Section 39 STG Meeting

Sacramento, Ca

Group Memory

9/25/2014

Includes new industry items added from the 9/25/2014 meeting

Next Meeting dates

Sep 25 (Sacto) (note the change.) (9:30-2:30)

Oct 21 (San Diego) (10:00-2:30)

Nov 14 (Sacto) (Note the change) (9:30-2:30)

December 19 (San Diego) (10:00-2:30)

Desire outcome for next meeting:

Continue to work, resolve issues.

Critique from this meeting: No critique done.

What went well	What Needs Improvement

NOTE ITEMS IN BLUE BELOW HAVE BEEN RESOLVED.

1. **Purpose:**
    1. 1. Close out issues from last meeting.
    1. 2. Look at the list of items Industry wants to discuss.
    1. 3. Update on the spec.
2. **Spec update**
    2. 1. The spec was posted on April 18th. It was sent out to industry.
    2. 2. (Comment From 6/20/2014) Latest update of spec is from May 30, 2014.

2. 3. There are a few issues that fell through the cracks.

2. 4. Automatic sampling issue: There was an oversight in that this was not taken out, but this will be changed. The contractors will need to RFI the RE to request a no-cost CCO to remove the "automatic sampling device at the plant" requirement.

2. 5. If you find anything we agreed to that is not in the spec, please tell Kee or Joe about it.

2. 6. The Spec that governs is the spec that is in effect on the day the job advertises.

2. 7. ~~**(Comment From 6/20/2014) Joe will send the change to section 39 to remove the "automatic sampling device from the plant" and replace with "plant."**~~

2. 8. **(Comment From 7/23/2014) Need clarification on Safety, RAP/RAS, section 39 and environmental issues - will they still be allowed?**

   2. 8. 1. (comment from 8/13/2014) The 2015's will be published at the end of the year.

2. 9. **(Comment From 7/23/2014) CT needs to respond: Per Jun e 19 meeting industry understanding is that automatic sampling will be changed to mechanical sampling for trucks.**

2. 10. (Comment From 7/23/2014) **CT (Chuck) will provide a write-up on the timeline and the opportunity to revise specs.** Opportunity to address specs: By end of July we are supposed to have version 5 of the final spec done. This means approval by all internal stakeholders / spec owners by end of September – an electronic version of 2015 spec should be available by end of December. Next step is to have State Printing Office to print the spec, which should be available by April 1, 2015. Districts can use the 2015 specs beginning April 2015. CT has not solidified the date when 2015 specs will be mandatory. Revisions will be worked on starting after the first of the year, but nothing would be published until July.

   2. 10. 1. (comment from 8/13/2014) This is being reviewed by Office Engineer.

   2. 10. 2. (comment from 9/25/2014) Section 39 Version 5 should be done by (target date) the end of October. It is being reviewed for technical content fatal flaws. Electronic version should be out in early 2015. Printed version target date is 2015. It should be in contracts in August 2015 (target date).

3. **Issue 1 from industry concerns of 5/20/2014: Aggregate temperature**

3. 1. Caltrans is not able to make an instantaneous decision about the final value for aggregate temperature.

3. 2. Industry concern is that 375 degrees mix at the plant will not produce hot enough mix.

3. 3. Caltrans needs data from industry on what other DOT's do, who follow 25% RAP, 40% binder replacement. The sooner CT gets the data, the sooner they can make a decision.

3. 4. Phil Stolarski sent out questions – CT is looking at issues including heating temperatures for aggregate when mixing HMA and RAP.

3. 5. CT is waiting for information to be compiled from other states, then CT will look at it and determine the issue and share with industry for discussion and consensus.

~~3. 6. **(Comment From 6/20/2014) Caltrans will review and report back based on the survey data presented today at the next meeting.**~~

3. 7. (Comment From 6/20/2014) Industry concern: Binder content and gradation are the tools available to make changes. They need to know right away what the gradation is. Delays caused by testing turn-around time can be a problem. CT Comment: We are willing to do post-plant gradation. Industry comment: How does this address turnaround time?

3. 8. (Comment From 7/23/2014) Industry concern is that with Caltrans specifying a max temperature, they cannot recycle asphalt. Industry has been doing this for fifteen years without any issues. Now CT has a max temperature because they are concerned about aggregate breakup. Everyone has performance data to show and there has not been a failure.

~~3. 9. **(Comment From 7/23/2014) CT and Rita will check with City of Los Angeles on this issue and report back at the next meeting.**~~

   3. 9. 1. (comment from 8/13/2014) Rita shared an FHWA report showing a tem requirement for RAP (a chart) from a NAPA publication – Nothing new – still says you need to have temperature of virgin aggregate needs to be at an elevated temperature when using various quantities of RAP. This is necessary to hit the temperature at the end of the drum…

   3. 9. 2. (comment from 9/25/2014)

3. 10. **(Comment From 7/23/2014) Tony L will do a literature search on the subject and report back at the next meeting.**

3. 10. 1. (comment from 8/13/2014) No information available – Tony will continue to look.

3. 11. **(Comment From 7/23/2014) CT proposes a small working group to look at the issue of aggregate temperature – Tony L, Phil R, Hongbin Xie, Don, Kee, Pascal, Mike C AND Joe. Is there a test or something that we can run so we can take care of this problem? Kee Foo will set this meeting up.**

3. 11. 1. (comment from 8/13/2014) Industry does not have consensus on this issue – they are split on the proposal back to industry from Kee Foo to either go to post-plant gradation or form a small working group to determine the method to define or measure the aggregate breakdown as it goes through the drum.

3. 11. 2. (comment from 8/13/2014) CT will not move away from gradation at the current time in mix design or acceptance testing–they will look at it either pre- or post-production. CT says there is not enough data at this time to drop gradation. CT will be developing a QC/QA spec. There may be an opportunity at that time to look at this again.

3. 11. 3. (comment from 8/13/2014) CT says it is not a singular quality item that makes or breaks a mix design- many things come into play. Therefore CT wants to continue with the testing to assure a quality mix.

3. 11. 4. (comment from 8/13/2014) Industry comment: None of these things has been tied to performance.

3. 12. (comment from 9/25/2014) CT wants consensus from industry on this before they will move ahead on it. CT awaits a proposal from industry. CT position is that the aggregate will break down slightly. **Industry will meet and discuss to see if there is an alternate proposal.**

4. **Issue 2 from industry concerns of 5/20/2014: Minor asphalt AASHTO T283 requirements (5/20/2014 Comment)**

4. 1. Industry comment: If I have an aggregate that is proven to pass and does not have a stripping requirement, why would I need to put the liquid anti-strip treatment in?

4. 2. CT response: Under 39-7.02D – CT will add "Unless dry tensile strength is greater than 100 PSI and wet tensile strength is greater than 70 PSI…"

4. 3. (Comment From 6/20/2014) CT Comment: This will be eventually be changed – the issue is resources at OE.

4. 4. (Comment From 7/23/2014) CT these changes have been requested to OE. You do not have to treat minor HMA if you submit AASHTO 283 and AASHTO T 324 (Modified) test results showing compliance with section 39-2.02B(2).

4. 5. **(Comment From 7/23/2014) CT needs to address the issue of mix design verification. We need to know how the general section applies. Is a mix verification required for minor asphalt? Industry prefers that mix verification not be required.**

4. 5. 1. (comment from 8/13/2014) CT sent out an advisory e mail to DME's defining minor and the requirements for testing –

With the new posting of Section 39, I wanted to give some clarification on the intended use of Minor HMA. Minor HMA has it's own BEES item code, thus has to be specified in order to be used. Minor HMA still requires a mix JMF mix design, but does not require Hamburg (AASHTO T 324) or Moisture (AASHTO T 283) testing. In addition there is no hot drop verification, rather production start up evaluation combines the hot drop with the first day of paving. All other tests (aggregate, volumetrics etc) apply. A 3513 is issued for Minor HMA, but the values for Hamburg and Moisture are left blank, and I would recommend that across the top of the 3513 the lab issuing write "MINOR HMA ONLY". The minor HMA JMF is valid for 1 year.

The intended use of Minor HMA is for 1000 tons or less of total paving in the project. This can be on shoulders, intersections, gores etc.,

4. 6. (comment from 8/13/2014) CT says it would be a good idea to put the remark: "MINOR HMA ONLY" written across the top of the 3512.

5. **Issue 3 from industry concerns of 5/20/2014: Define the parameters for Minor HMA (less than 1000 tons, 500 tons etc.)**
    5. 1. CT will put out a DIB defining what minor HMA is. (will be 1000 tons total project paving or less)
    5. 2. CT will send out a note to the DME's on this.
    5. 3. Check with your DME for appropriate use of minor HMA.
    5. 4. Industry: Minor HMA will also require gradation, AC Content, air void, VMA, and field compaction. Since only Hamburg and TSR strength are waived it will also require a job mix formula verification if one does not have one. Was this discussed during the superpave meetings? CT Response: Yes. Acceptance is based on production.
    5. 5. Industry wants to take a look at minor HMA in regards to density requirements. CT response: Please bring specific items back so we can address them.
    5. 6. (Comment From 6/20/2014) CT: DME's got a notice on minors, defining what a minor HMA project is -– This was sent out via e mail to all district materials engineers. I
    5. 7. **(Comment From 7/23/2014) Industry would like to have something in hand to show to DME's if this comes up, i.e. DIB. Some sort of document – formalizing this. Is CT putting out a DIB? Can we have a copy of Joe's e mail? Please make sure industry gets a copy of the DIB when it goes out.**
        5. 7. 1. (comment from 8/13/2014) Joe's e mail was sent to the group. A DIB will be going out in the future. CT recommends that industry use a copy of Joe's e mail in the interim. Industry comment: The DIB is important to us so we can show it to the DME's.

6. **Issue 4 from industry concerns of 5/20/2014: Use of cores vs. nondestructive density gauges**
    6. 1. Industry comment: We are not prepared to discuss this issue at this time.
    6. 2. At this point in time, CT is adamant about the use of cores for checking density and does not foresee a movement away from this.

7. **Issue 5 from industry concerns of 5/20/2014: Mix laydown temperatures and for WMA technologies**
    7. 1. Industry comment: Do the atmospheric and surface temps for HMA apply to WMA?
    7. 2. CT: The temps apply to all Type A HMA whether or not WMA is used.
    7. 3. CT: For method compaction, min. temps are specified because we do not measure compaction.

8. **Additional issue: QC/QA Issue: Does industry data count?**
    8. 1. Industry: We are depending on test results coming back from CT. We have material on the ground already while we await test results from CT. Turn-around time for acceptance test results is an issue. CT response: This is not the forum for this issue. That issue needs to go to the RPC.
    8. 2. CT: Samples are split, and contractors always have the right to go to a third party lab for dispute resolution and testing when there are test result differences in split samples. CT and industry should work their differences out at the lowest level possible.
    8. 3. CT is responsible for QA sample taking and splitting.
    8. 4. (Comment From 6/20/2014) This item is closed because this group does not have the authority to resolve the issue.

9. **Additional issue: RAP language needs clarification.**
    9. 1. Current spec allows 40% binder replacement on lower courses, but limits the aggregate replacement to 25%. Will not allow for 40% binder replacement. Was this intentional?
    9. 2. CT and industry agree that this has been clarified already. Response from CT: yes this was intentional. This will be clarified in the RAP / RAS spec.
    9. 3. (Comment From 6/20/2014) This has been resolved per previous comment.

10. **Additional issue: Windrow length**
    10. 1. Industry: A 150 foot windrow impedes production – Windrow length should be dependent on ambient temperature.

10. 2. We can get this on the list of issues to discuss – length of windrows vs. Temperature. This is an additional bullet for the Section 39 scope of work.

10. 3. (Comment From 6/20/2014) Industry concern: Temperature checked on the surface with a gun are producing different results than the older method of checking with a thermometer probe at mid-depth.

10. 4. (Comment From 6/20/2014) **CT: We will check with Construction to see if the method for measuring temperature can be addressed in the construction manual. CT (JOE) will come up with a procedure to address the method for measuring pavement temperature.**

10. 5. **(Comment From 7/23/2014) Joe is working on it. Check back at next meeting**

10. 6. **(Comment From 7/23/2014) Industry will bring back a proposal for temperature vs. windrow length for method specs.**

10. 6. 1. (comment from 8/13/2014) Phil provided a proposal.

10. 7. **(Comment From 7/23/2014) Industry concern: For end result compaction projects there should be no windrow length requirement. CT will consider this**.

10. 8. Why is CT concerned about windrow length? Why is this a requirement?

10. 9. (comment from 8/13/2014) Caltrans says we need to have a number we can agree on – now the windrow length is 250 feet. It is easier to enforce the length than the temperature.

10. 10. (comment from 8/13/2014) Caltrans will review the proposal for method spec and general paving. Kee and Joe will review and report back.

10. 11. (comment from 9/25/2014) Result of CT review: Caltrans will stay with 250 feet. Industry still has concerns related to safety – especially on a two-lane road. CT says they would have to do a study on this if the windrow length is taken out. This may result in a different restriction such as paving speed in feet per minute. **CT will report back at the next meeting. If it is determined to be a safety issue, they will propose something else. CT proposal: Use an MTV on all projects in lieu of a windrow max length. Industry co-chairs need to report back to the Caltrans co-chairs on this.**

11. **Additional issue: CTM 125**

11. 1. Industry concern: Height of windrow may need to be redefined.

11. 2. Industry will provide Caltrans with actual windrow dimensions based on actual field conditions.

11. 3. **(Comment From 6/20/2014) CT: Joe will look at the dimensions and revise CTM 125 accordingly – probably a range to allow a little latitude.**

11. 4. (Comment From 7/23/2014) Joe is working on it. Check back at next meeting

11. 5. (comment from 8/13/2014) Joe still working on it

11. 6. (comment from 9/25/2014) Joe still working on this.

12. **Additional issue: Cure time for plant samples (May be for any sample)**

12. 1. Industry concern: When samples are taken early in the production process at the plant, cure time should be taken into account.

12. 2. CT Response: CT agrees. CT and contractor must be doing the exact same thing. CT and industry should revisit cure time required for plant produced samples.

12. 3. (Comment From 6/20/2014) CT comment: We are directing the laboratories to do exactly what the contractors are doing. Industry comment: The spec does not require the district to do what the contractor does. This needs to be specified. Exactly what temperature should the oven be when the sample is placed inside? How long should the sample be in the oven? What temperature should the sample be (what is "cold" ??) when it is placed in the oven?

12. 4. **(Comment From 6/20/2014) (revisited - here is the comment from 9/25/2014) Joe and Kee will draft up something related to temperature and time. It needs to be simple, clear and enforceable on both sides. Need to provide language for a two hour cure (NOT reheat) for plant-sampled material. Per AASHTO R 39**

12. 5. **(comment from 8/13/2014)) (revisited - here is the comment from 9/25/2014) Joe will do a lab instruction to all DME's on the process to be followed.**

12. 6. (Comment From 7/23/2014) Joe is working on it. Check back at next meeting

12. 7. (comment from 8/13/2014) CT says the sample should be in the oven for 2-4 hours.

12. 8. (comment from 8/13/2014) Industry concern: There is considerable variability among districts on how they handle cure time and temperature.

12. 9. (comment from 9/25/2014) See 12.4 and 12.5 above.

13. **Additional issue: CEM Forms**

13. 1. Will CT provide writable PDF Forms? Tabled for now – we will have to use what the Forms Unit at CT comes up with.

13. 2. (Comment From 6/20/2014) Industry comment: Forms were writeable in the past. CT: We do not have any control over forms management. Resolved for now.

14. **Additional issue: Lab vs. Field data on Hamburg**

14. 1. Industry comment: Hamburg and T283 lab vs. field testing. There is a need to collect lab data for Hamburg.

14. 2. CT is tracking data on all projects. The results are available but the specific projects are not tied to the data. The data will tell us what results were obtained, but not which project or which contractor was involved. Those attributes are treated as confidential.

14. 3. CT Note to industry: Separate submittal of Hamburg and T 283 data on CEM requires prior approval from the RE. Be sure and get this (documented) approval prior to submitting CEM form without TSR and HWT data. \

14. 4. (Comment from 6/20/2014) CT Comment: It would be nice to have a contact person identified for every job when you send data to CT.

14. 5. (Comment From 7/23/2014) CT (Audrie) has communicated to industry a request to identify a contact person for each job to gather information.

14. 6. (comment from 8/13/2014) Still on-going

14. 7. (comment from 9/25/2014) CT showed samples of asphalt for HWT that passed and that failed. **A small group of CT and Industry will work on the HWT improvements. Tony will provide the names of industry representatives to participate in the discussion. Tony L will provide names to Joe P. Integrate this discussion with the suggestion related to the RSP below.**

14. 8. **(comment from 9/25/2014) Suggestion: A round robin could produce some good information for everyone, working on the same material. Joe will request this for the next Reference Sample Program whi h will likely be late 2015 construction season.**

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15. **Additional issue: WMA and requirement for foaming test – LP 12**

15. 1. Issue: No labs are interested in doing this test.

15. 2. CT: We need to look at this issue. CT will have a discussion and bring back an opinion. Concern is that binder suppliers will add anti—foaming agents to the binder.

15. 3. **(Comment From 6/20/2014) No progress on this issue since last meeting. Kee and Joe need to discuss what is appropriate. Report in July.**

15. 4. **(Comment From 7/23/2014) CT will reconsider elimination of this requirement.**

15. 5. (Comment From 7/23/2014) CT needs assurance that the binder does not contain anti-foaming agent and will actually foamed. Exploring the possibility that as part of the COC program asphalt supplier will include some sort of certification that binder does not contain anti foaming agent. Bring up this issue to asphalt binder supplier this week. However, there is still no indication of how well the certified anti-foaming free binder will foam.

15. 6. (Comment From 7/23/2014) Industry does not see that this has ever been an issue.

15. 7. (comment from 8/13/2014) CT will be setting up a check-box for the binder supplier to declare anti-foaming chemicals added or not, effective September 1. Caltrans will put information on the COC Website as to who is adding anti-foaming agents. For the 2015 spec, LP-12 will be included, pending what the suppliers declare.

15. 8. (comment from 9/25/2014) The requirement has been eliminated, and the check box is in place. **Validate completion in October. CT will report progress.**

16. **Additional issue: Production of dual-grade binders**
    16. 1. Can binder suppliers make a two-grade binder –
    16. 2. Some refineries can certify binders as dual grade.
    16. 3. CT response: If you want to submit a dual grade binder for a mix design, you should include documentation at the initial submittal for both the 64-10 and the 64-16 grades, and denote that you are submitting the mix design under the contract as a 64-10. It should be indicated in the submittal remarks box on the form that the binder meets both grades.
    16. 4. The life of the mix design will refer back to the original submittal approval.
    16. 5. (Comment From 6/20/2014) CT: Long term goal is to incorporate dual grade into the CT binder COC program. This is resolved.

17. **RAP/RAS Spec will be out at the end of the fourth week of June –**

18. **Additional Issue (Comment From 6/20/2014) Definition of minor HMA projects**
    18. 1. There needs to be additional defining criteria for minor HMA projects.
    18. 2. CT will look at this to see if designers are reading the spec wrong.
    18. 3. **CT will add in training "if the work is constrained on four sides," use the item for "replace AC surface." CT will look at existing method criteria for appropriateness.**
    18. 4. **This issue is resolved for now.**

New Issues brought on 6/19/2014:

19. Review of CT 304:

There are 2 industry comments (see attached)

CT 304: Thermometers accurate to 5F or less. The previous version was accurate to 1F.

    19. 1. (Comment From 6/20/2014) CT will look at the comments on CT304 and incorporate them as appropriate.
    19. 2. (Comment From 7/23/2014) Joe is working on it. Check back at next meeting
    19. 3. (Comment From 7/23/2014) This is in final review at CT.
    19. 4. (comment from 9/25/2014) CT: This is completed and posted.

20. **SuperPave Pilot Projects Data**

See attached report. Industry test data missing.

"We have to submit binder content on every sub-lot and submitted to the RE. They are not shown on data for Dist. 4. How does this data collection process work?"

    20. 1. (Comment From 6/19/2014) This was discussed earlier today.
    20. 2. (Comment From 7/23/2014) Response from CT: data need to be sent to Audrie if you want the data to show up. .

21. **Section 39 Scoping Document**
    21. 1. What assurance do we have that CTM's will continue to be included?
    21. 2. (I don't see anything in the Superpave specs that are based on traffic loading since we have a fixed number of gyrations for the HMA mixes and variable for the RHMA).
    21. 3. (Comment From 6/20/2014) Fixed number of gyrations based on typical heavy traffic loading.
    21. 4. (Comment From 6/20/2014) We need clarification from industry on issue relating to CTM question.
    21. 5. (Comment From 7/23/2014) These are good comments but they should brought up as sep. issues. The scoping document is done. If any concerns, we will add to the discussion agenda for Section 39.

22. **Why do we need to use 6" gyratory vs. 4" Hveem for TSR's?**
    22. 1. (Comment From 6/20/2014) CT will require 4 inch specimens for TSR at this time will be required to use the gyratory compactor

23. **SP for Local Agencies**

After reviewing the group memory from last meeting, I think there should be a discussion on whether or not we need a streamlined version of Superpave spec for local agency use, the definition of the minor HMA may not be attractive enough for local agency to use. And the existing standard Superpave specification has a lot more testing and paperwork (such as TSR dry and wet strength, Hamburg test, these tests conducted on plant produced mix as part of the lab mix design etc) than the previous new section 39 specification which is already overkill for some small local jobs, even the minor HMA has the TSR strength requirement. A lot of efforts spent are not necessary justified with the value provided, at least no proven values yet at this time.

My concern is that many local agencies will closely follow Caltrans spec and requires a lot of unnecessary work load from the producer and contractor, particularly it can be an issue for the smaller job. Since Caltrans specification always changes, some consideration should also be in place for how that will affect the local agency who may uses various versions of the Caltrans specification if they are not that closely (monthly update??) following the Caltrans spec.

23. 1. (Comment From 6/20/2014) CT: We are developing a low volume HMA mix for TI below 7 (=/-) which will be a relaxed Type A mix.
23. 2. (Comment From 7/23/2014) Low volume HMA scoping document has been approved.. Tim Denlay will be the industry co-chair. CT Co chair is TBD.
23. 3. (comment from 8/13/2014) The two co-chairs are Tim and Kee. They will set a meeting date.
23. 4. (comment from 9/25/2014) This issue has been moved to Section 39 Local Agencies. Co-Chairs are Kee Foo and Tim Denlay.

24. **Explore possibility of reducing D 2172 Solvent Extractions for RAP production/LP-9**

Would it make sense to use the RAP production samples as LP-9 samples? From a technical perspective is there anything that would prevent that?

24. 1. **(Comment From 6/20/2014) CT needs to review to ensure consistency between the mix design and the specification QC requirement.**
24. 2. (Comment From 7/23/2014) CT: You can use the RAP production samples for a LP-9 samples provided the stockpile has not been augmented.
24. 3. **(comment from 8/13/2014) CT says if you have control of the stockpile and do not augment it, (use of the static pile) then D2172 results from mix design will be basis for acceptance testing – no D2172 will be required in production. May finalize this at next meeting.**
24. 4. (comment from 9/25/2014) Industry would like to get away from the solvent useage. Burn-off would be much more efficient.
24. 5. (comment from 9/25/2014) Clarification: Take 6 samples from the static stockpile. For three samples, run LP 9 (three solvent, three ignition). For the remaining three samples, run ignition oven. There are nine test results: Six are ignition and three are solvents. The average of the three solvent extraction tests will be used for mix designFor augmented stockpile: one sample per augmentation of 500 tons running chemical extraction. If the results fall within the 2% or .06, your stockpile will be considered static again. If you are outside of this you must submit a new JMF. RAP from the stockpile could be used up to the point of augmentation, then the production would have to stop. **Check after the next RSS post.**

25. **Evaluating the need for the TSR test**

What data do we need to collect to make a decision regarding the continued need for the TSR test? (will the HWT suffice).

25. 1. (Comment From 6/20/2014) Discussed earlier today.
25. 2. (Comment From 7/23/2014) CT: will consider this at a later time.

26. **Additional Issue: BG Dust return on Drum Plants for WMA using a dry additive**

What is Caltrans expectation for a drum plant?

26. 1. (Comment From 6/20/2014) Expectation is 100% return.

27. **Additional issue Mix design 39-1.01 D(2)**

When you have a failed JMF you should be able to make the same adjustment in mix design as adjusting the non-verified mix design for RHMA.

27. 1. **(Comment From 6/20/2014) CT: Concern is that allowing the gyrations that vary then for all failed mix designs will be dropped to the minimum binder content, and the gyrations adjusted accordingly. CT will discuss this and report back.**
27. 2. (Comment From 7/23/2014) CT: Can adjust binder content and/or gradation. Do not adjust number of gyrations.
27. 3. **(Comment From 7/23/2014) Kee will check on this again and report back to the group.**
27. 4. **(comment from 8/13/2014) CT now sees no need to adjust the pressure or the number of gyrations, HOWEVER, they will go back to review the data again to see if that makes sense.**
27. 5. **(comment from 9/25/2014)**

Industry Questions, comments, concerns July 23, 2014

28. **How will Caltrans handle the LP-9 correction factor item associated with the following scenarios:**

At this time, I am unaware of an official directive from Caltrans on how they will handle this even though there are jobs have been awarded right now that allow Scenario #1. Not sure if Caltrans is thinking of running 3 individual LP-9's and coming up with 3 individual correction factors? If that was the thinking, I have think there would be an issue during production in the field as the recycle material is sampled at the RAP collar and thus all recycled products will already have been blended at the sample point making it impossible to apply multiple correction factors to a single blended recycled product?

I am concerned we will not have sufficient time to modify our in-house software prior to starting to use fractioned RAP on Caltrans projects.

This is just another issue illustrating the need for Caltrans to move to post plant gradations for acceptance which would make this a non-issue.

Another option is to lab blend the rap/rad at their % and run a single LP-9 on the lab blended immaterial during mix design - this would result in a single correction matching the plant same point.

28. 1. Scenario #1 - 2 RAP products in a mix
    28. 1. 1. (Comment From 7/23/2014) CT: Contractor is using multiple piles either course/fine or fine/fine, course/course etc.: Contractor will be required to designate the percentage use in the mix for each RAP product. Each RAP fraction will have its own Page 4 of the CEM 3512, and a combined RAP pile page 4. Grading factors will only be required for the combined sample. If more than one RAP pile is used at the same time, each RAP product will require its own feed and will have to meet MPQP requirements.
    28. 1. 2. (Comment From 7/23/2014) Industry is OK with individual LP-9 correction values and using mathematically combined values to evaluate the production.
28. 2. Scenario #2 - 2 RAP products and 1 RAS product in a mix
    28. 2. 1. (Comment From 7/23/2014) This will be addressed in the RAP RAS SSP

29. **In the revision to Section 39 dated 2-22-13, Section 39-1.08A stated:For RAP substitution rate of 15 percent or less, you may adjust the RAP by ±5 percent. In the revision dated 7-19-13 it states: For RAP substitution rate**

of 15 percent or less, you may adjust the RAP by -5 percent. Does the current (5-30-2014) version allow an adjustment to the RAP content when using 15% or less?

29. 1. **(Comment From 7/23/2014) CT will change the spec to allow +- 3% RAP not to exceed 25%**

30. **A Question has been raised by members of Industry regarding the density requirements for a Type A mix utilizing a 1-inch aggregate grading.**

30. 1. **(Comment From 7/23/2014) CT will revisit the density requirement for less than 0.15**

30. 2. **(Comment From 7/23/2014) INDUSTRY REQUESTS: Table needs to state "allow" rather than "require" (comment from 8/13/2014) This is a spec language issue and has to go before OE for approval. (comment from 9/25/2014) This is denied. (See discussion under agenda item # 30.6)**

~~30. 3. **(Comment From 7/23/2014) Section 39-2.02D(2) Aggregate Gradation table: Need to correct 0.30 to 0.25. Add "Shown" in the first cell.**~~

30. 4. (comment from 8/13/2014) Industry comment: "lift" and "layer" should be defined. Are they the same? Lift, pavement thickness and layer need to be defined. Are they different?

30. 5. **comment from 8/13/2014) CT will resolve the different terms, "Lift" "Layer" and thickness…**

30. 6. (comment from 9/25/2014) CT denies the following INDUSTRY REQUESTS: "Table needs to state "allow" rather than "require".

30. 7. (comment from 9/25/2014) CT is still working on the definitions of lift, layer, total pavement thickness, and placement thickness.

30. 8. (Comment From 7/23/2014) CT: Since the Aggregate Gradation Requirements table ensures that the correct aggregate size is used, the paragraph will be deleted:

~~The Department determines the percent of maximum theoretical density from density cores if any of the following applies:~~

~~1. 1/2-inch, 3/8-inch, or no. 4 aggregate gradation is used and the specified total paved thickness is greater than 0.15 foot and any layer is less than 0.15 foot.~~

~~2. 3/4-inch aggregate gradation is used and the specified total paved thickness is greater than 0.20 foot and any layer is less than 0.20 foot.~~

Section **39-1.01D(9)(b) In-Place Density** (below) does not appear to address density requirement's for a mix utilizing a 1-inch aggregate grading. Is there a density requirement for a 1-inch gradation mix?

39-1.01D(9)(b) In-Place Density

The Engineer tests the density core you take from each 250 tons of HMA. The Engineer determines the percent of theoretical maximum density for each density core by determining the density core's density and dividing by the theoretical maximum density.

The Department determines the percent of maximum theoretical density from density cores if any of the following applies:

1. 1/2-inch, 3/8-inch, or no. 4 aggregate gradation is used and the specified total paved thickness is greater than 0.15 foot and any layer is less than 0.15 foot.
2. 3/4-inch aggregate gradation is used and the specified total paved thickness is greater than 0.20 foot and any layer is less than 0.20 foot.

Density cores must be taken from the final layer, cored to the specified total paved thickness.

If the percent of theoretical maximum density does not comply with the specifications, the Engineer may accept the HMA and take a payment deduction.

For acceptance of a completed tapered notched wedge joint, the Engineer determines density from cores based on:

1. Field compaction by measuring the bulk specific gravity of the cores under AASHTO T 275, Method A
2. Percent compaction as the ratio of the average of the bulk specific gravity of the core for each day's production to the maximum density test value

31. **Questions have been raised by members of Industry regarding the gradation requirements in Section 39. Are the gradation requirements based on the total lift thickness or the actual lift thickness selected by the contractor? If based on actual lift thickness recommend the word "lift" is added to table.**

31. 1. (comment from 8/13/2014) The word "Shown" has been added to the table.

1) Assuming a 4" lift is allowed can you use a ¾ inch gradation for a pavement lift of 0.34 foot?
2) What is the significance of the terminology "and" greater VS "or" greater in the Table?

31. 2. (Comment from 7/23/2014)CT Response:

The following changes are already in the pipeline:

1. Type A HMA pavement thickness --- Type A HMA pavement thickness as shown (in OE lingo "as shown" means as shown in the plan)

2. 0.30 foot or greater --- 0.25 foot and greater (0.30 was an error, the correct value is 0.25 per Type C specs and 3:1 ratio rule of thumb)

As to the question whether 4" lift is allowed or not, the specs is silent on it. However if the HMA pavement thickness as shown is 4", the specs allows you to use ¾" grading or 1" grading. You must meet compaction (density) requirement specified for Type A HMA pavement thickness as shown.

39-2.02D(2) Aggregate Gradations

The aggregate gradations for Type A HMA must comply with the requirements shown in the following table:

Aggregate Gradation Requirements

Type A HMA pavement thickness	Gradation
0.10 foot	3/8 inch
Greater than 0.10 to less than 0.20 foot	1/2 inch
0.20 foot and less than 0.30 foot (comment from 9/25/2014)	3/4 inch
0.30 foot or greater	1 inch

31. 3. **(comment from 8/13/2014) CT: Need to change the table to say**

0.30 foot or greater	¾ inch or 1 inch

31. 4. (comment from 9/25/2014) The changes above (See discussion under agenda item # 31.2 and 31.3) are in the pipeline.

31. 5. (comment from 9/25/2014) **CT will look into industry concern re: being able to down-size aggregate to split total pavement thickness into lift thicknesses that would allow for a potentially smoother pavement and report back.**

32. **There are some concerns with HWT test results being reported for HMA mix verification in at least two Districts. Neither District is shown as being AMRL accredited. Can CT HQ assist in getting these services shifted to accredited laboratories?**

    32. 1. (Comment From 7/23/2014) CT laboratories performing verification tests on the mix design must be AMRL accredited, as is required of the Contractor. Non accredited CT laboratories my perform testing, however if a verification sample fails it must be retested by a CT AMRL accredited. Laboratory. Please note this requirement is for JMF verification only. There is no accreditation requirement for production QA testing at this point. A note has been sent to DME's stating this.

    32. 2. (Comment From 7/23/2014) CT and industry will explore the possibility of having all QC and QA testing performed by an AMRL accredited laboratory.

    32. 3. (comment from 8/13/2014) CT: For verification: There was some confusion in a couple of contracts where not all testing was done by an AMRL certified lab and some tests failed. Districts have been told that all things associated with a failed test must be sent to an AMRL certified lab. (comment from 9/25/2014) edit) Only an AMRL certified lab test can be used to re-test a sample that failed verification.

    32. 4. (comment from 9/25/2014) Industry issue is that all acceptance testing should be done by AMRL certified labs. How do we deal with the satellite labs? CT response: Comment noted. CT working to get all the district/regional labs accredited by the end of the year.

New Issues brought on 8/13/2014:

33. **Mix verifications – are they subject to dispute resolutions?**

    33. 1. (comment from 8/13/2014) Industry concern: When test results for mix verification from an accredited lab do not agree with contractor test results can a contractor then use dispute resolution and an independent laboratory to resolve the issue?

    33. 2. (comment from 8/13/2014) Caltrans: This is a gray area. Do we treat the verification as a test with sub components? CT position is that mix design needs to be verified in its entirety, and you can't just test a sub-component in the mix design verification. You must redo the entire battery of tests.

    33. 3. (comment from 9/25/2014) You have to do all the tests again – not just the sub component or subsection that failed. Caltrans does not want material on the ground that does not pass. All the tests are inter-related. Industry concern: Why focus on all the components? Industry continues to be concerned with this approach.

Section 39 Subtask Group New Industry items September 25, 2014

34. **Industry item: CTM 384 (September 25, 2014)**

There appears to be a math error on page 6

    34. 1. (comment from 9/25/2014) CT will look into this.

35. **Industry item: Selection of aggregate size (September 25, 2014)**

The aggregate gradations for Type A HMA must comply with the requirements shown in the following table:

Aggregate Gradation Requirements

Type A HMA pavement thickness	Gradation
0.10 foot	3/8 inch
Greater than 0.10 to less than 0.20 foot	1/2 inch
0.20 foot and greater	3/4 inch
0.30 foot or greater	1 inch

Table 39-2.02D(2) Aggregate Gradations specifies aggregates size allowed for specific pavement layer thicknesses as shown on the plans. There does not appear to be any direction to the contractor regarding allowable aggregate gradation and lifts thickness. For example:

If the plans show a 0.25 layer for Type A HMA can the contractor place this layer in two lifts of his choosing?

If yes, he might have two 0.125 lifts using a ¾" aggregate per the table because the layer thickness is greater than 0.20. This would exceed the 3:1 NMAS vs lift thickness criteria.

If the intent of the table is to not address the aggregate size for lift thickness then maybe there should be language addressing aggregate size vs layer thickness? (See below).

The aggregate gradations for Type A HMA must comply with the requirements shown in the following table:

Aggregate Gradation Requirements VS Lift Thickness

Type A HMA pavement lift thickness	Gradation
0.10 foot	3/8 inch
Greater than 0.10 to less than 0.20 foot	1/2 inch
0.20 foot or greater	3/4 inch
0.25 foot or greater	1 inch

If we are still allowing the contractor to construct an asphalt pavement layer with aggregates and lifts that do not meet the 3:1 NMAS vs lift thickness to create additional opportunities to meet smoothness then we would probably the old language regarding the density requirements.

Maybe it would read: You are allowed to select a lift thickness and aggregate gradation. When selecting aggregate size and a lift thickness not meeting the requirements (reference above table) density will be required by measuring density for both layers… (use old language here)

36. **Industry item: Revisit RAP Question CEM 3512 (September 25, 2014)**

36. 1. On the CEM 3512 form Page 1, how has Caltrans addressed the use of 2 RAP products (only one column to put data into). Is it their intent that this column would include the "mathematically" combined RAP? (comment from 9/25/2014) CT: Each stockpile stands on its own if you are augmenting the stockpiles. If the pile is not static, each stockpile will be treated as an individual. For mix design, the contractor may do a combined sample for CT 384 or the contractor may treat each stockpile as an individual and mathematically combine the results for CT 384.

Scenario #1 - 2 RAP products in a mix

(Comment From 7/23/2014) CT: Contractor is using multiple piles either course/fine or fine/fine, course/course etc.: Contractor will be required to designate the percentage use in the mix for each RAP product. Each RAP fraction will have its own Page 4 of the CEM 3512, and a combined RAP pile page 4. Grading factors will only be required for the combined sample. If more than one RAP pile is used at the same time, each RAP product will require its own feed and will have to meet MPQP requirements.

36. 2. (comment from 9/25/2014) Will the 3512 now have 2 page 4's? (1 page for each for CT 384) (comment from 9/25/2014) CT: No it will not.

36. 3. (comment from 9/25/2014) Where does the contractor show the blending sheet for the mathematically combined RAP gradation? (comment from 9/25/2014) CT: The contractor needs to develop an independent worksheet until Caltrans standardizes a form for this purpose.

36. 4. (comment from 9/25/2014) Where does the contractor show the blending sheet for the mathematically combined correction factors? (comment from 9/25/2014) CT This will be on the backup sheet to (page 4.)

37. **Industry item: LAS Amine Requirement (September 25, 2014)**

CEM 3511? Requires a minimum amine value for LAS. If the contractor is using an approved WMA additive and it acts as a LAS does the product need to meet the amine requirement?

38. **Industry item: Supplemental Fine Aggregate (September 25, 2014)**

38. 1. (comment from 9/25/2014) What are the limitations for Supplemental Fine aggregate? For the sake of clarity should the specifications reference ASTM D 242?

Section 39 wording: Supplemental fine aggregate: Aggregate passing the no. 30 sieve, including hydrated lime, portland cement, and fines from dust collectors.

ASTM D242 Mineral Filler For Bituminous Paving Mixtures

General Description

3.1 Mineral filler shall consist of finely divided mineral matter such as rock dust, slag dust, hydrated lime, hydraulic cement, fly ash, loess, or other suitable mineral matter. At the

time of use, it shall be sufficiently dry to flow freely and essentially free from agglomerations.

39. **Industry item: Approval of District Specifications (September 25, 2014)**

39. 1. (comment from 9/25/2014) Industry has an understanding that SSP's will not be changed without the owner's approval in Sacramento. Is this correct? Did HQ approve the following addendum?

11-Imp-7-0.0/1.2
11-238404
Project ID 1100020348
ACNHP-P007(01O)E

In the Special Provisions, Section 39-2.02, "Materials," is replaced as follows:

"39-2.02 MATERIALS

The aggregate gradations for Type A HMA must comply with the gradation requirements shown in the following table:

Aaareaate Gradation Requirements

Type A HMA pavement	Gradation
0.08 to less than 0.10 foot	3/8 inch
0.10 to less than 0.20 foot	1/2 inch
0.20 foot or greater	1 1/2 inch

This project also included a 1 ½" SP Mix Design

39. 2. (comment from 9/25/2014) 1 ½" SP Mix Design is being specified by addendum. Did the SP STG discuss this design and associated requirements? If not, does this circumvent the RPC process?

40. **Industry item: Binder Set Point at Mix Verification - - JMF Binder Content Adjustment**

40. 1. Footnote 1 on CEM 3511 states "(JMF) adjustments may include a change in the asphalt binder target value up to ±0.2 percent.." Can this adjustment be made at time of the initial submittal?

Superpave Training Slide:

* Plant Set Point
* Use OBC specified on CEM-3512, ± 0.2%
* For mix with RAP, binder set point must be the OBC specified on the CEM-3512, ± 0.2% minus the percent RAP multiplied by the combined average binder content of the processed fractionated RAP stockpile(s).

1) In the attached Section 39 STG meeting notes of 11-14-2013 Issue number 92 "Requirement for Binder Set Point at OBC for Mix Verification" states the following: **(11-14-2013): Industry says this is a fatal flaw both in superpave and in Section 39. Caltrans says they are willing to go +/- .2 on the set point.** That language is not included in the current specifications. There is language regarding an allowance to adjust the binder OBC Target value by 0.2± after a failed mix verification but this is something different.

Should we add language allowing adjustment prior to verification?

You may submit an adjusted, binder content by 0.2±, aggregate gradation TV on a Contractor Job Mix Formula Proposal form before verification testing. Aggregate gradation TV must be within the TV limits specified.

40. 2. (comment from 9/25/2014) Caltrans response: This change is in the pipeline. The production set point at the plant must be within +/- 0.2 from the asphalt binder percentage target value described in your contractor JMF proposal form.

41. **Industry item: CEM Form numbers (September 25, 2014)**

41. 1. Can we add the CEM Form No.'s to this section for clarification? Some Districts are asking for something different.

Section 39-1.01C(2)(c) Job Mix Formula Modification

For an authorized JMF, submit a modified JMF if you change any of the following:

1. Asphalt binder supplier
2. Liquid antistrip producer
3. Liquid antistrip dosage

You may change any of the above items only once during the Contract.

Submit your modified JMF request a minimum of 15 days before production. Each modified JMF submittal must consist of:

1. Proposed modified JMF on Contractor Job Mix Formula Proposal form, marked *Modified*. (CEM 3511)
2. Mix design records on Contractor Hot Mix Asphalt Design Data form for the authorized JMF to be modified. (CEM 3512)

3. JMF verification on Hot Mix Asphalt Verification form for the authorized JMF to be modified. (CEM 3513)
4. Test results for the modified JMF in compliance with the mix design specifications. Perform tests at the mix design OBC as shown on the Contractor Asphalt Mix Design Data form. (Provide new CEM 3512 using new binder)

With an accepted modified JMF submittal, the Engineer verifies each modified JMF within 10 days of receiving all verification samples.

42. **Industry item: Sample Box Sizes (September 25, 2014)**

    42. 1. (comment from 9/25/2014) We need to discuss sample size boxes at the next meeting. The May 2014 test method limits sampling to 8inx8inx3in (16 boxes) and 81/2inx81/2"x41/2in (10 boxes). Sampling of Superpave mixes requires large sample sizes of HMA (250 #) for each split. The CTM 125 note says "Cardboard box size is limited to provide for uniform heating". This could be a potential for huge variability as it implies that any of the sample boxes could be used for testing. This topic deserves further discussion.

43. **Industry item: CEM 3513 Verification Date (September 25, 2014)**

    43. 1. (comment from 9/25/2014) Is the date that the RE signs the mix verification form the date that starts the one year clock?

44. **Industry item: Mix Design for 2nd binder Supplier (September 25, 2014)**

At District 4 SP meeting it is understood that for an additional $2,600, contractors can submit another binder supplier with a mix design. The contractor will provide a duplicate of the initial mix design with the 2nd binder supplier and run a 2nd mix verification.

Will the 5 day review be waived for the 2nd binder if submitted with the initial 3511.

    44. 1. (comment from 9/25/2014) Can we get a clarification on this?

45. **Industry item: Lime treatment Coarse/Fine fraction (September 25, 2014)**

    45. 1. (comment from 9/25/2014) It is my understanding that there is some ambiguity in the spec with regard to lime treatment, specifically the requirement to treat BOTH coarse and fine aggregate. Currently, the spec asks the material producer to note the dosage rate for the coarse and fine aggregate, suggesting that BOTH must be treated. Is it not unreasonable to assume that only one portion of the aggregate might be treated, or that treating only one portion is more cost effective? For example, if the total dosage rate of 1.5% is effective by treating the coarse aggregate and achieve passing T283 or T324 test results, could one not say that the dosage rate for the coarse and fine aggregate is 1.5% and 0.0%, respectively?

I've spoken with Joe Peterson about this and he suggested that enforcement might be problematic but was receptive to discussing it.

46. **Industry item: Bonded Wearing Course (September 25, 2014)**

Gradation Requirements

As per the plans and specifications for this project the BWC, Type HMA-O, is to be placed at .08' thickness.

Section 39-5.01A(1) of the RSS included with the special provisions states that "BWC using…HMA-O must comply with the specifications for …HMA-O"

Section 39-4.02D(2) of the RSS included with the special provisions includes a table that specifies the gradation for HMA-O for "Greater than .10 to less than .15 foot" and "0.15 foot and greater". There is no gradation specified for lifts placed less than 0.1 foot.

46. 1. (comment from 9/25/2014) What gradation is to be used on this project since no gradation is specified? Typically a 3/8" gradation would be used to place BWC at this thickness but there is no 3/8" HMA-O or OGFC aggregate gradation provided in the current RSS.

Emulsion Requirements

Section 39-5.01 A and B

In both portions of the specification, there are Asphalt Emulsion Membrane tables which are identical. Both have "Tests on residue from evaporation". The issue is with the "Penetration at 25°C" "AASHTO T49"

They specify a

PG76-22M with a pen value of 50-70

PG 64-28M with a pen value of 150-200.

Previous BWC Emulsion specifications since the inception of the specification were:

PG 76-22M with a pen value of 50-150

PG 64-28M with a pen value of 70-200

46. 2. (comment from 9/25/2014) The ranges currently in the specification, most especially the 150-200 on the 64-28, M are not physically possible nor would you want them if they could be manufactured. The material would have to be so soft as soon as the road got warm the emulsion would soften and the entire BWC would begin to slide and move. Please correct.

47. **Industry item: HWT Variability (September 25, 2014)**

Joe, Kee,

As I have noted earlier, I am compiling a list of concerns on behalf of industry regarding the variability of the HWT test. Below is new comment I received today from another Section 39 stakeholder. The purpose of this message is to give you a heads up in regards to seriousness of these concerns. As noted above there are a number of concerns, this just being one of many. I hope to get you a complete compilation of the concerns received to date soon so that you and members of the Section 39 STG can begin thinking about possible resolutions for these concerns where warranted.

"Hi Tony….just wanted to chip in and give you some of the concerns we've noticed on our end when it comes to Hamburg testing…..

We are seeing HUGE variability in testing results on samples taken from the same testing sublots/boxes. There appears to be no real rhyme or reason as to why we're seeing these large fluctuations, so it's a real cause for concern on our end. We can split test samples out from the same boxes of materials brought into our lab, and we can have failing inflection points on one set of briquettes – and no inflection point on another set of briquettes. We've run into some of the same issues when it comes to rut depth also. Some samples will have little to no rut depth, while another sample from the same set of materials will fail badly.

I've had conversations with the folks at UCPRC and UNR, and they both have mentioned that the HWT test has the potential for *enormous* variability that is sometimes unexplainable (the enormous variability they're talking about is in the THOUSANDS of cycles between like-for-like samples). Our issue is that we have no real idea what constitutes a borderline result at this point. If we pass an inflection point, but we are only a couple thousand cycles over the failure threshold, what kind of confidence do we have that our next test isn't going to fail badly knowing how large the variability in test results can be on like-for-like materials.

What I can tell you is that we have noticed that averaging 4 test specimens is giving us the potential for more accurate and believable test results. Thanks and let me know if you have any questions."

Hi Tony,

What Hongbin and the guys have observed is that mixes are either greatly exceeding the requirement or failing miserably. So, big swings suggesting big sensitivity for the design criteria allowed. This not only raises questions about HWT but whether or not the design criteria and limits that are in place now are appropriate for the testing regime that we now have. I suspect that with greater latitude in design we might possibly see a more normalized set of results.

Thanks,

Mike

Just as an FYI

I am having all the HWT data (rutting and inflection) we have plotted, to kind of develop a process band for the HWT. I hope to have it out to all a couple of days before our meeting for all to review. As I have stated many times we are data driven. If the data and apples to apples studies show we need to modify what or how we report, than that is the direction we will go.

As with any data driven process we have to be aware of outliers, or hotspots, and make sure they are accounted for but that they don't drive the process, but rather the data drives the direction. JP

48. **Next steps:**

48. 1. CT will gather data and report back at the next meeting.

48. 2. Spec changes are in the works. The plan is to lift the moratorium on July 1.

48. 3. Industry will follow up on the issues above where indicated.