ACI COMMITTEE 506 MEETING
New Orleans, LA
November 10, 2009
Room – La Galerie 2

MINUTES

1. CALL TO ORDER AND INTRODUCTIONS
   - Call to order at 8:31am.
   - General introduction; the following signed the attendance signup sheets:

   **Voting Members:**
   (19) Lars Balck; Mike Ballou; Chris Breeds; Nick Chen; Jean-François Dufour; Charles Hanskat; Warren Harrisson; Marc Jolin (sec.); Mark Lukkarila; Kristian Loevlie; Jeff Novak; Ryan Poole; Jim Ragland; Ray Schallom; Phil Seabrook; Pete Tatnall; Larry Totten (chair); Peter Yen; John Zhang

   **Assoc. Members:**
   (9) Bill Allen; Dan Biddle; Louis-Samuel Bolduc; Chris Darnell; Marcus von der Hofen; Larry G. Lepper; Jason South; Ray Stuart; Joseph Tortorella

   **Visitors:**
   (8) Andrew Bursey; Jim Bury; Dan Forgeron; Ron Janowiak (staff); Ron Lacher; Mike McPhee; Ketan Sompura; Bobby Zellers

2. NEW MEMBERS
   No new members present.

3. APPROVAL OF MINUTES – SAN ANTONIO, TX, MARCH 17, 2009
   Approved unanimously (R. Schallom+ P. Tatnall).

4. MEMBERSHIP:

   4.1. Sign attendance sheets, and check for correct coordinates – correction on ACI website.
   4.2. Committee Changes: Mike Rispin from Voting to Associate due to change in career
   4.3. Balance: Voting Members 4 G.I., 15 Users, 15 Prod. - 34 Balanced; Consulting - 4; 26 Assoc. = 65 Total
   4.4. Committee is in balance; structural engineers are invited to the committee.
5. **CORRESPONDENCE AND ANNOUNCEMENTS:**

5.1 Conferences:

5.1.1 World of Concrete – “Use of Shotcrete Process to Rehabilitate North America’s Infrastructure Seminar. February 2, 2010;  8:30 am – 10:00 am – R. Schallom & M. Cotter


5.2 Committee

5.2.1 Request from Staff for Designation of Future Committee Chairs. Chair Totten indicates his intention in assigning JF Dufour as vice-chair. Member Dufour will communicate his decision to the committee at the next meeting.

6. **COMMITTEE BALLOTS**

6.1 506.2 *Specification for Shotcrete* - Phil Seabrook

6.1.1 Aff 10 Editorial 6 Neg 13 Abstain 2 Not Voted 4

6.1.2 Addressing “Resolution of negatives as proposed by committee E” (Table by P. Seabrook)

a. Following discussion on ballots, a motion proposing to “Assign prequalification to Contractor and other testing by Owner (per 301-05)” (P. Seabrook + P. Tatnall) is presented. Aff.: 1, Neg: 16, Abs.: 0 (defeated)

   Apparently, the next version of the 301-xx document will make a better distinction between QA and QC. This new wording would most probably be in line with the committee’s wishes. Awaiting supplemental information from Draft of 301-xx (C. Hanskat)

b. FRS requirements are sprinkled over in the actual text. It will be consolidated in a new Section and testing procedures will be reviewed (P. Seabrook).

c. Motion: “Measure temperature of shotcrete (wet & dry) after it is shot” (P. Seabrook + P. Tatnall) Aff.: 1, Neg: 17, Abs.: 0 (defeated)

   Direction is to measure wet-mix shotcrete at the point of discharge in the pump and dry-mix after shooting.

d. Motion: “Recognize air entrainment in dry-mix shotcrete” (M. Jolin + R. Poole) Aff.: 11, Neg: 1, Abs.: 7 (passed)

   Direction is to include the requirements in the submittals or in mix qualification. A short presentation is planned for Chicago on the subject (JF. Dufour + M. Jolin).
e. Motion: “Subject to review of upcoming 301-xx document, remove Section 3.9 on repair and revert to a contractor submittals” (P. Seabrook + P. Tatnall) Aff.: 19, Neg: 0, Abs.: 0 (passed)

f. Motion: “Find the 90% non persuasive” (P. Seabrook + P. Tatnall) Aff.: 19, Neg: 0, Abs.: 0 (passed)

g. Motion: “Adopt the approach 4.3.2.2 of ACI 301 to permit hydration stabilization admixtures and require the Contractor to make submittal and use in prequalification” (P. Seabrook + J. Zhang) Aff.: 19, Neg: 0, Abs.: 0 (passed)

h. Motion: “Find the Core @ 100% non persuasive” (P. Seabrook + J. Zhang) Aff.: 16, Neg: 3, Abs.: 0 (passed)

i. Motion: “Find the 100 cu.yrds. non persuasive” (P. Seabrook + P. Tatnall) Aff.: 19, Neg: 0, Abs.: 0 (passed)

In view of the upcoming discussion items, the following motion is brought forward “Remove the default values to boiled water absorption and volume of permeable voids from the 506.2 specification document in the work” (L. Balck + R. Poole) Aff.: 4, Neg: 12, Abs.: 1 (defeated)

j. Motion: “Increase the maximum boiled absorption default value to 9% and adjust the volume of permeable voids value accordingly” (P. Seabrook + P. Tatnall) Aff.: 17, Neg: 0, Abs.: 1 (passed)

Suggestion of the committee is to include information about the regional effect of these default values in the commentary.

k. Motion: “Remove all mention of slump” (P. Seabrook + P. Tatnall) Aff.: 7, Neg: 11, Abs.: 0 (defeated)

Suggestion is to handle the issue of slump like it is done for air entrainment and refer to the guide for guidance.

l. The application item will be discussed with our TAC contact.

6.2 506.4R Evaluation of Shotcrete – Marc Jolin (sub-committee ballot only)

6.2.1 Aff 2 Editorial 5 Neg 2 Abstain 0 Not Voted 5 (see item 7.1 for details)
7. SUBCOMMITTEE AND TASK GROUP REPORTS:

7.1. 506-A: on 506.4R-94 (Reapproved 2004): Evaluation – Marc Jolin

Ballot went well, lots of comments; Louis-Samuel Bolduc did a great work inputting all the comments received. General committee ballot is next.

7.1.1. Presentation on Evaluation of Shotcrete Cores. John Zhang

John Zhang presents the Core Evaluation Template. Full committee will be solicited to send in pictures and descriptive.

7.2. 506-B: on 506.1R-98: Fiber Reinforced Shotcrete – Jeff Novak

Sub-committee discussion took place on the preparation of a tech note on FRS. Two tasks at hands: outline of tech note and review and collection of international specification and tech documents on FRS.

7.3. 506-C: on 506R-05: Guide – Lars Balck

Good progress. Keeping close contact with the upcoming specification document.

7.4. 506-E: on 506.2-95: Specification – Phil Seabrook

See above in 6.1.


Document is out! Call to all committee member for comments on the new document. Currently working on a checklist for QC. Liaison with UCA of SME on documents in the work.

7.6. 506-G: on New Guide to Qualification for Specific Projects – Marcus Von der Hofen

Assignments are out, document is being assembled. Sub-committee vote for the next meeting.

8. OLD BUSINESS

8.1. Preparation of ACI RAP document on Shotcrete Repair – (ACI 546) – Curt White, Chair – Pete Tatnall to Report

New comments from 546 (all editorials) were submitted during the New Orleans meeting. As soon as these comments are incorporated, the document will go to EAC for final approval.

8.2. Do we need a Guide for Inspection for Shotcrete Projects? 506 or 660? Ray Schallom

Issue is taken care of by C660, new program in the work: Shotcrete Inspector Certification.
8.3. Definition of Shotcrete

Motion: (M. Jolin + J. Zhang) revise CT definition to have:

- shotcrete — concrete pneumatically projected at high velocity onto a surface;
- shotcrete, dry-mix — shotcrete in which most of the mixing water is added at the nozzle.
- shotcrete, wet-mix — shotcrete in which the ingredients, including water, are mixed before introduction into the delivery hose.

Aff.: 14, Neg: 0, Abs.: 0 (passed)

9. Liaison Reports:

- TAC: chairman Totten reports on TAC items of interest. Chairman urges all members and especially sub-committee chairs to visit the Technical tab on the main page of ACI web site. Also, all sub-committee will have to select meeting time in one-hour increment time slot.
- C660 Shotcrete Nozzleman Certification: CCS-4 translation to Spanish completed. Exam review almost completed. CP60-09 will be available shortly. A new inspector program is in the work.
- ACI 544 Fiber Reinforced Concrete: sub committee working on a design document.
- ASTM: new versions of C1399, C1609 and C1550 coming through in 2010
- ASA: Chris Breeds reports (see attached document). Main topics are sustainability (new committee formed) and new documents are being prepared by CAM on the subject of sustainability in the concrete industry; shotcrete is directly targeted in these documents. New committee on inspector’s training (chair Dan Millete).

10. New Business

10.1. none

11. Adjourn: at 11:30 am (R. Schallom + C. Breeds)

11.1. Next meeting: Chicago, March 23, 2009
Fall 2009 ASA Liaison Report To ACI Committee 506

Since ACI Committee 506 last met in San Antonio, ASA has had a number of developments which committee 506 should be aware of. The following bullet points briefly outline the items/actions. If you would like more detailed information on any of the items, please contact Chris Darnell at 248/848-3742 or Chris.Darnell@shotcrete.org.

- ASA is one of 20 concrete related associations that have signed a memorandum of understanding (MOU) and is now a full partner in the concrete industries’ Joint Sustainability Initiative (JSI).

- ASA created a Sustainability Committee and conducted its first meeting on November 7th in New Orleans.

- ASA’s Sustainability Committee will be working with CAM to create content for two chapters in its 2nd planned sustainability document, “The Sustainable Concrete Guide – Applications”. ASA will be working with CAM on a chapter specifically focused on shotcrete and a second chapter on repair.

- The new ASA on-line Buyers Guide is now operational and populated at Shotcrete.org. Searches can be conducted to locate companies/organizations based on numerous products and services categories.

- Shotcrete for Repair and Rehabilitation of Concrete Structures USB Flash Drive product is now available for sale.

- Shotcrete: A Compilation of Papers hard cover book is now available for sale.

- Addition of the International Bridge Conference to the list of shows ASA now exhibits at.

- ASA now produces an electronic (E-mag) version of Shotcrete magazine in addition to the hard copy version. This new version has enabled ASA to expand it subscription base internationally.

- ASA launched a new twice a month “What’s In The Mix” e-newsletter.

- ASA has implemented a 2 part e-mail policy:
  - 1 – ASA will never distribute or sell e-mail addresses
  - 2- ASA will limit it mass e-mail messages to a maximum of 2 per month (via e-newsletter)

- ASA has established a new system of press releases to communicate significant ASA events to the construction industry

- ASA has expanded its web site presentation of the Outstanding Shotcrete Project Awards winners and Sponsors.

- A new ASA member benefit has been created that presents US government projects open for bid (via the new e-newsletter).