

PCCAS
Paving Asphalt Committee Minutes
October 26, 2016

- 1) The meeting was called to order at approximately 8:30. The meeting started with acknowledgments of Han Ho and Don Goss for contributions to the PCCAS. They are retiring and this is their last official meeting that they will attend as participants. A review of the approved charges as provided from the May 2016 PCCAS Conference was presented to provide a framework for the work of the Committee.

- 2) Zia Alavi from UC-Davis provided a presentation on research being done for CalTrans on the development of rubber binder specifications. The highlights from the presentation are:
 - a. Using CalTrans definition for asphalt rubber binder
 - b. High temperature testing – concentric cylinder with 7 mm gap more appropriate than parallel plate. Test methods done by this method include viscosity, MSCR, DSR.
 - c. Tested PG 64-16 neat, PG 64-28 modified, PG64-28 (with <250 micron rubber) to show comparison of parallel plate and cylinder geometry.
 - d. Looking at aging the asphalt rubber differently due to issues with the RTFO testing. Increase temperature to 190 °C and increasing the amount in the bottles from 35 grams to 35 grams of binder plus the amount of asphalt rubber. Increased the PG high temperature by up to 9 °C.
 - e. Provides a process for making the asphalt rubber in the lab.
 - f. Rheology properties by concentric geometry.
 - g. Improved coating of RTFO bottles with higher temperature. Residue is easily obtained from the bottles. Need to verify that higher temperatures match field conditions.
 - h. Intermediate temperature testing is with 10 mm cylinder. Binders need to be tested at temperatures higher than 16 °C. Tests are performed on PAV aged binder.
 - i. Looking at possible modifications to the PAV testing conditions (testing time, temperature, sample size).
 - j. Low temperature testing has issues with BBR mold. Modified mold is being proposed. Filling molds via the wide dimension for the specimen. Same beam size. Showed comparison between the 2 methods for the 3 binders listed in item C above.
 - k. Looking at how modifications change the chemistry of the binder.
 - l. Comparing RTFO to TFO test results.
 - m. Testing field tested binders.See the presentation for additional information.

- 3) Asphalt Rubber Task Group – Sallie Houston
 - a. Statistically analyzing the data from the second phase of the round robin testing of the 3 different rubber binders. Precision and bias statements being developed according to ASTM standards. Showed information from the preliminary report. Variability increases from original binder testing to RTFO testing to PAV testing. The information will be reviewed and any corrections made before the final report is issued. This will be completed soon.

- 4) AASHTO Re:source – MSCR testing. John Malusky from AASHTO re:source provided a presentation on the evaluation of laboratory performance in MSCR testing using PSP data from recent samples. The highlights from the presentation are:
 - a. Not evaluating labs for % difference in recovery and % difference in Jnr.
 - b. Saw statistical difference in MSCR data based on equipment manufacturers on Rounds 241/242 samples (sent out in Fall 2015). Material was PG 58-28 modified.
 - c. Round 243/244 (PG 64-22) saw statistical differences based on equipment manufacturer for MSCR values.
 - d. Over 44 versions of software for calculating MSCR values were identified.
 - e. Looking at having a list of current software versions for the MSCR.
 - f. Difference is being seen between new RTFO samples and RTFO DSR samples with “rest” period. The test method allows a rest period.
 - g. Has developed single operator and inter laboratory values for standard deviation and coefficient of variation for MSCR parameters. Looking at separating between modified and unmodified materials. Evaluation is not clear for the various materials.

See presentation for additional information.

- 5) MSCR open discussion – Following the AASHTO re:source presentation, the Paving Asphalt Committee had an open discussion on the MSCR specification, namely AASHTO M 332, and specific issues relating to the adoption of the specification. Compiled data was provided by Brad Neitzke from samples distributed through the Oregon Cooperative Test Group from 2009 to 2016 to help in the open discussion (See presentation for MSCR data). There are still concerns within the committee regarding the adoption of the M 332 specification. The open discussion was to provide a forum to define the barriers and develop an action plan to address the issues. Areas of concern include:
 - Precision and bias in the data is high.
 - Some states/agencies are content with the current AASHTO M 320 specification with added “plus” tests. Not certain of what the change to MSCR would provide.
 - Difference in testing based on equipment manufacturers as stated in the AASHTO re:source PSP data review.
 - Specification for intermediate temperature testing could be an issue.

Action items from discussion:

- The Conference will be polled as to the type of DSR equipment being used as well as the software version. In addition, questions will also be asked if the MSCR raw data is reviewed and if any issues have been noted in regard to a review of the raw data. Bob Humer and Shauna Teclemariam will lead this effort.
 - Equipment manufacturers will be contacted and asked to make a presentation at the next meeting on how the equipment gathers the data and provides the final result.
 - State agencies will be asked to provide MSCR data from samples taken during the construction season. Brad Neitzke and Steve Davis/Joe DeVol will lead this effort.
- 6) CIR Research Project from UNR – Peter Sabaaly provided an update on the research being done at UNR on cold in-place recycled mixtures.
- a. Superpave mix design process for CIR mixes.
 - i. Air Voids 13 +/- 1, Height 115 +/- 5 mm, 3% emulsion content, 2% lime, determine number of gyrations to meet the criteria
 - b. Has process for processing RAP for the mix design
 - c. Use gyration level from item a above and mix at different emulsion contents
 - d. Select optimum emulsion content at 13% AV
 - e. Also developing Hveem mix design method
- 7) Emulsion Committee update from Sallie Houston on the previous day activities. See Emulsion Committee minutes for information.
- 8) Recycling Committee update from Charlie Pan on the previous day activities. See Recycling Committee minutes for information.
- 9) ETG Update – Shauna Teclemariam provide a brief update of the Binder ETG activities. One item of note is discussions regarding the use of Delta Tc as part of a potential new specification. Delta Tc has been published in ASTM.
- 10) RAP/RAS usage and construction issues
- a. Smaller agencies are seeing RAP mixes that are not performing. There could be instances where agencies will start limiting the use of RAP in HMA. This is occurring in central valley areas of California.
- 11) AASHTO Update – Brad Neitzke provided an update from the AASHTO Subcommittee on Materials meeting that occurred in August 2016. See presentation for information.
- 12) Next meeting dates – The next meeting dates for the Paving Asphalt Committee are April 26, 2017 and November 15, 2017.

The meeting adjourned at 4:00 pm.

Respectfully submitted – Shauna Teclemariam and Brad Neitzke