

## 318 Sub D – Flexure and Axial Loads

ACI Spring Convention  
Sheraton Chicago  
Chicago, IL

Wednesday, March 24, 2010 8:00 AM – 1:30 PM

Colorado

### Minutes

#### 1. Call to order and welcome

Chair Frosch called the meeting to order, welcoming both members and guests.

#### 2. Introductions

The committee chair requested that each member and guest introduce themselves.

Members in attendance:

Frosch (chair), Bertero, Bommer, Garcia, Ghosh, Klemencic, Mlakar, Parra-Montesinos, Saiidi, Santana, Taylor, Salmon (consulting), Zeisler (ACI Staff)

Visitors in attendance:

Mahmoud Kamara, James Lai, Nadim Wehbe

Regrets received from Pincheira.

#### 3. Approval of minutes

A motion to approve the minutes of the Fall 2009 meeting was made and seconded. The minutes were approved by unanimous voice vote.

#### 4. LB09D-04

##### a. CD018 – Interlocking Spirals

One negative was provided by Bertero on this proposal. Bertero felt that the definition for the area used to for  $A_g$  in the confinement expression should be based on the gross concrete area rather than the definition provided by 10.8.1, especially for seismic design. Based on the discussion, it was felt that this was new business. Considering this committee action, Bertero withdrew his negative. There was also discussion regarding one of the references which was for a workshop. References should be widely available. Saiidi will talk with Shamim Sheikh to see if another reference, preferably a peer-reviewed article is available. Parra suggested that the space used by the figure could be more fully utilized by adding notation or dimensional lines. **Saiid will update the change proposal based on the editorial comments immediately after the convention for balloting by the main committee.**

#### 5. LB10D-01

##### a. CD009 – Minimum Reinforcement

The comments provided on this proposal were discussed. In particular, there was general feeling that the background should be updated to focus on unification and generalization of the procedure. In addition, practical design examples should be included that illustrate the magnitude of changes required by the new design

procedure. Further discussion indicated that the committee was in favor of the design approach ( $\phi M_n \geq kM_{cr}$ ). A coefficient  $k=1.2$  consistent with prestressed concrete was agreed as appropriate for beams and determinate one-way slabs while a coefficient of either  $k=0.9$  or  $1.0$  was considered appropriate for two-way and indeterminate one-way slabs. It was suggested that a comparison of the reinforcement amounts required for  $0.9$  and  $1.0$  be compared before the committee makes a final decision on the coefficient for these cases. On a separate issue, there was discussion regarding the basis of the  $2V_u$  requirement for exemption of the minimum reinforcement requirements for prestressed concrete. **Frosch will look into this issue further and discuss with Sub G. Bommer will update the proposal based on the discussion.**

**b. CD019 – Punching Shear**

Considerable debate occurred regarding the applicability of the unbalanced moment transfer provisions for two-way slabs to foundations. It was argued that a foundation is simply a slab turned upside down and that unbalanced moment transfer should be considered. Taylor and Ghosh indicated that they did not feel that these provisions were applicable for foundations. It was discussed that foundations are different in that they are continuously supported, are typically thicker, and commonly have confinement as provided by soil at the edges of the foundation. Considering the discussion, there was not general consensus. The committee decided to not pursue extension of the unbalanced moment transfer provisions for foundations at this time.

**c. CD020 – Live Load Arrangement**

The comments provided on this proposal were discussed. Based on the comments, it was decided to simplify the title of the section to “for analysis of two-way slabs”. A motion was made by Garcia and seconded by Saiidi to accept the revised wording. The change proposal was accepted by a unanimous voice vote.

**6. Task Group Review**

**a. Strength and Member Chapters**

Task groups formed from Subcommittees D, E, G, and H will be formed to consider the strength and member chapters as a whole. It is expected that this review will occur shortly after the convention. The following task group assignments were made:

Chapter 8 (Strength) – Ghosh  
Chapter 10 (One-Way Slabs) – Browning, Taylor  
Chapter 11 (Two-Way Slabs) – Parra  
Chapter 12 (Beams) – Pincheira, Santana  
Chapter 13 (Columns) – Bertero, Garcia, Saiidi  
Chapter 14 (Walls) – Garcia, Klemencic  
Chapter 15 (Foundations) – Bommer

**b. Plain Concrete**

Sub D will have primary responsibility for the plain concrete chapter. A draft of the chapter (Rev 1.0) is now available, and this chapter will be balloted by a task group. The task group for this review will consist of Bertero, Bommer, Browning, Mlakar, and Pincheira.

## **7. New Business**

### **a. Lift Slabs**

Sub D has been request to consider as new business the deletion of lift slabs. Lift slabs are mentioned in three provisions of the code – 7.13.4, 13.3.8.6, and 18.12.8. The committee discussed the need for these provisions. It was discussed that lift slabs are currently essentially banned in the US, and to the best of the committee knowledge, they are not being used in Central and South America. There was a motion by Garcia and second by Browning to delete these provisions. Based on a unanimous voice vote, the committee decided to delete these provisions.

### **b. Proposed Ballot Items**

Klemencic has updated several code change proposals based on previous balloting. The proposals will be formatted and presented using the latest version of the reorganized code, and balloted following the convention. These proposals include the following:

- CD003 – Minimum mat reinforcement
- CD012 – Column slab sandwich
- CD013 – Column axial load buckling
- CD014 – Spacing of column verticals
- CD015 – Two way slab detailing
- CD016 – Vertical reinforcement development into foundation

### **c. Change Proposals**

Chair Frosch requested that all future change proposals be formatted using the latest version of the reorganized code. In addition, only a US customary units version is needed. It was also noted that editorial guidelines are being developed by the steering committee which will assist in the development of new code proposals and help unify the code.

### **d. Voting Procedure**

Considering the recent main committee ballot, Chair Frosch inquired if the committee had any suggestions for improvement. There was concern that Y/C votes are not considered which forces the use of No votes. It was suggested that new business comments should be labeled as such since the goal of this round of balloting is to reorganize and not develop new provisions.

## **8. Adjourn**

The meeting was adjourned at 11:51 am.