

PMPC Asphalt Task Group (TG 3+4) Meeting Minutes

Date: September 1, 2021

Time: 1:00 PM – 3:00 PM

Location: Webex

Facilitator: Tom Pyle

Attendees: Scott Dmytrow, Pat Imhoff, Douglas Mason, Sarah Hartz, Tom Pyle,
Phil Reader, Ken Solak, Chu Wei, Jacquelyn Wong, Kelly Lorah

Not in Attendance: Dennis McElroy

1. Introductions/Review Agenda
2. Review Past Action Items (see action items at the bottom of the minutes)
3. Introductory Urgent/Emerging Issues
 - CT 306 Follow-Up
 - a. Jackie – A memo came out with recommendations:
(see **attachment 1** at end on minutes)
 - b. Phil – Some industry stakeholders are still frustrated with CT 306 and that it's being performed inconsistently in labs. Industry would like to have another meeting to discuss, possibly virtual training would be beneficial. Additionally, industry would like to be a part of the development of the ILS study and training.
 - c. Jackie – Should we have the WG create virtual training now?
 - d. Phil – Yes
 - e. Jackie – Is there anything else we can do in the short term?
 - f. No comments received.
 - Selection of 3rd Party Lab Dispute Resolution
 - a. Phil – ITP labs were not being accepted by Caltrans labs.
 - b. Jackie – We thought it was a one-off, but we need to determine what to do for conflict resolution.
 - c. Scott – It sounds like we need to clarify, if an AASHTO lab is accredited, Caltrans needs to provide a reason.
 - d. Phil – Since we're operating in the assumption that this is not a widespread problem, let's determine if it's truly an issue.
 - Milestone Extensions – Clarifying and Justifying Strategies
 - a. Ken – We had a discussion on milestone extensions. Maybe when there's a milestone extension, there is a justification/explanation why the new dates are proposed.
 - b. Tom – That's reasonable.

- c. Phil – What happens if an ATG member doesn't approve the milestone extension?
 - d. Ken – A member can reject, but give a reason why and we can work on the extension to accommodate the changes.
 - e. Jackie – We would like to see planning.
 - CT 125 Proposed Awareness
 - a. Jackie – The proposed change is to add the third box size back into the CT. It existed before, but was removed in the recent update.
 - b. Pat – When shoveling material out, it's hard to get the shovel in 4.5" box due to it's size.
 - c. Phil – It introduces variability.
 - d. Jackie – Is no one using the 3" size?
 - e. Industry – No.
 - f. Jackie – Do we need to make this change at all? What's the next step?
 - g. Phil – Have 306 check this one to.
 - h. Jackie – Sure.
 - Pilot Project Updates (Tom)
 - a. Tom – We're meeting up with district designers systematically to ask for help with pilot projects. We're getting favorable responses. We've put together fact sheets for RAP, RAP in RHMA-G, and RAS. Sergio asked that each district use 2 projects.
 - b. Phil – It's heartening to hear the effort.
 - c. Jackie – It may be beneficial to get industry to also endorse that they want to work on pilot projects.
 - d. Chu – I'm also willing to support that effort.
 - e. Phil – EC Industry members met with Shaila on RAP & RAS on the cost estimate for converting contracts to pilot projects.
4. Asphalt Subtask Group Work Products
- A. Use RAP up to 40% in HMA
 - a. No news.
 - B. RAS up to 3%
 - a. Phil – The virgin mix has been approved and the CT index has been approved. It looks like it will meet the specified grade. Caldor Fire shut down the project for now. We'll try to get the hot drop done. The rest of the job will be completed next year at a minimum.
 - C. Post Plant Gradation
 - a. Jackie – Maged met with the lab managers for training and Q&A.
 - D. 10% RAP in RHMA-G

- a. Phil – We put a proposal together for how the spec should be. After an agreement is made between Tony and Kee, we can move forward.
- 5. Pavement Preservation Subtask Group Work Products
 - A. Section 37 Update
 - a. No news.
 - B. 2021 Section 37 Fog Seals Update
 - a. Kelly – They’re still seeking industry members.
- 6. In-Place Recycling Subtask Group Work Products
 - A. Write nSSPs and Pilot CCPR on Caltrans Projects
 - a. No news.
 - B. Test for FDR-C and Update Specification for UCS and Terminology
 - a. Kelly – The scoping document is with the EC for approval.
 - C. Explore PDR as Surface Wearing Course
 - a. Kelly – They’re still seeking Caltrans members for the scoping document
- 7. EC Updates for ATG
 - EC’s determination on whether acknowledgement or approval would be necessary for Decision Documents
 - a. Doug – Several of the EC members would rather acknowledge and a couple wanted to approve. The assumption is to acknowledge at this moment.
 - b. Doug – They’re talking about SOP updates and a PMPC workshop for the fall.
 - c. Jackie – Is there an ask of us?
 - d. Doug – At this time, no. The EC is working on the agenda.
 - e. Phil – What’s the target audience?
 - f. Doug – They’re going to present to the current PMPC recognitions, SOP, and goals.
 - g. Phil – Is it limited participation?
 - h. Doug – Not likely.
- 8. Review bin lists
 - a. Pat – Should we have a separate meeting for bin lists?
 - b. Phil – Tony is working on a short scoping document on Balance Mix Design. Industry has selected names for the WG. It will come out after the FHWA workshop.
 - Tony Limas – Lead
 - Rob Piceno – Vulcan Materials
 - Tim Denlay – Knife River
 - Pat Imhoff – CalPortland
- 9. Roundtable / Review Action Items / Next Meeting

- a. Tom – Should we reassess the action item handling at the beginning of the meeting?
- b. Chu – We have Balance Mix Design workshop on 09/29 + 09/30.

10. Feedback

Action Items from TG 3+4 on 09/01/21:

1. Schedule meeting for CTG & ATG in December for SOP update (5 hours) – Kelly
 - a. Decision Document Guidance, Conflict Escalation Process, Pilot Project Tracker, Final Report ask for Scoping Documents, Short Scoping Documents, Milestone Extensions (justifications for dates)
2. Send CT 306 recommendations feedback to the adhoc WG and revise the recommendation – Jackie
3. Discuss with industry whether lab rejections are common and if they're not, then we move forward as normal – Pat/Phil
4. Send the 3" box size issue back down to the adhoc CT 306 group – Jackie
5. Find industry members for Fog Seals scoping document – Scott
6. Get list of potential PMPC participants from industry to Doug for the PMPC presentation in fall – Pat/Phil
7. Caltrans to make a decision on whether a decision document is feasible for Pay Equations for Binder Content – Section 39 Quality Characteristics – Jackie/Tom/Ken
8. Add action item handling to the next meeting agenda – Kelly

Action Items from TG+STG Chairs & Leads on 08/04/21:

1. Add agenda item to the CT Only meeting to discuss the pilot project tracker and what it includes – Kelly – 08/05/21 for 08/11/21 meeting - **Complete**
2. Add agenda item to the EC meeting for an update from Tom on the Division of Transportation Planning pavement recycling strategies incorporation into the Project Initiation Report – Doug/Kelly/Tom – ~~08/05/21~~ 11/18/21
 - a. Rescheduled for next EC meeting; Tom to get with Allen and figure out what this is
3. Kick off the CT 306 adhoc group – Jackie - **Complete**
4. Remove Smoothness from future ATG agendas – Kelly - **Complete**

Action Items from TG 3+4 on 07/06/21:

1. Assemble a group to go over the comments regarding CT 125 & 306; CT to propose 3-4 members, industry to propose 3-4 members – Pat/Jeremy – 08/04/21 - **Complete**
2. Send the draft pilot project tracker sheet to ATG and CTG – Kelly – 07/09/21 - **Complete**
 - a. Create the comment resolution sheet and send it out to the group – Kelly – before internal meeting - **Complete**
 - b. Internal meeting to resolve comments – Kelly – before EC meeting (early next week) - **Complete**
3. STGs are to comment and populate the pilot project tracker draft – STG Chairs & Leads - **Complete**
 - a. 09/01/21: Remind staff to populate sheet – Tom
 - b. Send out the tracker sheet after internal meeting mentioned in #2b – Kelly - **Complete**
4. Have the EC decide whether their scope is to approve or acknowledge documents – Doug - **Complete**
 - a. To be discussed later in the meeting
5. Follow up what “completion” of a work product means to the EC – Jeremy/Doug - **Complete**
 - a. 09/01/21: The final report and lessons learned should be listed as a milestone. It should be distributed to the EC for acknowledgement. This is the bow to be tied on the work product.
 - b. Jeremy – There’s going to be a new DES member on the EC. Kevin Keady is leaving.
 - c. Jeremy – The expectation is that there is some sort of final report-out on the scoping documents for posterity. Future scoping documents should have a final report/deliverable.
 - d. Jackie – The EC doesn’t want to approve work products, but they do want to acknowledge the final report for a final closeout. They don’t want to be an approving body for the work products.

Action Items from TG 3+4 on 04/07/21:

1. ~~Recover~~ conflict escalation request form ~~from Courtney~~ and have industry review and submit for approval – Phil/Scott/Dennis/Pat/Kelly – 07/06/21
 - 09/01/21: Conflict resolution form is okay; option 1 & 2 need to be clarified. Proposal to be proposed and routed for comments
 - 07/06/21: Industry still looking at this. Will be pushed to next meeting. Send out the conflict resolution form to all ATG – Kelly – 07/09/21
 - 06/02/21: More review from industry needed; Postponed to adhoc meeting with decision document vs scoping document guidance

2. Internally evaluate the impacts of pulling the IC nSSP and report the findings to the ATG; also pull a report of data from the IC database to give to industry; Information to be routed through Kelly – Ken – **In progress**
- 09/01/21: We're continuing to gather data.
Ken to discuss with Ragu on what jobs to collect data on – Ken
 - 07/29/21: IC data is report only and continuing to collect the data will provide valuable information regarding future evaluation of the IC spec.
 - The data files are too large to email, but the following fields are being collected:
 - Pass count
 - Temperature
 - ICMV – an indicator of the stiffness of the pavement
 - 07/06/21: Ken will provide the summary of why Caltrans wants to keep the nSSP and provide data from the IC database.
 - 06/02/21: More information needed from Ragu

Memorandum

To: Asphalt Task Group
Pavement and Materials Partnering Committee

Date: August 26, 2021

From: Guadalupe Magana
Branch Senior
Asphalt Binder and Hot Mix Asphalt Branch
Office of Central Laboratory
Materials Engineering and Testing Services
Division of Engineering Services

Subject: **AD HOC WORKING GROUP RECOMMENDATIONS FOR CALIFORNIA TEST 306**

Caltrans has received several comments from both Caltrans materials labs and Industry regarding the new California Test (CT) 306, "Method of test for Reducing Samples of Asphalt Mixtures to Testing Size." Many of these comments covered the following concerns: safety when heating rubber to compaction temperature, segregation of material seen in sampling boxes prior to sample reduction, reheating of material and its aging effects, lack of training/certifications currently held, and potential increases in rubberized mix test variability.

The PMPC Asphalt Task Group (ATG) created an ad hoc working group with members from Caltrans and Industry to review these comments and come up with potential short- and long-term solutions to the CT 306 concerns. This ad hoc working group met on August 12, 2021 and agreed to the following recommendations:

Short-term recommendation:

- CT 306 should be left as is until more data can be obtained. This includes not making any additional changes to the test methods for reducing temperature requirements. This method was created based on limited data, but nonetheless it was based on data.
- The long term recommendations listed below should be placed on the ATG bin list for future consideration.

Long-term recommendation:

- Perform a new Interlaboratory Study (ILS) to evaluate 3 to 4 different $\frac{3}{4}$ " RHMA-G mix designs with varying additives coming from different regions of California.

- The ILS must compare AASHTO R 47: Standard Practice for Reducing Samples of Hot Mix Asphalt (HMA) to Testing Size methods: mechanical splitting and quartering with CT 306 as it is currently written.
- Test data should be based on the following material's properties: theoretical maximum specific gravity, binder content, aggregate gradation, and mix volumetrics.
- Follow the same ILS methodology for evaluating repeatability and reproducibility of test results through ASTM C802, "Standard Practice for Conducting an Interlaboratory Test Program to Determine the Precision of Test Methods for Construction Materials" and ASTM E691, "Standard Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method."
- Implement the least variable reduction process based on the new study findings.
- Working group at a minimum should include someone who represent District Labs and the ILS Program.

Minutes from the ad hoc working group meeting are attached.



GUADALUPE MAGANA
Branch Senior
Asphalt Binder & Hot Mix Asphalt Lab

08/26/2021
Date

cc: Sarah Hartz, Office of Central Labs
Jeremy Peterson-Self, Chief, Office of Material Management and Independent Assurance
Kee Foo, Office of Asphalt Pavement
Ragu Thangavelautham, Caltrans, HQ's Construction
Clinton Edmiston, Materials Engineering and Testing Services
Kevin McNeil (Industry Chair), Graniterock
Evan Folk, Toro Enterprises
Tracy Zubek, DeSilva-Gates
Daniel Ortega, CalPortland



PMPC Ad-Hoc Working Group - CT 306

AGENDA

Date:
Time: 08/12/2021
Location: 1:00 pm to 3:00 pm
 WebEx

Meeting called by: Guadalupe Magana

Attendees: Guadalupe Magana (Caltrans Chair), Kee Foo, Ragu Thangavelautham, Clinton Edmiston, Kevin McNeil (Industry Chair), Evan Folk, Tracy Zubek, Daniel Ortega, Jaquelyn Wong

Purpose: Review current concerns with the CT 306 test methods presented by both Industry and Caltrans and identify if actions are necessary to address them.

Time	Topic	Who	Desired Outcome
5 min.	Introductions	Group	
5 min.	Review meeting purpose	Guadalupe	Develop Understanding
Old Business			
5 min.	Briefing of previous working group deliverables and members	Guadalupe	Develop Understanding
5 min.	Overview of round robin study	Guadalupe	Develop Understanding
20 min.	Overview of current test method	Guadalupe	Develop Understanding
New Business			
10 min	Current changes being processed	Clinton	Share Information
40 min.	Concerns that have been shared	Clinton/Group	Share Information
30 min.	Identify Next steps/Action items	Guadalupe/ Kevin	Develop Next Steps

Meeting minutes:

PURPOSE

After group introductions, Guadalupe stated the purpose of this ad-hoc working group. The purpose of this meeting was to review concerns that had been brought up by Caltrans lab staff and industry regarding the use of CT 306 as intended for rubberized mixes. CT 306 was published on December 2019, but full implementation was seen towards the end of the 2020 paving season. Some concerns that have been shared may be due to the fact that CT 306 is relatively new, and some technicians may lack knowledge on how to perform the test correctly or how it was intended.

BACKGROUND

Guadalupe provided an overview of the past working group actions, stating that the group was put together to revise CT 125 and address variability concerns regarding rubberized mixes. Guadalupe reviewed the scoping document and list of members from the original CT 125 working group. Members of the ad hoc group who were part of the original working group included: Guadalupe, Ragu, Kee, Clinton, and Tracy.

The original working group's decisions were based on an inter-laboratory study (ILS) performed by METS. The ILS showed improved variability using the new proposed direct sampling method, which was based on the idea that the less RHMA is handled the less variable the test results were. The working group created a new process for sampling (revising CT 125) and splitting (new test method CT 306) based on the ILS findings.

The group also reviewed the current CT 306 test method. In addition, Clinton shared proposed revisions, which included allowing a lower temperature for reheating the sample boxes before splitting. The proposed revisions would allow a temperature range from 230°F to compaction temperature. This would allow all state labs to perform the test in a safe manner without the need for respirators.

DISCUSSION

The group reviewed the comments/concerns received on CT 306, most of the comments coming from District 6. The comments were grouped by category, such as general, safety, segregation, reheating, variability, temperature, procedure, and tester certification.

Industry brought up that by reducing the temperature, you have less time to work with the material and the less free flowing it becomes. Clinton explained that the temperature changes to CT 306 resulted from a smaller scale study. The study used the same material from the original ILS and the results showed consistent variability with the original report. Technicians did not report any issues with material stiffing up on them due to the lower temperature. However, these studies are all isolated to one mix type. This doesn't mean that other rubber mixes will experience the same hardening effects/variability. This is potentially worth exploring further.

Industry brought up additional concerns that by having a range of temperature in CT 306 it might not allow for comparable results. Deviation from the temperature between Caltrans and Industry labs may not be a true representation of each other. The question was asked, could the temperature range influence results or reduce variability between the two labs?

Industry also discussed potential issues with volumetric variability and asked if these were analyzed in the study. In their experience the longer material stays in the oven at different temperatures the more curing the material receives.

Clinton informed the group that no variability analysis was performed on volumetrics. The ILS and mini study included uncorrected binder content, uncorrected gradations, and specific gravity. Volumetrics may need to be included in an additional study. Clinton brought up that AASHTO R47 does not specify any temperature or heating durations. With CT 306 we are specifying limits for both.

Industry stated that some of the issues they are seeing with CT 306 stem from sampling per CT 125. Not all boxes from the quadrants appear to be homogenous. There might be sample segregation by shoveling directly into a box. Another factor that might affect segregation is the mix gradations. In addition to boxes either not being completely full or material being segregated, Industry experiences some Caltrans labs requesting less than 4 boxes to complete a sample.

It was brought up that industry does not reheat the sample boxes for sample splitting. They split immediately after sampling when the mix is still warm. Caltrans may reheat up to three times. CT 306 allows for up to two reheat cycles in addition to the heating the material experiences during production.

Industry agreed that rubberized mixes can present safety concerns in the lab when heating to compaction temperature. It was also mentioned that allowing only one temperature, say 230°F, might only work if WMA is used. Most RHMA jobs are night work and that is where the potential for segregation starts. More than the test method, RHMA is a problem in general. Industry stated that the bigger issue with RHMA is that the tolerances in the rubber specifications might be too tight.

RECOMMENDATIONS

The group agreed to hold off making any revisions, including a temperature reduction change, to the current CT 306 and recommended to do a broader study. A PMPC working group should collect more data to see if there's really an improvement with CT 306 versus AASHTO R47. The tolerances in the RHMA specifications should also be reviewed as part of this assessment.

The group recommended a larger ILS using 3-4 mixes from different regions (e.g. southern CA, central CA, and northern CA) with different admixtures. The study would be a direct comparison of CT 306 to R47. A minimum of 8 labs must participate in the study. The study should include ¾ inch rubber mixes and evaluate the test methods previously used in the ILS study as well as all volumetric tests.

This new study will need to be brought up to PMPC and added to the priority list for a near future working group.

Ragu recommended that this group have a member who works in a Caltrans lab. Lab staff personnel have more hands-on experience with the potential issues that may be present in test methods.

A recommendation memo to the PMPC will be drafted stating the short-term solution of keeping CT 306 as is and to begin a more comprehensive study in the near future.