

**PUC MAIL BALLOT COMMENTS  
ON INTEGRATING ASCE 7-05  
PUC-1  
BALLOT ITEMS 1 through 34**

*At the beginning of the PUC meeting on May 16, 2005 in Las Vegas, Chairman Ron Hamburger explained to the group that the Yes with Reservations comments would be forwarded to the appropriate TS for consideration during the update cycle. This appeased many concerns and allowed the review of comments to proceed at a much quicker pace. Consequently, this ballot comment document will be forwarded to all TS chairs for use in the upcoming months to identify and resolve several issues for the 2008 update.*

**Ballot Item 1 (Y=20, YR=3, N=0, NV=2 --100%)**

*Since this was the first substantive ballot proposal for discussion, the Cobeen comment prompted additional explanation of the intent and purpose of this ballot. Cobeen was assured that the comments she raised, because there were several differences pointed out by the Report on Differences, that they would in fact be provided to the TS chairs for consideration. They may decide not to take any action which means that the TS accepts the ASCE 7-05 position. Furthermore, the PUC chair pointed out that if the differences were minor in nature, they probably would not be considered at all. If the difference was major, then the TS could submit a proposal to be considered to go back and accept the 2003 NEHRP or a modification.*

*Consequently, this resolved many of the concerns of the other Ballot Item 1 comments and the PUC voted to accept this ballot item Yes=23, No=0, NV=0.*

**Cobeen (Yes, with similar comment on all ballot items):** At the January PUC meeting it was discussed that the technical subcommittees could choose whether or not to further pursue resolution of differences between the documents. My yes vote in all categories is based on the subcommittees being able to address differences if of concern, or choose not to if not of concern. If this is no longer the case, my vote needs to change to yes with reservations for Items 1-33 so that reported differences can be considered. In particular I am concerned that Item 1 (exemptions), Item 9 (diaphragm flexibility), and Item 30 (NEHRP amendments, phi factors, etc.) be addressed.

**Kircher (YR):** I have not voted for certain sections/topics that I feel either (1) do not belong in the Provisions for new buildings (e.g., Alterations) or (2) would be better covered by stand-alone, topic-specific documents (e.g., document just for nonbuilding structures).

**Gillengerten (YR):** In ASCE 7 Section 11.1.2, the language in the *Provisions* Exception for structures on soft sites should be retained.

**Aschheim (YR):** Follow ROD recommendation for 11.1.1.

**Ballot Item 2(Y=21, YR=0, N=0, NV=4 --100%)**

*At the beginning of the PUC meeting, the Chair identified the 8 ballot items where there were no comments and would appear that there is total acceptance by the PUC. Once these were identified, members were allowed comment. Without any substantive comment, the PUC accepted all 8 by a vote of Yes=23, No=0, NV=0*

**Ballot Item 3 (Y=23, YR=0, N=1, NV=1 --96%)**

*The Borchardt No comment was withdrawn. The comment was broken down into 4 pieces and the first was considered editorial or formatting (location of maps in ASCE-7). On item 2 it was proposed that Mr. Borchardt contact Jim Rossberg of ASCE to see if the comment on metric units could be inserted in ASCE 7 and on item 3 ask Mr. Rossberg if commentary could be provided on the definition of Site Class E. Item 4 was changed from No to YR with the understanding that the TS would take under advisement. Once resolved, the PUC voted to accept this ballot item Yes=21, No=0, NV=1.*

**Borchardt (No):**

- 1). Ground Motion determination and site classification occurs in 6 ASCE-7-05 chapters as opposed to 2 NEHRP chapters. Rendering site classification procedures (20), site specific procedures (21), and the seismic design maps (22) to the end of the provisions causes the reader to refer back and forth from the near the beginning of the document to the end in order to develop a ground motion estimate for design. This makes it more difficult for the reader to understand and develop ground motion estimates for design. I recommend that chapters 20, 21, and 22 be placed in the volume where they are referred to in corresponding sections of ASCE-7-05 11.4.
- 2). Elimination of metric units is not consistent in ASCE-7-05 Chapter 20. They should be included in Table 20.3-1 as in NEHRP version.
- 3). 20.3.2 *Soft Clay Site Class E* – This section and definition of site class E does not exist in NEHRP version. It is not consistent with Table 20.3-1. Definition should include requirement that  $\bar{v}_s < 600$  ft/s (180 m/s).
- 4). 21.1.2 *Site Condition Modeling* – This section includes new technical items not approved by NEHRP consensus process. The statement that the “...site response model is permitted to be terminated where the soil stiffness is at least as great as the values used to define Site Class D in cases where very deep soil profiles make the development of a soil

model to bedrock impractical...”, seems to negate the concept of thorough and in depth site specific estimates under which site specific modeling was approved for the 2003 provisions. Site response (SHAKE) analyses that do not account for the thickness of thick sections of site class D and or C soils beneath site-class D and E soils are likely to significantly underestimate site response, especially at periods longer than 1 second. As a result the primary objective for a site specific estimate would not be achieved. I recommend that the original 2003 NEHRP wording be used or that a special proposal with the rewrite of this section be submitted for ballot.

**Ballot Item 4 (Y=24, YR=0, N=0, NV=0 --100%)**

*At the beginning of the PUC meeting, the Chair identified the 8 ballot items where there were no comments and would appear that there is total acceptance by the PUC. Once these were identified, members were allowed comment. Without any substantive comment, the PUC accepted all 8 by a vote of Yes=23, No=0, NV=0*

**Ballot Item 5 (Y=23, YR=0, N=0, NV=2 --100%)**

*At the beginning of the PUC meeting, the Chair identified the 8 ballot items where there were no comments and would appear that there is total acceptance by the PUC. Once these were identified, members were allowed comment. Without any substantive comment, the PUC accepted all 8 by a vote of Yes=23, No=0, NV=0*

**Ballot Item 6 (Y=26, YR=0, N=0, NV=3 --100%)**

*At the beginning of the PUC meeting, the Chair identified the 8 ballot items where there were no comments and would appear that there is total acceptance by the PUC. Once these were identified, members were allowed comment. Without any substantive comment, the PUC accepted all 8 by a vote of Yes=23, No=0, NV=0*

**Ballot Item 7 (Y=24, YR=0, N=0, NV=1 --100%)**

*At the beginning of the PUC meeting, the Chair identified the 8 ballot items where there were no comments and would appear that there is total acceptance by the PUC. Once these were identified, members were allowed comment. Without any substantive comment, the PUC accepted all 8 by a vote of Yes=23, No=0, NV=0*

**Ballot Item 8 (Y=18, YR=4, N=0, NV=3 --100%)**

*The Gillengerten comment prompted a detailed discussion. The last sentence highlighted that the redundancy factor 1.0 should be retained. It appears that this was an inadvertent drop in ASCE 7 and the PUC entertained the motion “The 2003 NEHRP sections on redundancy for moment frames be retained” as the easiest way to fix the omission. This passed Yes=21, No=0, NV=2. This exception was passed by the PUC to retain part of NEHRP. This was later determined not to be necessary. Footnote “b” of table 12.12.-1 in ASCE 7 addresses this issue thus eliminating the need for an exception. The other comments were considered accepted since they will be passed to the TS for consideration. This ballot item passed Yes=21, No=0, NV=1.*

**Bachman (YR):** I request that TS-2/12 either change the R and Omega Zero values for Special Masonry Shear Walls to those found in the 2003 NEHRP Provisions or justify the values in ASCE 7-05. I also request that TS-2 either change the 160 feet height limit to NP for Ordinary Reinforced Masonry Shear Walls in SDC “C” or justify the height limit found in ASCE 7-05.

**Gillengerten (YR):** The inverted pendulum systems and cantilever column systems need additional development. The height limits for ordinary reinforced masonry shear walls are too liberal in ASCE 7, going from NP to 160 ft. The requirement for redundancy factor = 1.0 for SMRF’s should be retained.

**Aschheim (YR):** Follow ROD recommendation for 12.2.1, 12.2.2, 12.2.3, 12.2.3.1, 12.2.3.2, 12.2.5.5.

**Line (YR):** The inclusion of “light-framed wall with shear panels of all other materials” in the *NERHP Provisions* fills a long standing gap between the *Provisions* and other documents such as *ASCE 7* and the model building codes. In addition, it will also begin the process of reconciling the difference in treatment of other materials such as gypsum wallboard and fiberboard within the *Provisions*. Presently, gypsum wallboard and fiberboard are permitted to be used in accordance with 12.4 Conventional Light-Frame Construction of the *Provisions* but there is no means to provide an engineered solution for lateral resistance where these other materials are used.

To address these issues, a study recommended by the AF&PA Subcommittee on Structural Design was initiated in 2002. The final report of the study was first available in 2004 - *Monotonic and Cyclic Tests of Shear Walls with Gypsum Wallboard, Fiberboard, and Hardboard Sheathing*. The report presents results of 45 wall tests with various sheathing materials (gypsum wallboard, fiberboard, hardboard, and OSB), combinations of sheathing materials and two end restraint conditions (full end-restraint and no end-restraint). I would like to encourage consideration of these results as well as

other recent test results when evaluating the appropriateness of seismic design coefficients for the system “light-framed wall with shear panels of all other materials”.

**Ballot Item 9 (Y=20, YR=2, N=0, NV=3 --100%)**

**Aschheim (YR):** Follow ROD recommendation for 12.3.2.2, 12.3.4, 12.3.4.1, 12.3.4.2.

*The Aschheim comment was satisfied by knowing that the comment will be passed to the TS. The Line comment too will be considered, but is not considered significant to not adopting ASCE 7. This ballot item passed Yes=18, No=0, NV=0.*

**Line (YR):** The figure is a good addition. Note that an “editorial” type change was implemented in the *Provisions* under the definition flexible diaphragm. The change used the term “deflection” consistently throughout the paragraph to avoid comparison of elastic deflection of the diaphragm to amplified deflection (sometimes called drift) of the vertical elements.

**Ballot Item 10 (Y=21, YR=2, N=0, NV=2 --100%)**

*The Aschheim comment was accepted knowing that the TS would consider. The Leyendecker comment was withdrawn since the language of ASCE 7 will remain as is. This ballot item passed Yes=21, No=0.*

**Aschheim (YR):** Follow ROD recommendation for 12.4.4, 12.5, 12.5.4.

**Leyendecker (YR):** This is not actually a reservation. I just want to note that I think the *Provisions* wording regarding prestress is commentary material. Keep 12.4.4 as is.

**Ballot Item 11 (Y=23, YR=1, N=0, NV=1 --100%)**

*The Aschheim comment was accepted knowing that it will be considered by the TS. This ballot item passed Yes=18, No=0.*

**Aschheim (YR):** The implications of relaxed modeling requirements of 12.7.3 need to be considered. The ROD recommendation on the *Provisions Appendix* for the NSP should be considered.

**Ballot Item 12 (Y=20, YR=2, N=0, NV=3 --100%)**

*The Leon comment was satisfied by the discussion that the simplified design method included all bearing and braced frame systems. The Aschheim comment was satisfied by having it passed to TS for consideration. This ballot item passed Yes=22, No=0.*

**Leon (YR):** I am in favor but all structural systems in the Provisions should be included in ASCE 7.

**Aschheim (YR):** Follow ROD recommendation for 12.14.1, 12.14.1.1, 12.14.2.2.1, 12.14.2.2.2, 12.14.3.2, 12.14.3.2.1, and 12.14.3.2.2

**Ballot Item 13 (Y=20, YR=3, N=1, NV=3 --96%)**

*This item generated two specific items for consideration. The first pertains to how 2003 Provisions appendix material will be handled. The chair proposed an administrative motion that all appendix material presently in 2003 NEHRP be presented in Part 3 of the 2008 NEHRP “New Technologies” unless a TS proposes that it be moved into the main body of the Provisions (Part 1). This was balloted and passed Yes=23 (unanimous).*

*This second issue generated exception to ASCE 7. The 3 YR and 1 No comment are based on retaining the P-Delta provisions of 2003 NEHRP. Presently, the 2003 NEHRP sections on P-Delta can require the designer to perform a nonlinear static analysis under certain conditions. These are not covered by ASCE 7 so the P-Delta requirements were not carried forward during ASCE 7 development. Mr. Aschheim proposed a motion to retain the 2003 NEHRP requirements on P-Delta effects and this was passed Yes=15, No=7, NV=0.*

*The full ballot item was passed Yes=16, No=0,*

**Leon (YR):** The provisions and ASCE should agree on a better treatment of stability effects and pushover analysis should be included in ASCE 7.

**Gillengerten (YR):** The P-delta provisions of *Provisions* Section 5.2.6.2 should be retained.

**Aschheim (No):** Recent changes made to the Provisions 5.2.6.2 should be retained in place of ASCE 12.8.7, along with the Provisions Appendix on the NSP.

**Leyendecker (YR):** My reservation is with Section 12.8.7 on P-Delta. The report on differences has identified differences between the Provisions and ASCE7 that I think should be reviewed. This has often been a troublesome area in the Provisions so perhaps something can be done about it.

**Ballot Item 14 (Y=24, YR=0, N=0, NV=1 --100%)**

*At the beginning of the PUC meeting, the Chair identified the 8 ballot items where there were no comments and would appear that there is total acceptance by the PUC. Once these were identified, members were allowed comment. Without any substantive comment, the PUC accepted all 8 by a vote of Yes=23, No=0, NV=0*

**Ballot Item 15 (Y=23, YR=1, N=1, NV=0 --96%)**

*The Borchardt comment can be resolved by cross-referencing. This was proposed by Mr. Borchardt and he withdrew his comment. The Leyendecker comment was presented to point out an error in the Report on Differences and this will be corrected. The PUC voted to accept this ballot item Yes=20, No=0.*

**Borchardt (No):** This section provides yet another procedure for estimating ground motions and using the results to estimate response. It needs to state under which conditions it can be applied or reference other sections of the code which recommend this procedure.

**Leyendecker (YR):** I don't think I have a reservation. I am puzzled by the Report on Differences comment on 16.1.3.2. The report on differences says the section does not permit the use of 11.4.5. However it does appear to allow either 11.4.5 or 21.2 in the last sentence of the section.

**Ballot Item 16 (Y=22, YR=0, N=1, NV=2 --96%)**

*Borchardt withdrew his comment and the PUC voted to pass this ballot item Yes=20, No=0.*

**Borchardt (No):** This section provides yet another procedure for estimating ground motions and using the results to estimate response. It needs to state under which conditions it can be applied or reference other sections of the code which recommend this procedure.

**Ballot Item 17 (Y=20, YR=1, N=1, NV=3 --95%)**

*The Aschheim comment was accepted knowing that the issue will be reviewed by the TS. The Leyendecker comment was changed to a YR vote since it could not be established why ASCE 7 differed from 2003 NEHRP. Knowing that it will be reviewed by the TS was satisfactory to Dr. Leyendecker. The PUC voted Yes=23, No=0 to accept this ballot item.*

**Aschheim (YR):** Follow ROD recommendation for 19.2.1.1.

**Leyendecker (No):** I am concerned about a number of differences between ASCE 7 and NEHRP 2003. The report on differences points the difference between the ASCE 7 use of  $S_{D1}$  in Table 19.2.1 versus the NEHRP use of  $S_{DS}/2.5$  in Table 5.6.1. I'm not sure why the change was made. ASCE7 also uses  $A_V$  in the text, possibly because of using  $S_{D1}$  in the table, when referring to Figure 19.2-1. However the figure uses  $S_{DS}/2.5$ . The same figure in NEHRP uses  $S_{DS}/2.5$ . So I don't know what the actual intent is in ASCE 7. I think we should stick with  $S_{DS}/2.5$ . I also prefer NEHRP. It seems to be put together a little better. At any rate SSI should be reviewed before going with ASCE 7.

**Ballot Item 18 (Y=20, YR=2, N=0, NV=3 --100%)**

*The Gillengerten comment was discussed and it is believed that the best way to cover this issue is to provide explanation in the Commentary when developed. The Aschheim comment will also be forwarded to the TS for consideration. The PUC voted Yes=23, No=0 to pass this ballot item.*

**Gillengerten (YR):** The sections of the *Provisions* covering openings in shear walls should be retained.

**Aschheim (YR):** Follow ROD recommendation for 12.10.1.

**Ballot Item 19 (Y=20, YR=1, N=0, NV=4 --100%)**

*The Aschheim comment was resolved by the fact that it will be passed to the TS for consideration. The PUC passed this ballot item Yes=23, No=0.*

**Aschheim (YR):** Follow ROD recommendation for 12.11.1, 12.11.2, 12.11.2.1, 12.11.2.2.

**Ballot Item 20 (Y=21, YR=2, N=0, NV=2 --100%)**

*The Aschheim comment was accepted based on the fact that it will be forwarded to the TS for review. The Leyendecker comment provoked considerable discussion. Special reinforced masonry moment frames were dropped from ASCE 7. Several felt that since its introduction into NEHRP over 10 years ago, the industry standard has not accepted it to date and therefore is not needed. Furthermore, it was determined this system is not used very much but it could be helpful as a place holder for future consideration. The PUC considered a motion to retain the system outlined in 2003 NEHRP, but it was not approved by a vote of Yes=8, No=9, NV=0. However, since this comment is a YR, it will be forwarded to the TS for consideration. The PUC went on to approve the ballot item as proposed Yes=17, No=1, NV=4.*

**Aschheim (YR):** Follow ROD recommendation for 12.12.1.

**Leyendecker (YR):** I agree with the report on differences that we should evaluate whether or not the special reinforced masonry moment frame should be a modification to ASCE 7.

**Ballot Item 21 (Y=19, YR=2, N=1, NV=3 --95%)**

*The three comments were withdrawn or are satisfied by the fact that they will be considered by the TS in the update cycle. The PUC passed this ballot item by Yes=21, No=0.*

**Gillengerten (YR):** Make the suggested modification to ASCE 7 Section 12.13.6.8.

**Aschheim (YR):** Follow ROD recommendation for 12.13.6.8, 12.13.7 and Provisions Appendix to Chapter 7.

**Ghosh (No):** I am still not convinced of the wisdom of moving much of the foundation design provisions to the materials chapters. In my opinion, the provisions should remain in the foundation chapter, until that becomes unnecessary because the materials standards have included provisions covering the same topics.

**Ballot Item 22 (Y=18, YR=3, N=0, NV=4 --100%)**

*The Bachman and Aschheim comments were satisfied by the fact that the comment will be provided to the TS for review. The Leyendecker comment is satisfied by the fact of the earlier decision that all appendix material will be included in Part 3. The PUC approved this ballot item by Yes=21, No=0.*

**Bachman (YR):** I request that TS-8/13 that  $T_{flx}$  in NEHRP Section 6.2.6 be retained and added as a change in ASCE 7-05. Recent analytical and empirical studies by Miranda, et al indicate that the  $T_{flx}$  value in NEHRP is a reasonable cutoff frequency and should be maintained.

**Aschheim (YR):** Follow ROD recommendations for 13.2.2 and 13.1.6, 13.3.1, 13.5.8, 13.5.8.1, 13.6.3, 13.6.11, 13.6.8.2, 13.6.8.3, and for Provisions Appendix to Chapter 6 on Piping Systems.

**Leyendecker (YR):** Keep the Appendix on Piping Systems.

**Ballot Item 23 (Y=16, YR=3, N=0, NV=6 --100%)**

*The Gillengerten comment was resolved by the TS8 chair who believes that the ASCE7 wording is OK. The comment will be reviewed by the TS. This too holds for the Aschheim comment. The Sprague comment was withdrawn since it will be covered under an upcoming ballot item. The PUC approved this ballot item Yes=23, No=0.*

**Gillengerten (YR):** Exception 1 in Provisions Sec. 14.2.8 should be retained (ASCE 7 15.1.2).

**Aschheim (YR):** Follow ROD recommendation for 15.1.1, 15.2, Provisions Appendix to Chapter 14.

**Sprague (YR):** Why are we excluding the tables?

**Ballot Item 24 (Y=18, YR=0, N=0, NV=7 --100%)**

*At the beginning of the PUC meeting, the Chair identified the 8 ballot items where there were no comments and would appear that there is total acceptance by the PUC. Once these were identified, members were allowed comment. Without any substantive comment, the PUC accepted all 8 by a vote of Yes=23, No=0, NV=0*

**Ballot Item 25 (Y=16, YR=1, N=0, NV=8 --100%)**

*The Achheim comment will be considered by the TS and the PUC approved this ballot item Yes=21, No=0.*

**Aschheim (YR):** Follow ROD recommendation for 15.6.1, 15.7.6, 15.7.7.3, 15.7.10.5, 15.7.10.6, 15.7.11.2, 15.7.12.2

**Ballot Item 26 (Y=20, YR=2, N=0, NV=3 --100%)**

*The Bachman and Leon comments were similar and were satisfied that they will be considered by the TS during the update cycle. The PUC approved this ballot item Yes=21, No=0.*

**Bachman (YR):** AISC TC-9 is currently balloting two important supplemental changes to AISC 341-05. It is currently the planned for this supplement to be adopted by the 2006 IBC along with AISC 341-05. I request that TS-6 change the adopted reference in ASCE 7-05 with Supplement 1 from AISC 341-05 to AISC 341-05 with Supplement 1 provided that this supplement is approved in a timely manner.

**Leon (YR):** When inconsistencies arise, adopt provisions from ANSI 341-05

**Ballot Item 27 (Y=17, YR=2, N=3, NV=3 --86%)**

*The Bachman comment is satisfied by the fact that a TS will review this comment. The main discussion centered on the Hawkins No vote which is in three parts. The first part is a comment that asks that Section 9.6 of the 2003 NEHRP be retained since it is not covered by ASCE 7. A motion was proposed and the PUC voted Yes=22, No=0 to retain Section 9.6. The second Hawkins comment was questioned and several believe that the existing ACI 318, Appendix B provisions are the best available. Consequently, Hawkins withdrew his No vote to a YR to allow the comment to be reviewed by the TS and possibly study this issue before it is brought back to the PUC. The third Hawkins comment was considered out of order by the chair. It does not pertain to technical content but order of document which is not the purpose of this meeting or ballot. The Aschheim comment will be forward to TS for review. The first comment from Wood is the same as Hawkins first comment to retain Sec.9.6. The Wood second comment was found to be out of order. The Ghosh comments are similar to the Hawkins' comments. The PUC passed this ballot Yes=19, No=0.*

**Bachman (YR):** I recommend that the changes proposed for Pile Group effects (2003 NEHRP Section 7.5.4) recommended in the Report of Differences report be made to ASCE 7-05 with Supplement 1.

**Hawkins (No):** ASCE 7-05 Sec. 14.2.

There are three reasons for this vote.

1. The 2003 Provisions Sec. 9.6 provide “Acceptance Criteria for Special Precast Structural Walls Based on Validation Testing”. No corresponding provision exists in ASCE 7-05 and the Sec. 9.6 provision should be retained. The ASCE 7-STG determined not to include the Sec. 9.6 provision in ASCE 7-05 because the material was in their opinion still under development. They preferred to wait until ACI 318 was amended to include a provision equivalent to Sec. 9.6. The ACI Specification that can replace Sec. 9.6 is still under development. It is on track to be possibly included in ACI 318-08 but can easily be side-tracked to ACI 318-11 or equivalent. In either case, the elimination of Sec. 9.6 would appear to imply a lack of continued endorsement of that procedure by BSSC.
2. What appears in ASCE 7-05 Sup.1 for anchors with diameters larger than 2 inches or depths greater than 25 inches is not necessarily valid. That provision which is 14.2.2.8 is carried over from prior editions of ASCE 7-05 and the concrete sub committee of ASCE 7-STG encountered strong resistance when they tried to withdraw the provision. The difficulty is that when ACI 318 does not have adequate information to write a provision on a specific issue, it prefers to be silent on the issue. The policy in ASCE-STG appears to be different. There is now evidence now from some testing of large diameter anchor bolts that the ASCE 7 provision may be non-conservative.

The whole issue of anchorage to concrete and masonry deserves continued attention by the BSSC because that the forum that can best deal with developing consistent provision for anchoring to concrete and masonry. Currently, the anchorage provisions for those two materials are not consistent. Further, the precast concrete industry has determined, through an extensive testing program, that the Appendix D provisions of ACI 318 are too conservative when applied to stud welded connectors. More appropriate provisions would be provisions paralleling those for stud shear connectors for composite steel and concrete construction.

3. What appears in ASCE 7-05 in Sec. 14.2.3.2.6, the equation in Item 5 for the required amount of spiral in precast prestressed concrete piles is not adequately justified in the opinion of the concrete sub-committee of the ASCE 7-STG. The concrete pile provision of ASCE 7 were transferred from the foundation chapter to the materials chapter as an “editorial” modification at the end of the ASCE 7 cycle. The concrete sub-committee had not adequately considered the implications of those provisions previously.

**Aschheim (YR):** Follow ROD recommendation for 14.2.1, 14.2.2.18 and Provisions 9.6 and Appendix to Chapter 9.

**Wood (No):** I voted against item 27 for two reasons:

- (1) The current information in 9.2.2.4 and 9.6 on special precast structural walls would be lost if ASCE 7-05 were adopted. Although an ITG within ACI is

nearing completion of a draft set of provisions related to this class of wall, there is no guarantee that these provisions will be standardized and adopted by reference in ACI 318-08. Therefore, it is premature to delete the acceptance criteria.

- (2) Exception in 14.2.2.18 of ASCE 7-05 describes conditions under which testing of anchors is not required. The concrete community has approved a standardized document (ACI 355.2) which includes testing requirements for post-installed mechanical anchors. I do not believe that the 2008 NEHRP Recommended Provisions should ignore a set of standardized tests without more consideration.

I do agree with the statement that format of Chapter 9 in the 2008 NEHRP Recommended Provisions should be updated and revised.

**Ghosh (No):** An affirmative vote would mean we would lose the provisions for non-emulative design of special precast concrete shear walls. Inclusion of these provisions took a lot of effort and consumed a lot of PUC time. We are trying to get similar provisions adopted into ACI 318. However, that cannot happen until the 2008 edition of that document, at the earliest. I think these provisions need to be retained.

Also, as I said, I am not convinced about the wisdom of moving concrete-related foundation design provisions to the concrete chapter.

### **Ballot Item 28 (Y=21, YR=0, N=1, NV=3 --95%)**

*Aschheim's comment believes that the issue should be discussed but this PUC is not the proper forum to do so. He withdrew the comment and the PUC voted to accept the ballot item Yes=20, No=0.*

**Aschheim (No):** ASD is incompatible with the philosophy of capacity design. We should aim for conceptual clarity and not embrace a return to ASD.

### **Ballot Item 29 (Y=15, YR=3, N=2, NV=5 --90%)**

*The Bachman comment was satisfied by the fact that it will be considered by TS 5. The Hawkins No comment was discussed and Hawkins requested to change his No to YR to allow this comment to be reviewed by TS 5. The Aschheim comment was satisfied by the fact that it will be considered by TS 5. The Martin comment was satisfied by the fact that it will be covered by TS 5. The Thompson No comment was changed to a YR to allow it to be reviewed by the TS. The PUC voted to accept this ballot item Yes= 21, No=0.*

**Bachman (YR):** I recommend that the changes identified in the Report of Differences Report be made to ASCE 7-05 or reasons for not making the changes justified.

**Hawkins (No): ASCE 7-05 Sec. 14.4**

The voter's concern with the provisions for anchorage to masonry of ASCE 7-05 have been explained in his No vote on Sec. 14.2.

However, the voter's main concern with ASCE 7-05's masonry provisions is the use of ACI 530/ASCE 5/TMS 402-05 as the reference document. That document contains in Appendix A seismic provisions aerated autoclaved concrete panels (AACP). Professor Klinger has explained to the BSSC-PUC the procedure followed to justify the R and C<sub>d</sub> values contained therein. Those procedures are not nearly as rigorous as the procedures followed by the steel industry to develop its provisions for steel plated shear walls, or those being followed by the concrete industry to develop provisions for precast concrete shear walls. The procedures used by the masonry industry for AACP are roughly equivalent to those necessary to obtain an ICBO approval for use of a system but not those followed by either the steel or concrete industries to validate and obtain consensus for the use of new wall systems. It would seem particularly ironic if the BBSC endorsed the use of ACI 530-05, including AACP, and yet eliminated Sec. 9.6 of the 2003 Provisions dealing with Precast Concrete Shear Walls.

My concern with ACI 530-05 could be addressed by simply adopting that reference standard excluding Appendix A.

**Aschheim (YR):** Follow ROD recommendation for Provisions 11.2.2.x, 11.2.2.14, 11.2.2.15.

**Martin (YR):** Although ASCE 7 does not give an R factor for AAC masonry the section in ACI 530 that contains the AAC provisions are adopted without comment. We do not feel BSSC should adopt this material section of ASCE 7 and the TS5 should give careful review of the issues in the current edition of the NEHRP to assure that they have been carried forward into the reference documents.

**Thompson (No):** The differences between the provisions and ASCE 7 are relatively minor, with the exception of special masonry wall frames. These systems are included in the NEHRP provisions, but (intentionally) absent from ASCE 7.

The special masonry moment frame requirements contained in the NEHRP provisions should be maintained while this system is further refined.

**Ballot Item 30 (Y=14, YR=5, N=0, NV=6 --100%)**

*The first 4 comments were satisfied by the fact that they will be reviewed by the TS. The Line comment was discussed in detail and Ms. Cobeen proposed a motion and clarified by Mr. Dolan that the ballot item be passed but that all of Section 12.4 of the 2003 NEHRP be retained. The chair entertained the motion that the whole ballot item be balloted with the exception included. It passed Yes=20, No=0, NV=1.*

*Subsequent to the PUC meeting, the TS 7 chair provided text for the exception, “Structures in Seismic Design Categories B, C, and D, satisfying the limitations of and constructed in accordance with NEHRP Provisions Section 12.4.”*

**Bachman (YR):** I recommend that the changes identified in the Report of Differences Report be made to ASCE 7-05 or reasons for not making the changes justified.

**Aschheim (YR):** Follow ROD recommendation for 14.5.3, Provisions 12.4.

**Dolan (YR):** My yes with reservations vote for the Wood Chapter is intended to require the TS7 committee to review the current modifications in the Provisions to decide whether to continue requiring the modifications. Specifically, I would like the committee to review the summation of sheathing materials with different properties, the ban on use of sheathing materials other than wood structural panels and gypsum wallboard, the issue of using adhesives in shear walls in SDC C, the requirement for using blocking in SDCs E and F, and the anchorage issues around sill plates. Most of these items have had research conducted specifically directed to the issues and the committee should review this research and decide on how pertinent it is and then develop proper methods for designers to use the information effectively.

**Martin (YR):** Given the few modifications to the wood reference standards that are contained in ASCE 7 we feel that TS 7 should review the current NEHRP recommended modifications to see if they have been carried forward into the reference documents.

**Line (YR):** Adoption of ASCE 7-05 Section 14.5 for Wood Structures will update reference standards in the *NEHRP Provisions* to current editions of relevant design documents and includes the 2005 edition of the *AF&PA Supplement-Special Design Provisions for Wind and Seismic (SDPWS)* and the *2005 National Design Specification® (NDS®) for Wood Construction*.

While the “report on differences” identifies items that have been discussed and resolved in other forums such as the AF&PA Wood Design Standards Committee (WDSC), ASCE 7 Seismic Task Committee, and ASTM D07 Wood Committee, some issues should be considered more generally by the Committee or appropriate Task Group. These issues include:

1) Irregularities: wood systems currently have prescriptive limits on dimensions of open front and cantilever diaphragm structures in addition to current general requirements for irregularities. These limits should be placed in the general requirements section and considered across materials or at least all light frame construction.

2) Weight limits for systems: revisions to building code requirements and provisions incorporated into the *SDPWS-05* have clarified limits on wood resisting forces from concrete and masonry. These provisions attempt to prescriptively address stiffness incompatibility between the wood system and concrete and masonry walls. Revisions made it clear that veneer is not limited to two story construction and that concrete floor systems are not prohibited since dead load and stiffness compatibility are addressed in the design process. If weight limits are to be considered (in addition to the current design procedures), I would suggest that they be considered across systems.

3) Adhesive systems: seismic design coefficients for shear wall systems that use adhesives are presently in the *NERHP Provisions* and wood design reference document (*SDPWS*). The coefficients and SDC limitations should be placed in the Seismic Design Coefficients Table.

**Ballot Item 31 (Y=19, YR=1, N=0, NV=5 --100%)**

*The Leyendecker comment was satisfied by the fact that this comment will be discussed by TS during the update cycle. The PUC passed this ballot item Yes=21, No=0.*

**Leyendecker (YR):** Review the results of public balloting on Drift limits to see if the intent of TS 12 has been satisfied.

**Ballot Item 32 (Y=19, YR=0, N=0, NV=6 --100%)**

*At the beginning of the PUC meeting, the Chair identified the 8 ballot items where there were no comments and would appear that there is total acceptance by the PUC. Once these were identified, members were allowed comment. Without any substantive comment, the PUC accepted all 8 by a vote of Yes=23, No=0, NV=0*

**Ballot Item 33 (Y=18, YR=1, N=0, NV=6 --100%)**

*The Aschheim comment was satisfied that the comment will be reviewed by the TS and the PUC passed this ballot item Yes=21, No=0.*

**Aschheim (YR):** Follow ROD recommendations for 11A.1.3.1, 11A.2.7.

**Ballot Item 34 (Y=23, YR=1, N=0, NV=1 --100%)**

*The Kircher comment was general in nature and was not directly aimed at this ballot item. The PUC passed this ballot item Yes=22, No=0.*

**Kircher (YR):** I have not voted for certain sections/topics that I feel either (1) do not belong in the Provisions for new buildings (e.g., Alterations) or (2) would be better covered by stand-alone, topic-specific documents (e.g., document just for nonbuilding structures).