a statement informing the commission and submit that statement with the proposed building standard.
  - (8) The format of the proposed building standards is consistent with that adopted by the commission.
  - (9) The proposed building standard, if it promotes fire and panic safety as determined by the State Fire Marshal, has the written approval of the State Fire Marshal.