

**Paving Asphalt and Mixture Committee Minutes of the
Pacific Coast Conference on Asphalt Specifications**

October 13, 2009

Sacramento, CA

Brad Neitzke called the meeting to order and indicated that we would be moving items in the agenda to meet people's schedules. He asked if there were any additions to the agenda and one item was added, training updates. Brad gave a short review of the committees responsibilities and that there were other committees with other specific activities. He then asked for the group to introduce themselves around the table. Bob Staugaard asked that everyone in attendance please fill out or update the mailing list. Brad has prepared the Conference minutes of all the meetings dating back to the 1950's and will be available on the web site.

John D'Angelo was asked to update the committee on the activities of the Binder and Mix ETG's that met in San Antonio, Texas, in September, 2009. The presentation is part of these minutes ([click here](#)). The Binder ETG issues discussed were temperature equilibrium, multiple stress creep recovery (MSCR), polymer modification with respect to fatigue, inter laboratory studies, polyphosphoric acid (PPA) modification, and recycled motor oil residue. The variability seen in the DSR tests, original and PAV may be related to temperature equilibrium issues. The medium for heat transfer made a significant difference in insuring that the sample was at test temperature. The ETG has developed a recommended protocol to be sent to ASHHTO for review. The recommended protocol is shown in the presentation. The MSCR test, AASHTO TP70-08, was reviewed by the ETG as was the proposed specification. There is a difference between the AASHTO and the ASTM test procedures. The proposed specification was discussed and is shown in the presentation. While this specification was accepted earlier this summer, AASHTO decided to make it a "stand alone" specification and this action will be reflected in how the specification is published in 2011. It will be part of M320 in 2010. Another issue discussed was the effects of polymers on fatigue. Initial fatigue test results were reported to the ETG and these results are a part of the presentation. Further work will be done and the ETG will continue to look at this issue. The ETG has been looking at the reproducibility between laboratories for the DSR testing. Repeatability appeared to be good while the reproducibility was unacceptable raising the issue of temperature equilibrium as perhaps a major problem. Other issues may also be in play such as equipment. A review of the PPA usage was shown and is a part the presentation. Hamburg testing was performed and the conclusions of these tests are shown in the presentation. In general, PPA when used at reasonable levels will enhance the properties of an asphalt binder. Moisture susceptibility should be addressed when PPA is used. Conclusions from the Workshop in Minneapolis are also presented in the presentation. Recycled Motor Oil Residue when used in a binder can also produce a positive result for phosphorus. The value of the RMOR is now in question. ETG recommended that a problem statement be developed for REOR (RMOR) modified binders. John also gave a brief update on the issues being worked on by the Mix ETG. First subject was mixture creep testing for use in the evaluating of low temperature cracking using the BBR test

device. There is evidence is that this approach can be used as shown in the presentation. Another issue for the Mix ETG was the consideration of the gyration levels and the effect on the resulting mixture. The different effects and the variables are shown in the presentation. If gyration changes are being considered, a baseline should be established with existing levels and procedures to see the effects of the changes. When lowering gyrations, a key element that should be evaluated is rutting potential. Another issue is the specific gravity measurement, particularly in the field. At issue is the absorption of water. Work is currently underway to evaluate the appropriate procedures and requirements for various methods of measurements. This issue is outlined in the presentation. AC Mix performance tester is now available with a pool fund buy as well as a training school to follow. Development of a precision and bias statements are underway.

The next item of business is the report on the MSCR Round Robin testing. Three binders were chosen for testing at two temperatures representing PG64-28, PG70-22 and a PG58-28. Not all laboratories have reported back, however the results available as of the meeting were presented and is shown in the attached presentation ([click here](#)). This is a first pass at understanding what issues might arise with the testing results for the MSCR. Results were very promising, but further work will certainly improve the results. NuStar indicated that the automation of the MSCR is now available from several of the manufacturers. The difference between AASHTO and ASTM is in the calculations and AASHTO is the correct method. Shauna Teclemariam provided a progress report on the other issues being addressed by the Round Robin Task Group. One issue is to remove degassing from the PAV protocol.

The task group looked at Ground Tire Rubber in the DSR at 64C with the results published as part of these minutes ([click here](#)).

John Harvey presented a summary of a Study on Reflective Cracking in Thin Overlays. The presentation is a part of these minutes ([click here](#)). Phase II of the experiment incorporated six overlays and utilized the HVS for loading. Four of the overlays had rubber modified binders with two control sections. Specifics of each overlay are shown in the presentation. A final report has been completed for this project and is available at www.its.berkeley.edu/pavementresearch. Once at the website, choose publications, then reports which are in chronological order. The two summaries will be posted on the Conference website ([click here for short summary](#)) ([click here for long summary](#)).

Darren Tedford presented information compiled in Nevada on Terminal Blend Asphalt Rubber. The presentation is included with the minutes ([click here](#)). This terminal blend is not an asphalt rubber by definition. However the rubber was completely dissolved in the asphalt. The ductility requirement was reduced for the rubber modified asphalt and the toughness and tenacity test was eliminated from the regular specification.

Discussion followed on what the various states are doing with the GTR specifications. CalTrans has a project with a GTR and a control to evaluate the product and specification. If the product is successful in performance, it will be an alternate to current products. Brad summarized how the Asphalt Rubber task group was set up and whether

or not it should work the GTR issues. Discussion followed on the need to investigate the different ground tire rubber. The group decided not to follow up on this issue at this time.

Brad next asked for state activities update. California has reorganized with Terrie Bressette over the laboratories and Kee Foo is the acting Pavement Management Chief. Nevada has a trial project with maybe two more on the use of products with tire rubber binders. They would consider a warm mix in a project if the contractor suggested it, but have no plans to pursue. Nevada is not using Superpave mix design procedures as of this date. Washington is not currently using ground tire rubber, but does have a project with asphalt rubber on an open graded mix. Superpave was fully integrated in 2004 and currently have an air void and density specification. They just completed a hot in-place recycled project this year. Washington has done several warm mix projects at the contractors request and only two days of any particular project. They have implemented the internal angle. The DOT worked with King County on the use of recycled shingles. FHWA Federal Lands in Denver participated in the ABCD and other testing reviews. Working on the VMA use and tolerances in the field has been a challenge. The RAP mixture design and monitoring construction has been challenging.

The next topic of discussion was warm mix update. The Warm Mix ETG is meeting in December, 2009 in Seattle, WA. Alaska has built two warm mix projects. Tony Limas gave a presentation on warm mix using RAP with increased RAP content. He indicated that there have been several warm mix projects in California. The presentation is a part of these minutes ([click here](#)).

Training opportunities and updates were provided by Larry Santucci and Bob Humer.

The next meeting will be March 23, 2010, in Sacramento, CA.

The meeting was adjourned at 4:35 PM.