

Web Meeting Notes

PTI TAB – Technical Advisory Board

April 16, 2020 – 11:00 AM to 1:15 PM EDT

Voting Members Present (7 of 11)

<u>Don Kline</u> , Chair	Kline Engineering & Consulting
<u>Miroslav Vejvoda</u> , Secretary	PTI Staff, NV
<u>Rashid Ahmed</u>	Walker Parking Consultants
Asit Baxi	Baxi Engineering, Inc.
<u>Martin Cuadra</u>	Uzum and Case, LLC
<u>Carol Hayek</u>	CCL USA
Don Illingworth	Don Illingworth & Assoc., Inc.
Bill Klorman	Klorman Construction
Doug Schlegel	Consultant
<u>Andrea Schokker</u>	University of Minnesota Duluth
<u>Mike Schwager</u>	Schwager Davis, Inc
<u>Edgar Zuniga</u>	Dywidag Systems International USA
<u>Tim Christle</u>	PTI Staff, NV
<u>Amy Dowell</u>	PTI Staff, NV
<u>Tony Johnson</u>	PTI Staff, NV

Web meeting agenda items:

1. Environmental Product Declaration (EPD)

Carol Hayek brought this issue to TAB's consideration. Carol lead the discussion and Tony provided CRSI's document that summarized the rebar industry's approach; rebar is only one material making it simpler. Items discussed:

- Some projects have the requirement for the EPDs as part of the LEED points.
- The strand suppliers are not using EPDs and most don't even know about it.
- It is company specific or industry average. The company specific has a weight of 1, the industry average 0.5, and if both are available, the overall credit would be 150%.
- The cost to develop the system for rebar was up to \$35,000 and it took about 18 months.
- Third party consultants typically develop the system and follow ISO and set protocols.
- There are audits and it is valid for 5 years; it must be renewed also when there are changes in the manufacturing process.
- PCI's approach would be interesting as they only use bare strand; they apparently have EDPs for precast concrete units that include everything in it.
- PT industry has the coated and sheathed strand and anchorage components.

Action items:

- Tony will reach out to his contact within PCI to see if they can share any work they have done on EPD for restressing steel.

2. TAB TG on Evaluation of construction joint couplers

In Minneapolis, TAB created a TG to address concerns with the couplers for construction joints. At that point, the couplers were the only solution available to the industry.

It is desirable to finalize the work of this TG. TAB should discuss where we are with this and if there are specific concerns and proposed solutions that could be voted on.

TG members: Asit Baxi (Lead), Rashid Ahmed, Don Kline, Andrea Schokker, Tim Christle.

The TG members had a WM on 6/6/2019 and have done some investigation; GTI did some testing and Ted Neff summarized the results at the TAB meeting in Santa Fe. Items discussed:

- The GTI test investigated the shear at the CJ which does not seem to be an issue.
- The TG should just mention what the GTI testing provided, without endorsement.
- Rashid is using additional rebar for shear friction when using CJ couplers.
- Since the intermediate stressing anchorages are available on the market again, the urgency of the coupler investigation is somewhat reduced.

Action items:

- Don/Asit/Andrea will prepare a draft response to GTI with feedback after their presentation to TAB in Santa Fe. The response will provide feedback and additional questions related to the coupler. The draft response will be sent to the coupler TG for comment before sending to GTI.
- The testing for GTI was done by WJE; the test report and Ted's presentation to TAB would be helpful, if available; staff will check.
- The task group will develop a Tech Note for the intermediate coupler use in slabs and beams.

3. PTI M-10 & ACI 423.7 Watertightness testing of encapsulated tendons

PTI M10.2 and ACI 423.7 have been parallel specifications for single strand unbonded tendons with some contradicting requirements. It is desirable to have proposals go through PTI first before making its way into ACI, to reduce if not eliminate the discrepancies. This does not always work, and some proposals are being brought to ACI first. There are efforts on the PTI side to get to the point of having just one specification on the subject.

One proposal brought to ACI first is the update of the watertightness testing of the encapsulated tendons. The latest email with the revised GTI Hydrostatic Test Method will be forwarded in a separate email.

It is desirable to bring this to M-10 and TAB input would help M-10 accomplish this. Items discussed:

- The UV light method proposed by WJE would seem simpler and would remove the need for some of the setup details that generated negatives on the 423-G subcommittee.

- Watertightness testing is also done for stay cables; it is more complicated but could possibly be simplified for unbonded tendons.

Action Items:

- M10 should develop a proposal for this language in the specification.
- Miroslav to contact Zuming and Bob Sward to explore the possibility of running the UV test. If the UV test is viable and acceptable to M10, this could help resolve some of the other negatives brought up at ACI 423 subcommittee.

4. M-10 & CRT-80 PT components requirements and certification

CAB created a TG in Seattle to address PT component certification. This TG came back in Santa Fe with a significant revision to the PTI Plant Certification Program. This is a somewhat controversial issue and the BoD established a certification committee CRT-80 in Santa Fe to address the certification requirements for the PT components for unbonded tendons.

However, certification programs are based on technical requirements that come from technical committees and their specifications; in this case, it should come from M-10.

In order to address the technical requirements for the PT components for unbonded tendons thoroughly and objectively, it might be helpful if TAB helps M-10 with this task. In two separate emails, proposals for M-10 are attached for review and discussion. M-10 is establishing a TG to address these issues and TAB input might be helpful.

Items discussed:

- In general, similar requirements to those for multistrand tendons should be specified for unbonded tendons.
- It is important to ensure that specification is open enough for manufacturers producing components their own way, meeting some basic requirements, but having freedom with their own design. The QA program then ensures that the stated system requirements are adhered to in production. Sampling and documentation requirements should be specified.

Action items:

- TAB to review proposals by Larry and Greg by 4/30/20.
- Provide feedback to Miroslav who will in turn send guidance to M10 TG for their consideration.
- Edgar will represent TAB on the M10 TG.

5. New TAB member to replace Cary Kopczynski

The BoD appoints TAB members. In Santa Fe, TAB agreed on adding Hamid Ahmady to TAB. This will be added to the EC agenda for their approval, before the appointment becomes official. TAB will then have full 12 members at the next in-person meeting at the postponed 2020 PTI convention on September 27, 2020. TAB should consider the continuing member

rotation and select new members to replace outgoing members in 2020, from the list already prepared (latest revision in Santa Fe):

TAB Member Rotation:

- 2019: Kopczynski (2003)
- 2020: Ahmed, Schlegel (2003, 2008)
- 2021: Kline, Zuniga (2008, 2012)
- 2022: Hayek (2012), Baxi (2003)
- 2023: Klorman, Illingworth (2014, 2015)
- Member rotation per TCM after that

The list of potential TAB candidates (no particular order):

- Bob Sward (Chair M-50)
- Jack Graves (Officer)
- Drew Micklus
- Frank Malits
- Jonathan Hirsch
- Greg Hunsicker
- Martin Maingot
- Jim Donnelly

Items discussed:

- There is desire to have BoD instead of just EC approve appointments of new TAB members. Hamid Ahmady's nomination will be on the BoD agenda for their June meeting.
- The rotation plan for TAB members should be reviewed considering:
 - Allowing members to stay on TAB for the full 2 terms of 12 years total.
 - Attendance records; TAB is a critical committee for PTI, and full attendance is expected.

Action items:

- Don and Miroslav will rework the TAB rotation list and send to TAB.

6. Coordination of ACI 318-T & ACI/PTI 320

The split subcommittee of 318 for precast/prestressed and post-tensioned, and a new code committee of post-tensioned (320) became reality. ACI/PTI 320 is to become a joint ACI-PTI committee. Only a year ago, we were still lobbying to only get the split subcommittee. With this new situation, there is a significant new opportunity for the PT industry to affect the code requirements. In order to maximize the benefits, TAB should discuss effective ways on how to vet and coordinate proposals before they go to these new committees.

Items discussed:

- Andrea gave a summary of the new developments at ACI:
 - ACI 318-P Precast and Prestressed; Chair: Carin Roberts-Wollmann

- ACI 318-T Post-Tensioned; Chair: Andrea Schokker
- ACI 319 Precast Structural Concrete Code (Joint ACI-PCI)
- ACI 320 320 - Post-Tensioned Structural Concrete Code (will be joint ACI-PTI)
- Coordination of these four committees will be very important.
- PCI parking structure provision will be in ACI 319.
- It is desirable to get PT parking structure provisions in ACI 320; input from the new PTI DC-25 Parking Structures Committee is important.
- It is essential for PTI to take the opportunity to coordinate all PT-related initiatives through TAB.

Action items:

- TAB created a new TG to develop code proposals for 318T and 320.
- TG Members: Don (Lead), Miroslav, Martin C., Carol, Rashid, Andrea, Tim, Asit, Frank Malits, and Jonathan H.; Tim Christle (Secretary).
- The TG will develop proposals for new code language. The proposals will go to TAB for their approval before sending to ACI 318T and 320.
- There will be a standing agenda item at TAB meetings.

Other business: There was no other new business.