

AASHTO TSP•2 - Emulsion Task Force (ETF) Meeting

The Heritage Group Innovation Center and Research Lab
6320 Intech Way (near 71st street and I-465), Indianapolis, IN 46278
June 20th – 21st, 2018

Minutes

Day 1

Wednesday, June 20th

1. **Welcome, Roll Call and Housekeeping** **Franco/Lubbers**

2. **The Heritage Group Introduction** **Wielinski**

3. **ETF Synopsis**
 - a. Agenda Review **Lubbers**
 - b. Approval of November 2017 Meeting Minutes **Lubbers**
 - Approved.
 - c. Membership / Committee Reassessment **Franco**
 - Subcommittees are being reviewed. Most will remain in place. Considering sun setting the recycling subcommittee because deliverables are complete. Soliciting volunteers for chair of research subcommittee. Also soliciting membership for subcommittee on research and QA.
 - QA subcommittee work is almost complete for chip seal. Need to apply to other treatments. Coordinate with spray and mix subcommittees.
 - NCHRP is reviewing project for construction guide specifications.

4. **Activity Reports (5 Minutes/Group)**
 - a. AEMA **Ishee**
 - PPRA website is available for public comment. Target go live in July.
 - Review website, there is information available.
 - References ASTM specifications. Mentions AASHTO specs when available. Focused on technical information.
 - b. ISSA **Tomkins**
 - No update provided.
 - c. ARRA **Wielinski**
 - FDR emulsion mix design (materials) specification draft complete and under review. Design practice is underway.
 - Semi-annual meeting in Norfolk, VA – October 2018.
 - d. FP2 **Moulthrop**
 - No highway funding bill on the horizon.
 - Continues to monitor and be involved in the NCAT/MNRoad Partnership.

5. **AASHTO Committee on Materials & Pavements Update** **Pfeifer**
 - a. TS 2a – Emulsified Asphalts
 - Administration and balloting process was discussed.
 - COMP meeting is in Cincinnati, OH August 5-10.
 - January/February time frame before mid-year conference call is very important for resolving negatives and getting items on ballot. Standards submitted immediately after summer (August) meeting. Identify a champion.
 - Ballot voting completed in January 2018. Items on ballot (concurrent):
 - M140, M208, M316. Added reference to rotational paddle viscometer.

- TP 121 (concurrent): Rotational paddle viscometer.
 - Tack Coat Design and Materials: Both passed. One negative related to emulsion dilution.
 - Reconfirmation ballots: T50, chip seal and micro-surfacing provisionals passed. Need to discuss when/if to move to full standard.
 - Formed a T59 task force to review standard. Sent a survey to the states to understand usage.
- b. **TS 5b – Bridge & Pavement Preservation (Presentation)** **Nener-Plante**
- New tech section to address pavement preservation systems.
 - Presentation attached to minutes.
 - Goal with provisional standards is to use them. If they are not being used they are at risk of being taken off the books.
 - COMP through 5b will now take on construction guide specifications for up to 5 years..
 - Midyear meeting is in November. Submit any documents in early fall.
 - Should ETF be involved in reviewing changes to standards in TS 2a and TS 5b? Is a subcommittee needed to interface with AASHTO?
 - Quality Assurance Standards, need to discuss how to handle submission and review.
- c. **Construction Guidance Spec Approval Process** **Galehouse**
- No update.

Action Items

- Discuss if/how ETF should interface with AASHTO Tech Sections.
- Discuss how QA documents will be handled.

6. Research and Marketing

- a. **NCHRP – SPG Research Project** **Franco**
- NCHRP has approved project 9-63 for performance graded specifications for emulsions. Follow up to work conducted by Texas A&M (funded by TxDOT) and NC State (NCHRP 9-50). Funded at \$500k, Phase 1 is tentatively scheduled for 18 months.
- b. **FHWA Research Proposal Update** **Franco**
- c. **Research Subcommittee** **Lubbers**
- d. **Marketing of ETF Deliverables** **Franco**
- Improved coordination between ETF, PPETG, and maintenance QA project at UNR is needed.
 - Is a subcommittee needed?

7. ETF Emulsion/Residue Testing Program – Results (Presentation)

Anderson

- a. Additional reasons for differences in high temperature properties between labs could be change in material properties with storage time after recovery.
- b.

8. EPG/SPG Specification Plan (Presentation)

Voth/King/Kim/Epps-Martin

- a. Emphasis was made that provisional standards are tools to stimulate additional research, pilot projects, and data collection efforts. Expected to be modified and have a limited life of 5 to 7 years.
- b. Comment was made that availability of provisionals should be emphasized at industry/trade association conferences.
- c. **Schedule**
- i. Draft provisional – June ETF meeting
 - ii. Present to COMP – August TS2a meeting
 - iii. Fall 2018 TS2a ballot, Winter 2019 Mid-year meeting – discuss, August 2019 full ballot.
- d. **Alternatives for Provisional Development**
- i. Two separate specifications (EPG & SPG)
 - ii. One specification with complete consensus (data-supported)

- iii. One specification with transparency on gaps. Could include options and information appendix.
- e. Resistance to raveling and bleeding is more closely related to application rates than only residue properties, need to communicate performance issues better. Role of testing is to minimize contributions to seal coat distresses.
- f. 2 Grades vs. 3 Grades Discussion. 2 grades seems approved.
- g. High Temperature Test
 - i. Use G*/sind or MSCR

9. EPG/SPG Open Discussion

Lubbers

- Polymer identification should be treated in the same manner as it is in the PG system – as a plus test that is not necessarily performance related.
 - PAV aging brings modifiers closer together. Is PAV necessary?
 - Different specifications or limits for different modifiers? Most states don't differentiate between CRS-2P and CRS-2L (M316 based).
 - Consider testing at 25C and using ER-DSR test.
 - Can test conditions (stress or temperature) be adjusted to better evaluate modifiers?
- It would be useful to understand how the emulsions submitted for the round robin study met current specifications – what were they formulated to.
- All latex modifications do not respond the same way to PAV aging.
- EPG Low Temperature
 - Need to simplify the procedure.
- High temperature grading
 - Measurement vs. calculated values.
 - MSCR is preferred but Jnr is outside of the range of reliable testing. Is it too soft for the DSR or the test? Not all states are comfortable with Jnr.
 - Should MSCR be run at two different temperatures?
 - Start with G*/sind and continue work on Jnr
- Low Temperature Grading
 - BBR under surface grading framework is not applicable to -25°C and -31°C.
- Detailed information needed
 - Residue storage time after recovery.
- How does the residue specification fit with mix design?

Action Items

- Finalize testing framework and define additional testing needs.

10. Committee Activity & Breakout Session

Franco

11. Summation of Day's Activities

Franco

Day 2

Thursday, June 21st

12. Scrub Seal Emulsions with Rejuvenators (Presentation)

Hicks

- a. Gary Hicks provided an overview of the scrub seal specification and path forward.
- b. Andrew Hanz provided an update on the scrub seal task force and standard development. Discussion included:
 - i. Performance assessment of rejuvenators used in treatment. *Research need.*
 - ii. Time frame for completion of testing and re-submittal of standard.

Action Items

- Work within subcommittee to revise and re-submit materials spec.
- Begin investigating performance based approaches for incorporating performance considerations into rejuvenator selection.

13. Bio-based Emulsion Rejuvenators

Lubbers

- a. The question was raised if the current scrub seal materials specification accommodates bio-based rejuvenators. Numerous systems by two separate suppliers use bio-based products, the spec applies to both bio-based and petroleum based rejuvenators.
- b. Cindy Fleury, Collaborative Aggregates raised the question if there is a need for performance based specifications for rejuvenators. Discussion points:
 - i. Is this a specification on only the rejuvenator or the rejuvenators?
 - ii. Applications for emulsion/surface treatments or in HMA mixtures to improve RAP? Emulsion treatments can be handled under ETF, HMA applications have been evaluated under recent NCHRP projects.
 - iii. Topic for ETF research subcommittee.

14. Quality Assurance (QA)

- a. Quality Assurance for Chip Seals (Presentation) Franco/Shields
- b. Pay Factors and Dispute Resolution (Presentation) Dvorak
 - Concept of PWL and incentive/disincentive was introduced.
- c. QA – Education and Certification (Presentation) Galehouse
 - The need for certification and how it relates to improved quality was discussed.
 - Challenges related to certification including participation, turn-over, etc.
- d. AASHTO Resource Lab Accreditation Update Soneira

15. Program Reports (5 minutes)

- a. EDC-4 (Presentation) Dietz/Galehouse
- b. TSP-2 Partnerships Galehouse
 - National program. Involvement from 47 states. Purpose is to advance preservation of bridges and roadways. States divided into 4 regions: Rocky Mountain, Midwest, Northeast, Southeast.
 - Began funding the Emulsion Task Force mandate through 2019. Have begun discussing an extension.
 - Information related to ETF activities is being distributed at TSP2 meetings.
- c. Pavement Preservation ETG (Presentation – not provided) Dietz
- d. Asphalt Binder & Mixture ETG Hanz
 - No update at this time, future cross-over with rejuvenators possible

16. Breakout Session Reports and Discussion

Subcommittee Chairs

- a. Spray & Mix – Gary Hicks & Jim Moulthrop
 - i. Ultra Thin Bonded Wearing Course: 6 to 8 participants discussed design and materials specification. Subcommittee will address comments and distribute to ETF.
 - ii. Scrub Seal Specification
 - iii. NCHRP 14-17 Test Methods from 2012.
- b. SPG/EPG – Mike Voth
 - i. NCSU – Refine 5-15 Procedure
 - ii. Extension of round robin testing with specific tests selected in June 2018 meeting.
 - iii. Commercial emulsion and lab-made to evaluate the specification.
- c. Residue Recovery and Testing – Arliss Kadmas
 - i. High float emulsion characterization – Presentation
- d. Recycling

- i. FDR Design and Materials Spec target August 1.
- e. Research
 - i. Soliciting subcommittee members.

17. Summary & Affirming Next Steps

Lubbers/Franco

DRAFT