

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

Warner Babcock Institute (WBI) for Green Chemistry

Wilmington, MA

November 29th - 30th, 2017

AGENDA

Attendees:

Colin Franco, Allen Gallistel, Fred Mello, Arlis Kadrmas, Richard Kim, Andy Bickford, Jason Weilinski, Brian Phieffer, Russ Millan, Stormy Brewster, Larry Tomkins, Kevin Carlson, Barry Baughman, Kevin McGlumphy, Andy Clayton, Jen Penner, Gary Hicks, Ron Birdsall, Larry Galehouse, Scott Shuler, Mark Ishee, Gayle Fee, Casey Soniera, Todd Shields, Codrin Daranga, Marianne (), Mike Voth, Fan Liang, China 2, China 3, Mike Anderson, Greg Harder, Gayle King, Chris Lubbers

Day 1

Wednesday, November 29th

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

2. **WBI – Overview – Mission and Purpose** **Montenegro**
The Green Chemistry Initiative **Dr. Warner**

3. **Agenda Overview** **Franco/Lubbers**
 - a. **Approval of May 22nd – 23rd, 2017 Meeting Minutes** - Approved
 - b. **Reviewing ETF Mission & Goals**
 - i. ETF is an AASHTO affiliated group supported by the TSP2 Program, defined as an all volunteer stakeholder working group.
 - ii. By spring 2018 states must have an asset management plan in place to be eligible for federal funding.
 - iii. Goals are 1) Develop a performance specification for emulsions, 2) Promote uniformity in standards, including materials specifications, design methods, and construction guides.
 - iv. Other long term objectives include research and promoting emulsion technologies.
 - v. Progress on specifications for emulsions and treatments, on target for completion by 2018.

4. **Activity Reports (5 Minutes/Group)**
 - a. AEMA **Ishee**
 - i. Education:
 1. Working on coordinating efforts (synergy project) between trade associations (AEMA/ARRA/ISSA) through the Pavement Preservation Research Alliance (PPRA).
 2. Emulsion certification online courses through University of Arkansas. First was on emulsions and went live in April. More courses planned, asphalt emulsion applications (live end of Dec), other course is asphalt emulsion manufacturing.
 - b. ISSA **Tomkins**
 - i. PPRA Synergy project and website development.
 - ii. Slurry workshop coming up week of January 22. Have noticed interest in slurry/micro and chip seal certification tests.
 - iii. Developing training tools and technical bulletins.
 - c. ARRA **Wielinski**
 - i. Synergy project is also a priority.
 - ii. Next step are guidelines for FDR with emulsion and best practices for CIR.

Action Item

- More detailed summary of trade association activities would be beneficial to understand interrelationships. Asphalt Institute may have additional information.
- PPRA issues bi-monthly newsletter.

d. AASHTO TSP•2

Galehouse

- i. Looking to incorporate more field/equipment demonstrations into meetings.
- ii. Website is available for information, recent webinar hosted for certification.
- iii. Data mining effort to relate completed/in-progress research with research roadmap developed approx. 10 years ago.
- iv. Developing an innovative products database to enhance communication between agencies.

e. Asphalt Binder & Mixture ETG

Hanz

- i. 4mm DSR and thermal equilibration issues. Significant hurdle to address before moving to ruggedness, and standardization.

5. Ongoing Pavement Preservation Field Research – MN Road NCAT Pooled Fund **Gallistel**

- a. IRI vs. time data presented for many different treatments on both high and low traffic sites. Intricacies of and differing trends need to be documented. For example, IRI difference in thinlay sections attributed to use mills with different widths. Are IRI values after milling and before treatment available?

6. FHWA / AASHTO Programs

Moulthrop

a. EDC4

- i. Define How/When/Where for Pavement Preservation. Organized through technical and asset management groups in FHWA. Two-year program.
- ii. In process of determining work areas for EDC5.

b. SHRP2

- i. Four different categories, one project was R26 – Pavement Preservation for High Traffic Roadways.

c. PPETG

- i. Re-established a few years ago. Article in Pavement Preservation Journal, “Top 10 Aspects of a World Class Pavement Preservation Program”.
- ii. Received updates from AEMA, Asphalt Institute. Related to specifications and training materials.
- iii. TRB: Monday, Pavement Maintenance committee and paper presentations. Tuesday, same schedule for Pavement Preservation.

d. PPWEB Training

- i. Tabled until tomorrow.

Discussion

- What specifications and guidelines were being used for field trials? Has there been collaboration between agencies and/or with ETF? Assumption is the specifications of the state hosting the project are being used.
- Relates to technology promotion topic area for ETF. Emulsion specifications are in use, many of the treatment specifications are provisional.

7. Membership Reviews

Franco/Lubbers

- a. ETF Membership
- b. Subcommittee (SC) Membership
- c. Subcommittee Mission

8. China vs. US – Emulsion Testing and Specifications

Wenfeng/Liang

9. ETF Emulsion/Residue Testing Program – Prelim. Results

Anderson

- a. Polymer identification: Phase angle (at 0.65 kPa), MSCR at 0.1 kPa and 3.2 kPa were presented. %R at 0.1 kPa was identified as a discriminating parameter that matched well with phase angle. MSCR at the higher stress level was not discriminating, all values were too low. Consider reducing temperature of MSCR test by 6C.
- b. High temperature grading: From NCHRP 9-50, G^*/sind vs Jnr similar relationships with selected mix performance test for chip seal emulsions similar, different relationship for micro-surfacing. National trend is to MSCR, better relationship to rutting and better characterization of modified binders.
- c. Is there a need to have dual tables for MSCR and G^*/sind ?
- d. TxDOT efforts include round robin testing and MSCR at various aging conditions. Report pending.
- e. Concerns with complexity of critical phase angle procedure for widespread implementation, if adopted work with equipment manufacturers to automate analysis. Suggestion to increase amount of test temperatures and limit frequencies above 10 rad/s.
- f. Further discussions related to ΔT_c , critical phase angle, and aging are planned to discuss incorporating embrittlement.

10. Emulsion Tack Coats with Thin Lift Overlays/BWC

Dr. Mogawer

11. Update AASHTO Deliverables (Attachment)

Pfeifer/Voth

- a. AASHTO TS 2a/SOM Annual Meeting – Summary
 - a. Specs are now going through two committees, TS-2a focused on emulsified asphalts and standards previously submitted by ETF will be TS-5b Bridge and Pavement Preservation will be for treatments are treatments.
 - b. TS-2a will hold mid-year meeting soon, anticipating publishing most provisional for 2018. TS-5b already held their meeting, all provisionals were approved.
- b. Published Standards and Practices
 - i. M140, M208, and M316:
 - 1. Note C allowing states to waive viscosity.
 - ii. Chip Seal
 - 1. Reconfirmation Ballot – Occurs every two years a spec is provisional.
 - iii. Micro Surfacing
 - 1. Reconfirmation Ballot - Occurs every two years a spec is provisional
 - iv. Slurry Seal
 - v. Fog Seal
 - vi. Cold-In-Place Recycling (CIR)
 - vii. TP71, TP72
- c. Draft Standards and Practices – TS 2a/TS 5b/SOM
 - ii. Tack Coat
 - iii. Scrub Seal - Materials and Design will be published in 2018 as provisional.
 - iv. Sand Seal – Materials and Design will be published in 2018 as provisional.
- d. NCHRP Program
 - i. NCHRP 9-62 QA and Specs for CIR using Asphalt-Based Recycling Agents
 - ii. SPG Problem Statement Submission – RI DOT Sponsor
 - a. Develop and Validate a Performance Related Spec for Emulsified Asphalts
- e. TSP2 Initiatives for Construction Specs w/in AASHTO

Franco

Galehouse

Action Items

- ETF provide recommendation to AASHTO regarding changing provisional specifications to adoption to full standard.
 - Does a state need to adopt a specification before it is adopted?

- Need to understand what states are being used before making recommendation.
- Coordinate with NCHRP 9-50 validation plan in writing research problem statement.

13. SPG - Performance Grading Specifications – Forward Plan

Voth/King

- a. Number of emulsion grades: Selection will be made by industry choice is two (current system) or three (EPG/SPG) proposal. Concerns with only two grades is that it is difficult to control product selection based on traffic levels. Michigan has two separate polymer modified emulsion specifications, no specification for unmodified emulsion.
- b. Polymer specifications: There is a need to identify polymer modified emulsions. Options are MSCR at lower stress or lower temperature (AI), PAV aging (previous ETF discussion), or sweep test (new business). Resolution has not been reached.

14. SC Chair Reports – Cancelled

15. SC Breakout Sessions - Cancelled

16. SC Breakout Reports - Cancelled

Day 2

Thursday, November 30th

1. Particulate Stabilizers in Emulsions

Dr. A. Bose

2. Quality Assurance (QA) – Matls, Prod Eval, Edu, Cert

Shields/Franco

- a. Intro. and Overview

3. Quality Assurance (QA) – Materials and Production

Shields/Franco

- a. Acceptance Testing; QC (Process Control), Independent Assurance
- b. Protocols for Agency Acceptance of the Projects
 - i. Materials and Construction Workmanship
- c. QC (Contractor) Plans and Requirements
 - i. Materials and Construction Workmanship
- d. New Product Acceptance Procedures

4. Quality Assurance (QA) – Education and Certification

Galehouse

- a. Education and Training Leading to Certification of Personnel
- b. Certification of Plants/Materials
- c. Accreditation of Labs

Soneira

5. Next Steps

Franco/Lubbers

- a. Next Meeting
- b. Tie-up Loose Ends