

Meeting Minutes—Fall 2010
ACI Committee 341—Earthquake Resistant Concrete Bridges

Sunday, October 24, 2010 3:00 pm – 5:00 pm
Westin, Pittsburgh, PA

Members Attending: Sri Sritharan (Chairman), Bassem Andrawes, Rigoberto Burgueno, Oh-Sung Kwon, Kevin Mackie, Ron Watson, Bob Anderson, Y. L. Mo, Pedro Silva, Gene Corley, Guillermo Santana, Nadim Whebe.

Visitors Attending: Lauren Fedak, Pouria Bahmani, Matt Rouse, Ken Elwood, Mike Berry, Amir Sultani, Michael Sprinkel, Mohamed Elgawady

Regrets: Mervyn Kowalsky, Raj Valluvan, Mark Aschheim, Vinicio Suarez, Shukre Despradel

1. Call to Order and Introduction

Sritharan called the meeting to order at 3:11 p.m. Introductions were made.

2. Approval of the meeting agenda

The meeting agenda and a copy of the minutes of the last meeting in Chicago had been sent by email attachment to the members, and a few copies were made available at the meeting. Sritharan circulated the Committee sign-in sheet. Motion (made by Santana and seconded by Anderson) to approve agenda passed.

Changes to the agenda:

- Report by Elwood move forward after introduction
- Presentation by Schokker to be done by Emily Laurenzt (TLC)

3. Review and Approval of the Minutes of the Spring 2010 Meeting in New Orleans

Sritharan asked for any changes to the Chicago minutes; none were identified. Motion (made by Andrawes and seconded by Burgueno) to approve the minutes. Subcommittee chairs are reminded to send minutes of their meetings to Sri and Mark.

Ken Elwood on Workshop led by JCI and planned between ACI-369 and ACI-341.

- Taken some time but made progress with dates and identifying participants.
- To take place 13 and 14 of December, Tokyo, Japan
- Invited speakers (Jirsa, Moehle, Sanders, Homes, Alcocer, Huang, Mitchel)
- Presentations to be given by 341 and 369 Committee Representatives
- ACI-369 has several presentation on their new document
- ACI-341 has a couple of presentations to highlight committee work
- On 12/15: Testing of full scale buildings at E-Defense shake tables.
- Pursuing some funding to help people attend the meeting
- Sri: Limited times available. Based on the current schedule: one presentation on the recent retrofit report and another on the activities of the committee. For the first presentation, Dawn Lehman has been identified, who will be

supported by PEER. The second person could be Shukre Despradel as the co-chair of the retrofit subcommittee. Not sure if he will get support from his employer. It is expected that the recent Japanese retrofit documents on performance-based retrofit will be translated from Japanese to English. If Sukre cannot make it, then Adrawes could be another option.

- If interested in participation, then JCI may accommodate more people and waive the registration fees.
- An ACI SP with papers and presentations is expected to be published may.

4. Committee and Subcommittee Memberships

Sritharan: Total membership now is at 71, with 38 Voting Members, 3 Associate Members, and 30 consulting members. Three Voting Members may be moved to Associate Members, and three active Associate Members may be promoted to Voting Members.

5. Technical Sessions

a) Spring 2011—Concrete—The Strength of Florida

- a. *Bridge Survivability under Extreme Loading Multi-Hazard.* Mackie and Anderson were not able to get good support for speakers from the industry. The speakers that were identified were top Univ. speakers covering one or two of extreme hazards (vessel collision, vehicle collision on columns, blast loading, and earthquake). The abstracts for the session have been submitted and the session has the final approval.

b) Fall 2011—Bridging Theory and Practice, Cincinnati

- a. *From Theory to Practice in Earthquake Resistant Concrete Bridges.* Burgueno and Suarez are leading the effort. The aim is to provide a blend of researchers, agency leaders and practitioners. The title is being finalized and will be submitted with abstracts to TAC. They are planning to put a call for papers forward. Preapproval form should be submitted in next month or two, which will need to include the title and descriptions.

c) Spring 2012—The Art of Concrete, March 18-22, Hyatt Regency Dallas, Dallas TX.

- a. Session Title to be Determined.
 - i. Possible title: Performance-based seismic design of columns or on the systems document.
 - 1. Perhaps a discussion session on how the columns and system documents could lead to different results could be very valuable.
 - ii. Session moderators: Mark Aschheim (need to be confirmed), Mike Berry

d) **Fall 2012—Forming our Future, October 21-25, Sheraton Centre, Toronto ON, Canada**

- a. Possible topics:
 - i. Intersection of seismic and high-speed rail.
 - ii. Oh-sung Kwon to look into seismic bridges issues in Toronto or Canada
 - iii. Other ideas are welcome
- b. Session moderators: Bob Anderson (and Oh-Sung Kwon ?)

6. Sub-Committee Reports

All subcommittees met this morning.

- a) **Performance Based Seismic Design of Bridge Columns (Aschheim, Rodriguez)** – Sritharan reported that the report needed a revision and one chapter needed significant reworking. Over the last summer, the subcommittee has made significant progress with updating of the document and revising the examples. The entire document has been submitted by Aschheim to Sritharan. Minor changes were requested. The plan is to have the document ready for ballot in a week to 10 days. In first or second week of November, the document will be sent out for balloting.
- b) **Wall Piers (Abo-Shadi, Burgueno)** –Burgueno initiated the review of the document based on the review from the 2006 balloting. Progress was slow over the past months, but the first review is expected to be completed in November. A meeting between Abo-Shadi, Burgueno and Sritharan will then take place to review the resolution of the negative votes and decide whether to take the document for balloting or request further input or review from others.
- c) **Retrofit and Repair (Despradel, Arwades)** – The document is to provide guidelines to perform performance-based seismic retrofitting through two examples. Progress has been limited over the last six months due to commitments towards the columns document. Opportunities exist to contribute to this effort and interested individuals are welcome to contact the sub-committee leadership.

Anderson suggested that it would be worthwhile to get feedback on the manner or format of presentation of the examples to improve readability. The book by Puckett was recommended as a good example of presentation format. Ultimately, this could be published as an SP with contributions members of the subcommittee and others or a standalone document.

- d) **Performance Based Seismic Design of Bridges (Silva, Suarez)** – Silva reported that Suarez, Mackie and Kwon have been working on defining the fundamental procedure and approach of performance based design with a focus on a single element, i.e., a column in a two-span system. Developed a procedure for direct displacement-based design and implemented it in a simple spreadsheet. They are evaluating how DDBD compares with force-based design. They are looking at

both the design and assessment procedures. Silva noted that they are considering to expand the focus of the design to include other components for a system design evaluation.

- e) **Seismic Analysis and Design of Concrete Bridge Systems (Anderson)** – Considerable comments (mostly editorial) were received from TAC on the document submitted last spring. Expect to get through the majority of the comments in a month. Anderson is managing the review and hopes to have a resubmission ready by middle of next month. A target evaluation is set for the end of January 2011 (to assess any need for further contributions) with the goal of re-submission by the spring Convention.
- f) **Bearings and Expansion Joints (Watson)** – The subcommittee is working on their responses to the comments on the isolation guides. A new section on seismic joints is being added. The aim is to have a new document ready for ballot before the spring meeting. Additional subcommittee members are sought to help with the revision. This subcommittee plans to meet during the next convention

g) Others

Elwood is from 369 on building retrofit. There is a joint workshop between Japan Concrete Institute and ACI on performance based seismic retrofit of bridges and buildings. On the ACI side, Committees 369 and 341 will participate. The workshop is scheduled for December 2010 in Tokyo, and some effort is underway to secure funding. Our JCI counterpart will give update at 369 meeting (2-6 on Monday).

7. Report from other ACI committees

- a) ACI 342 Evaluation of Concrete Bridges and Bridge Elements
No report
- b) ACI 343 Concrete Bridge Design (Joint ACI-ASCE)
Meet tomorrow
- c) ACI 345 Concrete Bridge Construction, Maintenance, and Repair
This committee may be meeting concurrently with 341.
- d) ACI Committee 352 (Joints and Connections in Monolithic Concrete Structures, Joint ACI-ASCE), 374 (Performance-Based Seismic Design of Concrete Buildings), and 441 (Reinforced Concrete Columns, Joint ACI-ASCE)
- e) ACI Committee 374 meets tomorrow.

8. Future Meetings

Will rotate subcommittee times like usual, and request 3-5 Sunday for the main committee. Pier walls subcommittee will not meet in Tampa. The Bearings and Expansion Joints subcommittee will meet in Tampa.

9. Update from TAC (Michael Sprinkel)

The goal in 2012 is to reduce the sessions to 2 hours (from 3 hours). The effect is mostly to lead to reduced number of speakers. The time allotted for presentations is likely to remain the same.

10. Other Business

None.

11. Presentations

Presentation by Emily Lorentz (TCL, ACI 130), on “An Overview of Sustainability.”

Meeting adjourn at 5:04pm.