

PROPOSAL PUC-1(2008)

SCOPE: Content of Entire Provisions and Commentary

PROPOSAL FOR CHANGE:

1. Revise the 2003 *NEHRP Recommended Provisions* as follows:

Adopt, with three exceptions approved by the PUC and retention of the existing 2003 *NEHRP Recommended Provisions Appendices*, the seismic design requirements contained in ASCE-7-05 as amended by Supplement 1 and the standards referenced therein as the basis for the *2008 NEHRP Recommended Provisions for Seismic Regulations for New Buildings and Other Structures*

2. Revise the 2003 *Commentary* as follows:

Develop a complete new commentary that discusses ASCE-7-05 as amended by Supplement 1 and all the standards referenced therein as modified and updated by Item 1 above.

REASON FOR PROPOSAL:

Under the terms of BSSC's contract with the Federal Emergency Management Agency (FEMA) for the development of the 2008 *NEHRP Recommended Provisions* and *Commentary* documents, the 2003 *Provisions* and *Commentary* are to be completely updated and revised, to the maximum extent practical, to adopt design procedures and requirements by reference to ASCE-7-05 and its referenced standards. This change represents the culmination of a process that has been ongoing since the inception of the BSSC *Provisions* update efforts. Early editions of the *Provisions* contained complete design procedures as well as extensive materials detailing requirements. As the individual materials industries adopted seismic design requirements into their design standards (e.g., ACI 318, AISC Seismic Provisions) these requirements were deleted from the *Provisions* and standards were adopted by reference, sometimes with modifications. Now that ASCE-7 has developed a large and competent seismic task committee, it is possible for the *NEHRP Recommended Provisions* to adopt the general design procedures for buildings as well as those for nonbuilding structures and components by referencing ASCE-7.

The ASCE-7 seismic requirements are developed in a formal ANSI-approved consensus process. The 1998 edition of ASCE-7 was based on the 1997 *Provisions* and made a few modifications to the *Provisions*. Since that time, the ASCE-7 Seismic Task Group (STG) has considered all changes to the *Provisions* and moved those forward, sometimes with modification and sometimes with additional proposals. The ASCE-7 STG and the BSSC *Provisions* Update Committee have coordinated their efforts. In general, the STG has requested that proposals involving new systems or design procedures and proposals

representing radical changes to the *Provisions* be considered by the BSSC process prior to being adopted by ASCE-7. However, the STG has acted freely in making relatively minor modifications and adjustments to the *Provisions* as it adopted them. These modifications were sometimes intended to add clarity and sometimes to add technical improvement. The result of this process is that the ASCE-7-05 seismic requirements are technically very similar but not identical in every respect to the 2003 *Provisions*. Key differences include the following:

1. The ASCE-7-05 seismic section has been completely reformatted and presents requirements in a different order than does the *Provisions*. This reformatting was undertaken to present the requirements material in the sequence followed by design professionals and present requirements that do not routinely affect the design process in the last portion of the document
2. The Supplement to ASCE-7-05 adopts updated standards (generally the 2005 editions) by reference. The 2003 *Provisions* generally adopted earlier editions of these standards, often making modifications to the adopted standard within the body of the *Provisions*. Since many of these modifications are reflected in the updated editions of the standards, ASCE-7-05 does not include the 2003 *Provisions* modifications within the body of its text.
3. ASCE-7-05 includes some structural systems that are not covered in the 2003 *Provisions*, but have been present in the model building codes. In addition, to be compatible with the codes, the ASCE-7-05 requirements also reflect some changes to the R , C_d , and Ω_0 coefficients and the height and seismic design category limits presented in the 2003 *Provisions*.

Detailed comparisons of the technical differences between the 2003 *Provisions* and the parallel requirements of ASCE-7-05 as modified by Supplement No. 1 and its referenced standards are provided as attachments to this proposal.

The intent of this proposal is to permit the Provisions Update Committee (PUC) to move forward with the development of the 2008 *Provisions* without having to go through a formal resolution process on every technical difference between the 2003 *Provisions* and the referenced standard. Because the BSSC working groups will no longer be burdened with the time-consuming process of maintaining a code-like document, this change will reestablish the BSSC *Provisions* program as the venue in which new technologies and procedures for seismic-resistant design are debated, established, developed, and placed into useable form.

It is expected that the 2008 *Provisions* will have three basic parts:

- Part 1 will include the charging language requiring use of ASCE-7-05 including Supplement 1 and the standards referenced therein. It will also include any exceptions to ASCE 7-05 including Supplement 1 and the standards referenced therein. Exceptions that appear in this part will represent the BSSC's recommendations to the standards development organizations and

will serve as the foundation for positions to be taken by the BSSC's Code Resource Support Committee in dealing with the model codes.

- Part 2 will be a complete new Commentary that will include a brief introduction and the sections will reflect the numbering system found in ASCE-7-05. The text will be short on history and long on providing useful explanation of the seismic requirements. The goal is to make this Commentary the number one reference for all users of ASCE 7-05
- Part 3 will focus on new technologies, procedures, and systems. In this part, new materials not currently addressed in the referenced standards may be introduced for consideration by the design community, researchers, the standards development organizations, and building codes. Generally, it is intended that information introduced in this part would be available for use by design professionals on a provisional basis but would be addressed by the relevant standards development organization prior to being adopted by the building codes.

INSTRUCTIONS FOR BALLOTING:

The official ballot consists of 34 individual ballot items that cover specific technical topics. The relevant sections of ASCE 7-05 including Supplement 1 and the referenced standards covered by the ballot item are identified. A vote is required for each item.

A “**yes**” vote on a specific ballot item means that, for the specific technical topic(s) covered by that ballot item, the ASCE-7-05 requirements as modified by Supplement 1 and the standards referenced therein would become the basis for Part 1 of the 2008 *Provisions*. To the extent that these referenced standards differ technically from the 2003 *Provisions*, a “yes” vote on the ballot item accepts these differences.

A “**yes with reservations**” vote on a specific ballot item would have the same result as a “yes” vote in terms of what would become the basis for Part 1 of the 2008 *Provisions*; however, the voter's reservations would identify a technical difference or differences between the 2003 *Provisions* and the referenced standards that the voter believes must be addressed/resolved by a technical subcommittee during the remainder of the update cycle. These “reservations,” if found persuasive by the Provisions Update Committee, would essentially become “unresolved issues” and the appropriate technical subcommittee will be charged to **either** submit a specific proposal for change to establish exceptions to the referenced standards (which would then go through the entire balloting and approval process as established by the BSSC Charter and, if approved, appear in Part 2 1 **or** submit to the PUC a statement supporting acceptance of the ASCE-7-05 requirements as modified by Supplement 1 and the standards referenced therein. Note that reservations suggesting technical changes other than those concerned with either adoption of the 2003

Provisions language as opposed to the ASCE 7 language will be considered nonresponsive in this ballot.

A “**no**” vote on a specific ballot item means that the voter wishes to retain specific technical requirements that appear in the 2003 *Provisions* that are technically different from those in ASCE 7-05 including Supplement 1 and the standards referenced therein. Negative ballots to this proposal must identify the specific technical requirements contained in the 2003 *Provision* that the voter wishes to retain in lieu of the requirements contained in the reference standards. In those cases where a technical matter or requirement appears in the referenced standards but the same matter is not treated at all in the 2003 *Provisions* (e.g., a structural system of some sort) and the voter believes that the implied exclusion of the matter by the *Provisions* should be continued, the exceptions to the standard or standards that the voter would like to include in the *Provisions* must be described in sufficient detail that the Provisions Update Committee can understand the scope of what is to be excluded.

All negative ballots must include a reason for the negative ballot as well as specific technical changes in the form of proposed exceptions to the referenced standards. Please note that the following negatives will be deemed to be non-responsive and out of order:

1. Negatives without a recommended change to one or more of the referenced standards,
2. Negatives without a substantiating argument in favor of the proposed change, and
3. Negatives that include changes to the referenced standards that are outside the existing requirements of the 2003 *NEHRP Recommended Provisions*.

If a specific ballot item does not receive the required percentage of positive votes, the specific requirements of the 2003 *Provisions* rather than those contained in the referenced standards will form the basis for the 2008 *Provisions*, and those specific requirements retained from the 2003 *Provisions* will automatically appear in Part 1 of the 2008 *Provisions* unless further revised during the update cycle.

Note that the Provisions Update Committee will not, in response to this ballot, attempt to make technical changes either to the 2003 *Provisions* or to formulate specific exceptions to the requirements of ASCE-7-05 and standards referenced therein. However, the Provisions Update Committee may, in resolving responses to this ballot, propose to adopt portions of ASCE-7-05 together with portions of the 2003 *Provisions*, without technical modification, as the basis for the 2008 *Provisions*.

Also note, that the 2003 *Provisions* contains several appendices. These have not been brought forward into ASCE-7-05 and are not affected by this ballot. The 2003 *Provisions* appendices will appear in Part 3 of the 2008 *Provisions* unless subsequent successful proposals move these into Part 1 of the document. At this time, however, these appendices are not addressed in this ballot.

BALLOT

Building Seismic Safety Council 2008 NEHRP Provisions Update Member Organization Ballot PUC-1(2008)

Ballot Item	Technical Topic	Yes	Yes with Reservation	No	Not Voting
1	Scope, Applicability, Definitions & Notation <i>ASCE-7-05 Sec. 11.1, 11.2 and 11.3</i>				
2	Alterations to Existing Buildings <i>ASCE-7-05 Appendix 11.0B</i>				
3	Ground Motion Determination, Geologic Hazards and Geotechnical Investigation <i>ASCE-7-05 Sec. 11.4, 11.8, 20, 21, 22</i>				
4	Occupancy Category & Importance Factors <i>ASCE-7-05 Sec. 11.5</i>				
5	Seismic Design Category Determination <i>ASCE-7-05 Sec. 11.6</i>				
6	Requirements for Seismic Design Category A structures <i>ASCE-7-05 Sec. 11.7</i>				
7	General Requirements for Building Structures <i>ASCE-7-05 Sec. 12.1</i>				
8	Structural System Selection and Requirements (includes R factor table, height and design category limits) <i>ASCE-7-05 Sec. 12.2</i>				
9	Diaphragm Flexibility, Configuration and Redundancy <i>ASCE-7-05 Sec. 12.3</i>				
10	Load Effects, Combinations and Direction of Loading <i>ASCE-7-05 Sec. 12.4, 12.5</i>				
11	Analysis Procedure Selection and Modeling Requirements <i>ASCE-7-05 Sec. 12.6, 12.7</i>				
12	Simplified Design Procedure <i>ASCE-7-05 Sec. 12.14</i>				
1 3	Equivalent Lateral Force Procedure <i>ASCE-7-05 Sec. 12.8 except that Sec. 5.2.6.2 of the 2003 NEHRP will be retained in place of Sec. 12.8.7 of ASCE-7-05)</i>				
14	Linear Dynamic Procedure (response spectrum) <i>ASCE-7-05 Sec. 12.9</i>				

15	Linear Dynamic Procedure (time history) <i>ASCE-7-05 Sec. 16.0</i>				
16	Nonlinear Dynamic Procedure (time history) <i>ASCE-7-05 Sec. 16.0</i>				
17	Requirements for Soil Structure Interaction <i>ASCE-7-05 Sec. 19</i>				
18	Diaphragms, Chords, Collectors <i>ASCE-7-05 Sec. 12.10</i>				
19	Anchorage of walls to diaphragms <i>ASCE-7-05 Sec. 12.11</i>				
20	Drift & Deflection <i>ASCE-7-05 Sec. 12.12</i>				
21	Foundation Design Requirements <i>ASCE-7-05 Sec. 12.13</i>				
22	Mechanical, Electrical and Architectural Components <i>ASCE-7-05 Sec. 13</i>				
23	Nonbuilding Structures General Requirements <i>ASCE-7-05 Sec. 15.1, 15.2, 15.3, 15.14 (excluding Tables 15.4.1 & 15.4.2)</i>				
24	Nonbuilding Structures with Seismic Force Resisting Systems like Buildings <i>ASCE-7-05 Sec. 15.5 & Table 15.4-1</i>				
25	Nonbuilding Structures with Seismic Force Resisting Systems unlike Buildings <i>ASCE-7-05 Sec. 15.6, 15.7, & Table 15.4-2</i>				
26	Requirements for Steel Structures <i>ASCE-7-05 Sec. 14.1</i>				
27	Requirements for Concrete Structures <i>ASCE-7-05 Sec. 14.2 except that Sec. 9.6 of the 2003 NEHRP on Acceptance Criteria for Special Precast Structural Walls Based on Validation Testing will be retained.</i>				
28	Requirements for Composite Steel/Concrete Structures <i>ASCE-7-05 Sec. 14.3</i>				
29	Requirements for Masonry Structures <i>ASCE-7-05 Sec. 14.4</i>				
30	Requirements for Wood Structures <i>ASCE-7-05 Sec. 14.5 except that Sec. 12.4 of the 2003 NEHRP on Conventional Light-Frame Construction will be retained in lieu of the ASCE reference to the International Residential Code.</i>				
31	Requirements for Seismic Isolation				

	<i>ASCE-7-05 Sec. 17</i>				
32	Requirements for Structures with Damping Systems <i>ASCE-7-05 Sec. 18</i>				
33	Quality Assurance Requirements <i>ASCE-7-05 Appendix 11A</i>				
34	Completely rewrite commentary				

Member Organization _____

Representative or Alternate _____

Date _____