

# PMPC Materials and QA STG Meeting Minutes

Date: Wednesday – December 5, 2018

Time: 10:00 AM – 11:30 AM

Location: OSM Building, Rm 514

Phone Bridge: (866) 676-8836 – Code: 6275887

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**Facilitator:** Jacquelyn Wong (CT Chair)

**Attendees:** Ron Jones (CT), Jacquelyn Wong (CT), David Lim (CT), Nathan Forrest (CNCA), Samir Ead (CT), Lance Li (CT), Brett Soldano (CT), Robert Foley (Cemex)\*

\*by phone

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## 1. Introduction (Phone\*)

Ron Jones (CT)

Jacquelyn Wong (CT)

Brett Soldano (CT)

Lance Li (CT)

David Lim (CT)

Nathan Forrest  
(CNCA)

Robert Foley (Cemex)\*

Samir Ead (CT)

## 2. Scoping Document Update/Briefing by WG Chairs

### Use 4x8 cylinders for compressive strength test (Samir Ead for Patrick Lo)

- In general, 33 state DOTs use 4x8 cylinders, of those 28 use for acceptance.
- According to the literatures and surveys up to now, 4x8 inch cylinders has slightly higher (6-7%) strength compares to 6x12 inch cylinder.
- Several planned pilot projects to do both 4x8 and 6x12 inch cylinders and compare these results by 2019-2020 early to get more data.
- Cost is not substantial factor to be considered during this change in cylinders size from 6x12 to 4x8 inch.
- The group is looking in multiple directions to see any data shows the effects on cost and other factors while cylinder size changed. So, we can make more clearly decisions as we move forward.
- The first deliverable report regarding the literature review should finalized by March 2019 and it should include all the information including literatures, data and surveys results for other DOTs.
- Find a spot on the PMPC website to upload all the literatures, documents, data, and previous reports so everyone can have access to it.

### **Discussion:**

*During the surveys do any DOTs have any issues with 4x8 inch cylinders?*

Mostly favorable results, nothing really got attention for us.

Most states accepted 4x8, and no correction factors need to be used as per ASTM C39.

*What's the ideal target for pilot projects?*

Ideally, more than five medium size projects will be involved as the pilot projects.

Nothing is in detailed right now; the group will continue to investigate what is a good sample/example. We are going to discuss with Patrick and more information will comes out by spring 2019.

*What do you expect to see from the results of the pilot projects?*

Need to think about it whether need to make changes on the criteria or specifications.

*Any changes for the specimens' number during the compressive test if the size of cylinders changed?*

Most states are test three duplicated specimens instead of two, if 4x8 cylinders are used in their state.

### **Concrete Mix Design Naming system (Brett Soldano)**

- The title name is revised. (naming system to identification)
- Will have meeting very soon in December to discuss the work plan and identify the obstacles. Previous experiences indicate the conceptual confusion with “data base” is the biggest obstacle and we are trying to avoid it.

#### **Discussion:**

*If several manufactures/vendors with different geographic locations are using the same mixture, how to identify/separate them in the DIME system?*

All vendors have its own vendor ID, and the name of the mixture will be start with a vendor Id and separated by a dash then the mixture information. The company will decide how to define their mixtures.

### **Recycled Crushed Concrete Aggregate for Use In Cast In-Place Concrete Pavement (Ron Jones)**

- Deepak is temporarily in Marcella's position, but will remain on the work group since he has a lot of experience with it. Expect to return as chair.
- Haven't met yet but going to have a meeting in January 2019. Had some conversation with contractors and industry.
- Had a couple of projects made by the recycled aggregate concrete before but mostly some experimental projects funded by FHWA. Will talk to the RE and contractor (George B) for this project to get lesson learned. Any reports from that? We may look at it.
- Any Challenges during this process? Infinite data to going through or filter through? Industry may have a lot of data for this and Nathan mentioned national bases has a lot of data in there. WG going to figure it out in a couple of months.
- Will the recycled aggregate be cleaned before use? Any recycle waste blended? Need to capture it in the title.  
Normally wash it, dry it, gradation for different size of aggregate (fine and coarse), and utilized it. So, there won't be other waste materials in the system.

#### **Action:**

- Proceed for all the scoping documents and we are getting moving now. Going to follow up again in 3 months

## **3. Other Project Updates**

### **QC/QA**

- The QC/QA has been circulated and the specification draft has come out for comment routing.
- How often dose the state come out to do the verification on these tests? It's up to the structure rep (internal policy) to decide frequency of QA. Whoever using the QA (external to CT) needs to indicate what their testing frequency will be.
- Mark Hill commented to add one more option (hold a ACI concrete quality technical manager certification) to be qualified for the QC manager in the QC plan section. Discussed how to apply it? How to qualify it?
- Pavement: Should QC/QA part be in section 90 or specific structure concrete section? May be confusing? Section 90 is for all concrete so unless you have one of the seven structures items QC/QA

wouldn't apply. Section 90 has all requirements for concrete materials. Reminder to check if there's any conflicts with pavement QC/QA.

- Route this version one more time (1-2 weeks), STG recommend adding the additional ACI certification qualification option for QC manager qualification.

### **Type IL Concrete updates**

- A steering committee with five members from Caltrans (Jackie is manager not included in five, Vijay/Lance, Craig, David) and two (Tom-CNCA and Kirk- CalPortland/TG Lead) were formed for this research and an in-person meeting was held on November 20<sup>th</sup> to set the test plan.
- SCM Mixtures (fly ash low CaO, fly ash high CaO, GGBFS, Ternary and blended SCM) and corrosion mixtures (25FA/75OPC, 50GGBS/50 OPC, 25FA/50GGBS/25OPC, 20FA/5SF/75OPC) proposed. Corrosion mixture 25FA/50GGBS/25OPC is rare to see. More commonly used maybe 25FA/25GGBS/50OPC or 25FA/35GGBS/40OPC.
- Investigation broken into 13 tasks. Currently finalizing the materials. Highly and medium reactive aggregate are needed for this project. Going to finalize the materials and mixtures by end of January 2019. Industry waiting for target values from 1260 or 1293 testing.
- Went back to introduce the background of type IL cement research by Caltrans. Caltrans currently allows up to 5% limestone, and if research findings favorable will increase to 15% limit after this verification research project.

## **4. Open discussion**

### **Prequalification programs (Jackie)**

Everything is on the METS website: technician lab certification, annual aggregate, JMF and all information. MPQP is in construction and the districts have their instructions.

With the annual aggregate program, we found that half of the districts have their unofficial list of aggregate sources which they've tested annually as opposed to every project; while some districts do test everything every project even though the aggregates are from the same source.

### **Environmental product declarations (EPD) project (Jackie)**

District 2 AGC outreach was done yesterday and informed them of two pilot projects upcoming in D2. Five pilot projects have been identified so far and will be posted on the METS website hopefully next week which includes two in D2, two in D1 and one in D5.

### **C78 to CT 523 (David and Jackie)**

General finding is that the tests are equivalent. Process has begun to revise both CT 523 (and maybe 524) accordingly. Long term goal is to connect this change with ASTM C39 and the capping test method to utilize the ACI Strength Certification as equivalent demonstration of certification (similar to JTCP).

### **PP84 Update (David)**

Pooled Fund work ongoing. Will need to identify pilot projects in pavement sometime in the future.

### **Flex Beam Dispute Resolution Process (David)**

Deepak is still lead on this. Still moving along as far as we know.