ACI COMMITTEE 551
TILT-UP CONCRETE CONSTRUCTION
Room C-202 C (Wisconsin Center)
Committee Meeting Agenda
Sunday, April 17, 2016

Chair Griffin opened the meeting at 9:03 am. Introductions of members and guests commenced with the following in attendance.

Members
Jeff Griffin (Chair)          Craig Olsen          Lance Osbourne
Jim Baty (Sec.)             Andrew McPherson
Eldon Tipping (TAC)         Joe Steinbicker
Kimberly Kramer             Michael Linn
Karen Hand                  Ed Sauter
Augusta Gaertner            Jason Swagert
Jay Patel                   Mike Fulton

Guests
Craig Coppersmith
Aali Alizadeh
Venkatesh Sheshappa
Todd Messerly

General Business
Chair Griffin noted that we have a quorum present for this meeting should any committee action be required.

Chair Griffin gave everyone a few minutes to review the minutes provided from Denver, Fall 2015. There were no changes offered. McPherson/Kramer motioned for approval of the minutes as presented. Unanimous support for the motion was received.

The membership roster was reviewed and noted that no members have left the committee or been removed since Denver. It was noted McPherson's comment from the Denver meeting (minutes) that we keep careful focus on the committee roster for activity so we don’t get in a situation where no work can be accomplished or out of step familiarity with committee position occurs. Chair Griffin noted the additions of our newest associate member, Augusta Gaertner, who will be elevated to voting status as involvement is noted. Also, Karen Hand was noted as our newest voting member given her prominence in the tilt-up industry and familiarity with those involved with ACI 551 and TCA.

Chair Griffin discussed the Concrete Cares initiative that is available again at this Convention. Several on the committee have received emails regarding Concrete Cares and members are encouraged to consider donations, noting that this is not affiliated with ACI in any way other than endorsement to be present since ACI members are involved with the effort. Chair Griffin then mentioned the mission statement that had been revised in Denver (minutes) and sent to TAC for approval. He had not received any messages back. Later, Tipping arrived to discuss the mission statement and informed all that a response had been sent to Griffin this past week that TAC had approved the mission statement with two minor edits. Assuming the committee approves the edits, the mission statement will be updated.

Motion: Baty/Steinbicker motioned to accept and approve the modified mission statement for ACI 551 from TAC as noted below. Unanimous approval was received for this motion.
The mission of ACI 551 is to **Develop and advance tilt-up concrete design and construction; establish and maintain technical documents; and advocate for research and innovation.**

Baty reported on the passing of Art McKinney, the individual who brought the sweating slab syndrome to light within the concrete industry. Since the original concern was lifted, McKinney had become a champion for research on this issue and later recanted or modified his concern and position stating that this phenomenon was mostly environment-related and caused by the poor air management systems of large warehouse structures.

**ACI Committee Activities**

ACI 301 – McPherson noted that 301 is looking to implement updated sections of the TCA Guideline Specifications, most notably that of the gradations of finish. Baty will send the latest version of the TCA specifications, recently updated by a spec writer to full CSI format to McPherson for such reference and use. McPherson also noted that 301 is looking for information to reference the TCA Wind Bracing Guidelines. Joe Steinbicker noted that this new document will be available by TCA Convention and therefore also ACI Fall Convention. Andrew will deliver these documents to the work effort. All were pleased at this progress.

TAC – Baty noted that TAC is looking at changing the categories for committee participation to give broader variation to the balance of committee interest. Presently members are noted as either User, Producer or General Interest. Unsure what the new categories will be but this is intended to give a broadening of representation and to better represent the direction of ACI committees.

ACI 117 – Griffin asked if there were any updates on the 117 effort for tolerances. Baty responded that since the Denver meeting where ACI 117 had approached 551 and asked for verification of the most recent published document for tolerances, nothing further had developed. Baty provided the chair of the 117 sub-section referencing tilt-up with the updated tolerances found in the current TCA Guideline Spec document. This was to be incorporated by reference.

**Industry Organization Updates**

TCA – Baty reported that current efforts by the TCA are underway for substantial technical document updates. Already mentioned was the completion of the professionally-formatted Guideline Spec document. This fall, the TCA will unveil a new Construction of Tilt-Up that has been broadened to be inclusive of all references found in the current CP-50 study guide for tilt-up certification and reorganized for better flow and use. A new Architecture of Tilt-Up will be released this fall consisting of a new look at building typology for tilt-up construction. Finally, as mentioned by Steinbicker, the TCA has retained his services to author a new wind-bracing guidelines document.

**Certification Update**

Sauter gave an update as current secretary for ACI C-650. As mentioned by Baty, the committee is awaiting the new Construction of Tilt-Up document to form the new foundation of questions and direction for the committee. This will allow a broadening of the question pool as it also requires new referencing of all current questions. The process will result in ACI opening this certification up for the Prometrics testing network facilitating greater availability of testing for applicants. The new document from TCA will
be bilingual so it will aid in the growth of Hispanic certifications. Sauter also noted that current certification numbers are trending upward. The TCA is also experiencing a growth in its company certification program.

**Old Business**

Chair Griffin worked through the old business listed in the agenda but in a modified order based on depth of anticipated discussion and priority to the committee. He noted that having recently completed updates to our two documents, *Construction Guide* and *Design Guide*, the committee needs to identify new leaders to step up and take on the future of these documents for the next update. Baty reported that we have until 2020 and 2021 respectively before we will have to re-approve or update the documents but new versions can be brought forward at any time that makes sense. Baty and McPherson offered continued leadership of the Construction Guide.

Griffin asked Hand if she might begin looking at the Design Guide document and thinking about possible leadership of that next version at some point in the future. Doug Antholz might be a participant to reach out to as well. Hand asked if the Committee had done anything with composite design of insulated panels. Griffin responded that the current document primarily addresses out-of-plane behavior of solid-section panels, so that is certainly a direction we could go in a future update. Patel asked if there was much composite insulated panel construction out there. Several expressed that this was certainly a current state-of-the-art to compete with precast panels and also an area of strong growth potential. Baty suggested that perhaps the committee look at a Structures Journal or CI article first to talk about the subject as a precursor to opening the Design Guide up at this time. Griffin will address this with a possible co-author group.

*It was actually at this time in the meeting where the Mission statement was brought up since Tipping had missed it initially.*

Chair Griffin asked if it was okay for us to remove Sweating Slab Syndrome from the agenda for the future and had it run its course such that the task force can be dissolved. The consensus was that no further influence was foreseen directly on the tilt-up industry, as mentioned previously during the passing of McKinney discussion. However, it was mentioned that the committee should produce a final article about the subject. Linn and Coppersmith volunteered to lead the effort for the committee. Tipping suggested that they get in touch with Rick Smith, who is the incoming chair of 302 for his involvement. He has done considerable research on the environmental and air-movement impact as the real cause and has recommendations for automated controls to limit the amount of air moving in during certain adverse combinations of temperature and humidity.

Chair Griffin asked for an update or further thoughts on an ACI 551 Education series. Baty had brought this to the committee several meetings ago and nothing has transpired yet. This is actually from encouragement by TAC for committees to think of ways to engage ACI University and offer webinars for greater learning. It is an excellent way to have live webinars delivering content from our two documents but also then have them remain as part of the body of education for many to benefit from. This would also be a potentially source of CEUs for tilt-up re-certification. No volunteers were received but the committee is asked to continue thinking of possible involvement.

E702 – Chair Griffin asked where things were at with the technical session for Philadelphia that had been offered in Denver. Kramer updated the committee that one or two sessions were possible but after the identification of possible participants in Denver, only one abstract had been received. All information is due later this week.
(Tuesday) and she would be available directly after this meeting to talk with anyone wanting to volunteer. After further discussion, enough interest was found for two sessions (Antholz, McPherson, Steinbicker, Griffin, Kramer, Sauter, Baty and Linn).

No further old business was offered.

**New Business**

ACI 318 – Griffin reminded the committee of the discussion from Denver (minutes) where suggestion by Steinbicker for intentional participation in ACI 318 be among the committee’s new directions. Tipping was asked for opinion and although the specific 318 sub-committee was not identified, he agreed and encouraged a member of ACI 551 to apply to be part of the appropriate sub-committee for future benefit to the tilt-up industry. We still need individuals to step forward with such an interest.

Per the earlier discussion, Steinbicker was asked to describe the direction for the updated TCA wind bracing guidelines. He responded that this document will be a departure from ASCE 7, using a provision of ASCE 37 that allows recognition of an alternate approach. It will deal with lower wind speeds and exposure categories but also demonstrate how increased performance can be obtained.

Chair Griffin brought up the discussion from Denver started by Steinbicker at the end of the meeting related to guidance on multi-story design. The committee was asked how this should be advanced. Steinbicker reiterated how important it is for the committee to establish design rationale and technical opinions on the methods given the number of projects that are being developed. Baty asked Tipping if TAC would need to give approval for an Emerging Technology Report (ETR) to be developed. This seems to be a good way to go for such information, again ahead of any involvement with the Design Guide. He suggested it a good idea whether or not it was required. McPherson recommended identifying potential authors such as Braswell, Griffin, McPherson, Steinbicker and whoever is doing the engineering for Power Brown Architecture. Kramer suggested a CI article would be a great opportunity to gain publicity and recognition. Baty will investigate the ETR route for advisement to Griffin and the two might be developed simultaneously.

Kramer mentioned the Concrete Question Competition by the Construction Liaison Committee. She is rotating off the committee but this has been an interesting opportunity to expose teams of students to concrete problem-solving. Early attempts at a tilt-up problem have not been well developed and subsequently were abandoned so perhaps now is the right time to try again. The new chair for the CLC needs to be approached to see if they would accept a proposal. Typically, students assemble teams and a maximum of 50 teams or submittals are possible. They receive a problem statement for a real world problem and submit a 1-page answer with up to two references. Kramer will send a couple of examples of past problems to Griffin for the committee to review as ideas.

Chair Griffin asked if there were any further new business ideas. No further discussions were brought up.

**Giatec Scientific presentation**

Aali Alizadeh from Giatec Scientific was given the floor to present on the new remote Bluetooth technology for concrete maturity. This 15 minute presentation gave way to several questions about economies, quality, timing and reduction of schedule and all felt
the product was worth watching and even continuing to consider as it grows in popularity. The next version of the devices will add relative humidity of the concrete to the monitoring as now it is only temperature. Alizadeh suggested that an average savings of 1-day between physical strength testing and remote maturity prediction is gained by the contractors. The tests have a +/- 20% accuracy, which is within the standard prediction reliability for physical testing.

**Next meeting**
Chair Griffin confirmed that the next meeting is scheduled for October 23, 2016. The same time schedule will be pursued and the event will be held at the downtown Marriott, Philadelphia, PA.

**Adjournment**
Chair Griffin entertained a motion (Steinbicker/McPherson) to adjourn the meeting at 10:52 am.