

**PCCAS**  
**Paving Asphalt Committee**  
**October 21, 2015**  
**Minutes**

1. The meeting was called to order at approximately 8:45 am by Shauna TecleMariam. Shauna welcomed the attendees and called their attention to the provided agenda, which served as the plan and guide for the meeting. An attendance sign-in sheet was distributed and self-introductions were made.

2. Task Group Reports

Asphalt Rubber Task Force

George Way provided an overview of the activities of the task force. Items discussed:

- a) Rubberized Asphalt / Asphalt Rubber conference that occurred in Las Vegas October 4 to 7, 2015. 4 specific papers were highlighted. These papers have been included on the website as part of the minutes of the meeting.
  - I. General information was presented regarding cup and bob testing of asphalt rubber.
  - II. Louisiana presented a paper on the specification and testing of rubber modified products.
  - III. Paper presented regarding specification being developed and used in Florida for GTR binders. FHWA testing trailer was on site testing these materials.
  - IV. Results of asphalt rubber round robin testing that was conducted with the PCCAS using 3 mm gap for testing.
- b) The direction regarding national efforts is to move from a recipe based specification to a PG type grading system.

Asphalt Rubber Round Robin

Sallie Houston provided an update on the data that was collected as part of the testing of the asphalt rubber binders. The main purpose was to further evaluate the use of the DSR to test these materials using a 3 mm gap. These were coarse graded rubber materials that had approximately 20% rubber included. 3 different samples were provided. Data is still being analyzed but it looks promising for using the DSR to be able to test the material. Some of the data reproducibility is in line with published AASHTO ranges.

Northwest Analytical was used to analyze the data.

The complete presentation and compilation of the data is provided as part of these minutes.

MSCR Data Collection

Bob Humer provided a review of the task force charges and progress.

Following this, an update was provided on the data collection effort from the binders used during the 2015 construction season within the PCCAS. 47 different sets of data were supplied as part of the data collection effort. A summary of the data collection and a report of the data collection is provided as part of these minutes.

Final report and recommendations will be provided to the committee at the next meeting.

### 3. MSCR Testing at ASU

Shane Underwood from Arizona State University provided a presentation on the MSCR and AASHTO M 332 evaluation being performed at Arizona DOT. The study was developed as a result of questions that came from Arizona DOT in regard to the MSCR test. The highlights from the presentation include:

- a) Arizona has been performing the test since 2008 to 2014 as part of routine testing of asphalt binder. 342 binder samples tested, 10 binder grades (3 or 4 primary binders), not much modified asphalt. Tested MSCR at the PG binder grade temperature.
- b) Arizona was interested in what would happen if they adopted AASHTO M 332.
- c) Performed “shadow grade” assessment to determine what M 332 grades would be based on the M 320 specification of the material.
- d) Also looked at relative variability between T 350 and T 315. Slightly more variable in the Jnr data versus  $G^*/\sin \delta$  but stated that this difference in the variability does not appear to be significant.
- e) Reviewed the grading effect and failure if binders would be tested at 6 degree lower PG grade.
- f) Reviewed polymer modified binders specified by ADOT as well as modified binders that were supplied by the WCTG.
- g) Method in M 332 would detect polymer modification.
- h) If ADOT changed from M 320 to M 332 the number of binder grades would change from 8 grades to 13 grades based on a straight interpretation of the data.

The entire presentation is posted as part of the minutes of the meeting.

### 4. WMA and RAP Research at UNR

Elie Hajj from UNR provided a presentation on the work being done on behalf of Nevada DOT in the area of warm mix and RAP. Four different WMA technologies (advera, evotherm, sonnewarmix, foam) were evaluated with 15% RAP contents (different sources) and different aggregate sources.

Some interaction is occurring between the WMA technology and the aggregate source.

In general, no difference in moisture damage from conventional HMA to any WMA technology. No difference in moisture damage with or without RAP.

Reduction occurred in rutting resistance when WMA was used compared to HMA.

Fatigue resistance improved with WMA and zero RAP. When RAP was used there was generally no improvement in the fatigue resistance.

WMA increased reflective cracking resistance.

For a complete review of the information and a summary of preliminary findings, see the presentation that is provided as part of these minutes.

### 5. Low Temperature Binder Testing

Haleh Azari provided a presentation on a new approach for low temperature testing for asphalt binders. This method uses a DSR for determining low temperature binder properties. This test provided similar results as the BBR but the results are quicker to obtain with minimal sample preparation. This test could

potentially be used as a screening type test. See Summary in presentation that is provided as part of these minutes.

Ala Mohseni provided a presentation on a QC test for asphalt mixtures using mastic. The mastic is recovered from a loose mixture samples and tested in the DSR. This test may have potential for field use for the quality control of mixtures, especially those that contain RAP or RAS. See the presentation that is provided as part of these minutes for details.

Ala Mohseni also provided a presentation on an ultra thin film oven aging method. The method presented on the aging of binders and mastics in thin films in force draft ovens that simulate long term aging. See the presentation that is provided as part of these minutes for summary and details of the method.

6. Recycling Committee Update

A brief synopsis of the activities of the Recycling Committee was provided. See the Recycling Committee meeting minutes for detailed information.

7. Emulsion Committee Update

A brief synopsis of the activities of the Emulsion Committee was provided. See the Emulsion Committee meeting minutes for detailed information.

8. User Agency Updates

Various user agencies provided information regarding issues or potential changes in agency direction or specification. Below is a summary of the information provided by each agency.

AK – Use of phase angle in the replacement for the plus testing.

CA – Rubber required is almost all surface mixes and it has to be placed with MTVs. Looking at training of CalTrans personnel for asphalt binder and mixture testing.

NV – NDOT producer meeting December 15.

OR – Started using a tiered price adjustment system. Supplier meeting is on December 9.

WA – 40% binder replacement with combo of RAP and RAS with a max of 5% and no warm mix allowed. With higher than 20% of RAP by mix, the state will have additional testing for quality of binder and mixture. For binder supplied with the RAP mixtures, the PG high grade must meet grade specified. Trial project will be constructed using slag aggregate. Supplier meeting will be scheduled for some time in February 2016.

WFL – New specification book is in use the FP-14. Specification book is available on line at the following link: <http://flh.fhwa.dot.gov/resources/specs/>

9. Safety Video

Bob Humer provided a video that discussed safety measures and dangers associated with the handling of hot asphalt binder.

10. The next Paving Asphalt Committee will be held February 24, 2016 at UNR. Other task group meetings and committee meetings will be held on February 23, 2016.

PCCAS Conference – A conference will be held in 2016. Specific dates and location are TBD.

11. Shauna adjourned the meeting at approximately 4:30 pm.

Respectfully submitted,

Brad Neitzke

Shauna TecleMariam

## Pacific Coast Conference on Asphalt Specifications

### Committee

Committee			Member				
Asphalt	Emulsion	Recycling					
			Baumgardner	Gaylon	Paragon Technical	<a href="mailto:gaylon.baumgardner@ptsilab.com">gaylon.baumgardner@ptsilab.com</a>	(601) 933-3217
			Belshe	Mark	RPA	<a href="mailto:mbelshe@rubberpavements.org">mbelshe@rubberpavements.org</a>	(480) 517-9944
X	X	X	Brinkmeyer	Wayne	Nevada DOT	<a href="mailto:wbrinkmeyer@dot.state.nv.us">wbrinkmeyer@dot.state.nv.us</a>	(775) 888-7879
X	X	X	Cheng	Dingxin	CP2 Center	<a href="mailto:dxcheng@csuchico.edu">dxcheng@csuchico.edu</a>	(530) 898-5114
			Clayton	Andy	Western Emulsions	<a href="mailto:andrew@westernemulsions.com">andrew@westernemulsions.com</a>	(520) 622-7203
			Cole	Craig	Targa Sound	<a href="mailto:ccole@targasresources.com">ccole@targasresources.com</a>	(253) 272-9348
X	X	X	DeVol	Joe	Washington DOT	<a href="mailto:devolj@wsdot.wa.gov">devolj@wsdot.wa.gov</a>	(360) 709-5421
X	X	X	Escobar	Steve	APART	<a href="mailto:stevee@apartshafter.com">stevee@apartshafter.com</a>	(661) 393-2748
X			Goss	Don	Valero	<a href="mailto:don.goss@valero.com">don.goss@valero.com</a>	(310) 518-4000
X	X	X	Heitschmidt	Keven	Albina	<a href="mailto:keven.heitschmidt@albina.com">keven.heitschmidt@albina.com</a>	(360) 816-8560
X	X		Hitti	Edgard	Alon	<a href="mailto:edgard.hitti@alonusa.com">edgard.hitti@alonusa.com</a>	(775) 690-7424
			Ho	Hans	Telfer	<a href="mailto:hans.ho@telferoil.com">hans.ho@telferoil.com</a>	(928) 766-8530
X	X	X	Houston	Sallie	VSS	<a href="mailto:sallie.houston@slurry.com">sallie.houston@slurry.com</a>	(916) 373-1500
X	X	X	Hunt	Greg	Ergon	<a href="mailto:gregory.hunt@ergon.com">gregory.hunt@ergon.com</a>	(702) 235-7347
			Limas	Tony	Granite Construction	<a href="mailto:tony.limas@gcinc.com">tony.limas@gcinc.com</a>	(916) 855-8867
X			McKinney	Kevin	Alon	<a href="mailto:kevin.mckinney@alonusa.com">kevin.mckinney@alonusa.com</a>	(775) 835-6366
X			Milar	Brandon	Mead Westvaco	<a href="mailto:brandon.milar@mww.com">brandon.milar@mww.com</a>	(925) 852-8668
			Mooney	Brenda	Valero	<a href="mailto:brenda.mooney@valero.com">brenda.mooney@valero.com</a>	(707) 745-7089
X	X	X	Morian	Nathan	Nevada DOT	<a href="mailto:nmorian@dot.state.nv.us">nmorian@dot.state.nv.us</a>	(775) 784-6858
X	X	X	Neitzke	Brad	FHWA/WFL	<a href="mailto:brad.neitzke@dot.gov">brad.neitzke@dot.gov</a>	(360) 619-7725
X	X	X	Pan	Charlie	Nevada DOT	<a href="mailto:cpan@dot.state.nv.us">cpan@dot.state.nv.us</a>	(775) 888.7520
X	X	X	Powell	Don	San Joaquin Refining	<a href="mailto:donp@sjr.com">donp@sjr.com</a>	(661) 327-8248
			Proctor	Ryan	Ergon	<a href="mailto:ryan.proctor@ergon.com">ryan.proctor@ergon.com</a>	(303) 243-4607
			Sension	Scott	Anton Paar	<a href="mailto:scott.sension@anton-paar.com">scott.sension@anton-paar.com</a>	(804) 550-1051
			Starbuck	Ed	San Joaquin Refining	<a href="mailto:eds@sjr.com">eds@sjr.com</a>	(661) 327-8248
X	X	X	Staugaard	Bob	APART	<a href="mailto:bobs@apartshafter.com">bobs@apartshafter.com</a>	(661) 393-2748
X	X	X	TeclMariam	Shauna	US Oil	<a href="mailto:shauna.teclmariam@usor.com">shauna.teclmariam@usor.com</a>	(253) 383-1651
			Tedford	Darin	Nevada DOT	<a href="mailto:dtedford@dot.state.nv.us">dtedford@dot.state.nv.us</a>	(775) 888-7784
X	X	X	Way	George	RAF	<a href="mailto:wayouta@cox.net">wayouta@cox.net</a>	

			Young	Jon	HAPI	<a href="mailto:jon@hawaiiasphalt.org">jon@hawaiiasphalt.org</a>	(808) 847-4274
			Wright	Brian	Honeywell	<a href="mailto:brian.wright@honeywell.com">brian.wright@honeywell.com</a>	
X			Zahler	Terri	McCall Oil	<a href="mailto:terri@mccalloil.com">terri@mccalloil.com</a>	(503) 319-8257
<b>Guest</b>							
X	X	X	Anderson	Mike	Asphalt Institute	<a href="mailto:manderson@asphaltinstitute.com">manderson@asphaltinstitute.com</a>	(859) 288-4984
X	X	X	Azari	Haleh	Pavement Systems	<a href="mailto:azari@pavesystems.net">azari@pavesystems.net</a>	(202) 286-0148
X	X	X	Britton	Bill	American Gilsonite	<a href="mailto:bill@americangilsonite.com">bill@americangilsonite.com</a>	(209) 304-3183
X	X		Casola	John	Malvern	<a href="mailto:john.casola@malvern.com">john.casola@malvern.com</a>	(848) 740-7016
			Chia	Christine	Alon	<a href="mailto:christine.chia@alonusa.com">christine.chia@alonusa.com</a>	
			Corrigan	Matt	FHWA	<a href="mailto:matthew.corrigan@dot.gov">matthew.corrigan@dot.gov</a>	(202) 366-1549
			Davidson	Jesse	Innophos	<a href="mailto:jesse.davidson@innophos.com">jesse.davidson@innophos.com</a>	(616) 446-5911
X	X	X	Hajj	Elie	UNR	<a href="mailto:elieh@unr.edu">elieh@unr.edu</a>	(775) 784-1429
X	X		Humer	Bob	Asphalt Institute	<a href="mailto:rhumer@asphaltinstitute.org">rhumer@asphaltinstitute.org</a>	(805) 402-1211
			Ilg	Larry	Oregon DOT	<a href="mailto:larry.d.ilg@odot.state.or.us">larry.d.ilg@odot.state.or.us</a>	(503) 986-3072
X			Ludlum	Thomas	Holly Frontier	<a href="mailto:thomas.ludlum@hollyfrontier.com">thomas.ludlum@hollyfrontier.com</a>	(806) 319-3104
X	X	X	Lynch	Katrina	Mead Westvaco	<a href="mailto:katrina.lynch@mwv.com">katrina.lynch@mwv.com</a>	(916) 802-6598
X		X	Matthews	Don	PRSI	<a href="mailto:dmatthews@pavementrecycling.com">dmatthews@pavementrecycling.com</a>	(951) 232-7384
X	X		McKinney	Cayla	Alon	<a href="mailto:cmckinney@ppcla.com">cmckinney@ppcla.com</a>	(775) 888-3415
X	X	X	Mohseni	Ala	Pavement Systems	<a href="mailto:ala@pavesys.net">ala@pavesys.net</a>	(202) 286-0149
X	X	X	Neumann	Robert	Cargill Industrial Spec.	<a href="mailto:robert.neumann@cargill.com">robert.neumann@cargill.com</a>	(952) 388-4024
			Orr	Brian	Alon	<a href="mailto:brian.orr@alonusa.com">brian.orr@alonusa.com</a>	(661) 340-6408
X	X	X	Padilla	Amelia	AkzoNobel	<a href="mailto:amelia.padilla@akzonobel.com">amelia.padilla@akzonobel.com</a>	(312) 350-2836
			Santucci	Larry	UCPRC	<a href="mailto:lesant@berkeley.edu">lesant@berkeley.edu</a>	(510) 665-3560
			Sebaaly	Peter	UNR	<a href="mailto:psebaaly@unr.edu">psebaaly@unr.edu</a>	
X	X	X	Smith	Roger	CP2 Center	<a href="mailto:rdsmith2009@gmail.com">rdsmith2009@gmail.com</a>	(916) 652-5685
X			Underwood	Shane	ASU	<a href="mailto:shane.underwood@asu.edu">shane.underwood@asu.edu</a>	(480) 965-1097
			Vasquez	Al	Caltrans	<a href="mailto:albert_vasquez@dot.ca.gov">albert_vasquez@dot.ca.gov</a>	(916) 227-7322
			Weitzel	Dean	Consultant	<a href="mailto:dweitzel@charter.net">dweitzel@charter.net</a>	(775) 720-0095
X			Zhai	Dave	Idaho Asphalt	<a href="mailto:hzhai@idahoasphalt.com">hzhai@idahoasphalt.com</a>	(208) 442-7742