

Division of the State Architect

STATE HISTORICAL BUILDING SAFETY BOARD

Committee for amendments to the California Historical Building Code

Chapter 8-7

ALTERNATIVE STRUCTURAL REGULATIONS

Chapter 8-8

ARCHAIC MATERIALS AND METHODS OF CONSTRUCTION

Meeting Minutes of April 17th 2007

Division of the State Architect
Oakland Regional Office

Transmitted by e-mail to members
April 23, 2007

Attendees

Gary McGavin, AIA, SSC, SHBSB
Fred Turner, S.E., SSC, SHBSB
Loring Wyllie, S.E., SEAOC, SHBSB
David Cocke, S.E., SEAOC, SHBSB
Una Gilmartin, P.E.,
Roy Tolles, P.E.
Alan Dreyfuss, AIA, SHBSB
Tom Winter, Staff, SHBSB

Call to order Alan Dreyfuss 10:00 AM

This is an open - noticed meeting and the public is welcome to attend.

Discussion of problems with earlier proposed chapters:

Adjusting IEBC to reflect the 1995 CBC, and 1994 UCBC.

Chapter 8-8 Tables.

Near Fault increases.

Equivalence of proposed chapters to the 2001 force level.

Adobe

Adobe is a special problem where attempting to make that material conform to the IEBC for masonry or other materials doesn't work. Then there is the philosophical issue of what is the best way to strengthen a building since they are constructed with short and thick walls that act much different than other thinner types of masonry. Perhaps a separate adobe section is warranted?

Minimum standards:

There are two ways to look at the existing 75% of 1995 CBC forces. Most building officials will say that 75% is the minimum requirement. The codes says “needs not exceed” which is a maximum standard. In earlier versions of the CHBC there were no forces levels stated or referenced. This issue gets to the heart of the problem. What is the minimum standard and how is life safety defined. All of this makes it difficult to combine the existing standards with the new IEBC requirements.

Another problem is the difference between the private sector and the state, where the CHBC is mandated. Private sector can do partial upgrades, except where some other requirement comes into play. The 2007 CHBC will specifically exempt projects from “triggers” that require retrofits or upgrades, so that may not be an issue. There are local ordinances that amend the CHBC for seismic reasons and that may change the intent of the triggers provision in the CHBC.

Performance of the current code. What do we know about the existing CHBC structural performance using the current chapters and forces. There has been 30 + years of experience and no know dramatic failures. There has been two significant events to test the retrofit of buildings in those areas. Review of the 1906 SF EQ indicates that the design of many of the significant buildings was sufficient without modern knowledge. The most basic issue isn't strength, but continuity and lateral load path problems, and ductility of some types of construction. As well, the new codes are basically eliminating values for nails, which are a major element of historic construction.

The issue of definition is important, what defines “failure. FEMA 356 defines “life safety” and “collapse Level”, but are these what the CHBC intends? What is “reasonable safety”. The goal of the CHBC has been to prevent collapse so that there is no loss of life, and the occupants can exit safely. Or “life safety”. The building may be completely unuseable, but it does not collapse. The committee could define a performance standard or reference an existing standard.

This committee should define what the goals are. What are existing standards that can be used? ASCE 41, ATC 58. Note: ASCE 41 will be referenced or a part of the 2007 CBC in Chapter 34.

The committee can explore 2 different approaches:

1. Continue with the existing approach – adjust values to make the IEBC work like the existing 1995 CBC, 75% of IEBC and reference archaic materials tables. Analyze the results of this by running examples to find the problems.
2. Create a performance standard and reference ASCE 41 and reference ASCE 31 as an evaluation tool. Provide exceptions and adjustments in the archaic materials sections to make it work to the CHBC goals.

Note that there are two other codes that should be looked at to see what effect they might have. IEBC Chapter 5 and FEMA policy that CalBo has turned into a model ordinance that would be a local amendment to code.

Loring will work on the Code Based approach.

David and Una will work on the Performance approach.

Roy will work on the performance approach for adobe.

Gary will look at non structural elements.

Meeting adjourned.