

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

*Embassy Suites – Denver Downtown Convention Center*

*Denver, CO*

*May 22<sup>nd</sup>-23<sup>rd</sup>, 2017*

## **AGENDA**

### **Day 1**

**Monday, May 22<sup>nd</sup>**

- 1. Welcome, Introductions & Roll Call- Franco/Lubbers**
- 2. Agenda Overview – Franco**
- 3. Approval of December 13<sup>th</sup>-14<sup>th</sup>, 2016 Meeting Minutes**
  - a. Minutes were approved with two corrections. Pg 2 correct the reference to the NCHRP project to 14-37 and on Pg 3 move activities related to sand seals from the mix to the spray subcommittee.
- 4. Reviewing ETF Mission & Goals - Franco/Lubbers (Presentation A)**
  - a. There is a new AASHTO Tech Section 5b for preservation treatments. Some activities will stay with Tech Section 2a, treatments will be in the new subcommittee.
- 5. Activity Reports (Quick, 5 Minutes/Group)**
  - a. **AEMA – Ishee**
    - i. Annual meeting was held spring 2017. Certification program for emulsion has been completed through University of Arkansas titled the “Basics of Asphalt Emulsion”. Approximately 10, one hour sessions. Includes midterm and final exams. Other courses are in development.
    - ii. Dr. Braham has also established a young members committee for AEMA.
    - iii. AEMA/ISSA/ARRA continues to meet with FHWA, next is scheduled for July 13. AEMA offered to present any ETF issues.
  - b. **ISSA - Price/Jerman**
    - i. Tom Wood is now Technical Director of ISSA.
    - ii. Held Micro/Slurry workshop and certification.
  - c. **ARRA - S. Cross**
    - i. Two day work shop on in-place recycling in Dickinson, ND June 27 & 28<sup>th</sup>.
    - ii. ARRA is going to have fall meeting at MNROAD.
  - d. **AASHTO TSP•2 – Galehouse (Presentation B)**
    - i. Pavement and bridge preservation meeting schedules were presented, there are future opportunities to hold ETF meetings with TSP2 meetings.
    - ii. Concrete pavement preservation task force has been established but hasn't met.
    - iii. ETF partnership with TSP2 was approved for a three year term beginning in fall of 2016.
  - e. **Asphalt Binder & Mixture ETG – Hanz**
    - i. 4mm DSR difference observed between peltier and air cooling systems. Will not hinder work this summer, but is a barrier to widespread implementation in the future.
    - ii. Coordination with ETG should continue on specific issues of mutual interest.

### **Action Items**

- Invite Tom Wood to join the ETF as ISSA representative.

### **6. China – Emulsion Testing/Status - Chinese Delegates (Presentation C)**

- a. 3 to 4 labs would be able to participate in future round robin studies.

- b. Further discussion needed to finalize test and recovery methods. Discussion noted that recovery methods used are not suitable replacements for the low temperature evaporation.
- c. There are some technologies being used in China that would be of benefit to practice in the US.

## 7. Ongoing Field Research (Presentation D)

- a. MN Road / NCAT Pooled Fund Study - **B. Powell**

## 8. Update AASHTO Deliverables - Franco/Voth, (Presentation E)

- a. Completed Standards - 2016
  - i. M140-16, M208-16, M316-16. *Complete*
    - 1. Many states have adopted the 2016 versions of these specifications.
  - ii. Chip Seal and Micro Surfacing Treatments. *Complete.*
  - iii. TP71, TP72 – Full Standards
- b. Standards in Progress – 2017 Publication
  - iii. Cold-In-Place Recycling (CIR), Slurry Seal, CIR
    - 1. Design Specifications and Design Practice to be published in Fall 2017
    - 2. Construction Guide Specs work in progress.
    - 3. Best Practices – work in progress.
  - iv. Tack Coat
    - 1. Design Specifications and design practice draft with SOM.
    - 2. Construction Guide specs
    - 3. Best Practices
  - v. Scrub Seal
    - 1. Materials specification and design practice accepted.
    - 2. Construction Guide Spec – draft available
    - 3. Best practices – no planned document
- f. Standards that are still being worked on
  - i. Sand Seal, UWBTC, ...In Progress
- c. NCHRP Program
  - i. NCHRP 14-37 Construction Guide Specs for Chip Seal and Micro Surfacing – **Schuler**
    - Approved to start Phase II plan. Phase I was work plan approval, Phase II is execution of plan.
    - Guide construction specs, not intended for agency use as a special provision.
    - Goal is completion for February 2018.
    - How does the project interface with the subcommittee on construction?
      - i. Do they publish AASHTO volumes? Best organization may be SOM.
      - ii. Potential to just use NCHRP publication. Needs to be somewhere else for states to make best use of it.
    - Will also update to add more QC/QA in next version.
  - ii. NCHRP 9-62 QA and Specs for CIR using Asphalt-Based Recycling Agents - **Franco**
    - Not discussed in meeting.
  - iii. SPG Problem Statement Submission – RI DOT Sponsor
    - a. Develop and Validate a Performance Related Specification for Emulsified Asphalts
    - b. Not discussed in meeting.

## Action Items

- Include specification and practice tracking spreadsheet maintained by Colin Franco in the meeting minutes.

## 9. Membership Reviews Franco/Lubbers

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

### Action Items

- Is there a need to establish a subcommittee on communication and outreach? Interface with user/producer groups.
- There will be a link on the AASHTO TSP2 site to have an ETF website, need to decide what information to post and how to distribute the information.
- Interface with industry association technical committees to provide updates on ETF activities.

## 10. FHWA / AASHTO Programs - J. Dietz (Presentation F)

- a. EDC4
  - i. Pavement preservation has been included in initiative. When, where, and how?
  - ii. Federal legislation will include performance-based investment decisions.
  - iii. 26 states were interested in pavement preservation "When & Where" module.
- b. SHRP2
  - i. Guidebook for high traffic roadways is now available (PP-26).
  - ii. Project analysis tool developed for state agencies.
  - iii. Any updates on project R-23 FHWA initiative?
- c. PPETG
  - i. Update research and implementation roadmap for Pavement Preservation. Lead by Anita Bush and Magdy Mikhail
  - ii. Communicate aspects of successful pavement preservation programs.
  - iii. Performance measures and calculation of benefits.
- d. PPWEB Training
  - i. Link provided for ISSA based training. Chip seal, micro-surfacing, slurry seal, crack sealing. Can Arkansas training be linked?

## 11. SC Chair Reports

- a. Residue Recovery & Testing – **Kadmas**
  - i. SPG/EPG discussions neglected high float products. Conference call held one week ago to discuss needs for high float information sharing and testing. Float property vs. yield stress. Will evaluate protocols using 4 to 5 laboratories. Structure forms better at high temperatures. Will use both low temperature evaporation and conventional recovery methods.
  - ii. Benefits for high float include low volume roads and areas with snowplows. Better understanding and improved specifications needed.
  - iii. Need to quantify the influence of polymer on gel structure development.
  - iv. Would impact both cationic and anionic high float products (M208 and M316).
  - v. Any solvent in the emulsion evaporates in low temp but is still there after a distillation. Another issue to consider for specification.
- b. Design Group – Mix - **Hicks**
  - i. New Specs and Design Practices
    - Micro-surfacing and slurry specs have been moved forward
    - UTWBC in progress.
  - ii. Construction Guide Specs / Best Practices
    - Slurry best practice has been drafted looking for publication.
    - Construction guides for micro-surfacing addressed in NCHRP 1473.
    - UTBWC Target for strawman spec is end of June. Will target fall of 2017 for spec submission.
- c. Design Group – Spray - **Hicks**

- i. New Specs and Design Practices
  - Chip Seal and Fog Seal Complete.
  - Tack Coat complete, remaining issues are being worked through.
- ii. Construction Guide Specs / Best Practices
- iii. Scrub Seal Stds. and Use of Rejuvenators
  - Materials specification and design practice submitted to AASHTO and are in TS 5b.
- iv. Sand Seal Stds.
  - Materials specification and design practice submitted to AASHTO and are in TS 5b.
- v. Plans for 2018
  - Address comments on sand and scrub seals.
  - Continue work on construction guidelines.
- d. Quality Assurance (QA) & Certification - **Franco**
  - i. Proposed Schedule and Plan for Drafting of Standards
- e. Recycling Emulsions - **Cross**
  - i. New Specs and Design Practices
    - Completed and submitted by AASHTO for emulsion. NCAT is working on a foam based mix design for CIR.
    - Next will be FDR using emulsion and foam.
  - ii. Construction Guide Specs / Best Practices
    - ARRA has guidance that can be adapted to AASHTO format.
- f. Research - **Hazlett**
  - i. Identifying Potential Funding Sources
  - ii. Development of Research Needs Statements
    - Both research needs statements submitted were not selected. Topics were SPG and fog seal.
    - Existing RNS to research selection of hot applied vs. emulsion for chip seals. Does ETF want to submit?
    - Review other treatments? Tack Coat? Reference NCHRP study by LSU.
  - iii. NCHRP – Dev. and Validation of National SPG - **Franco**

## 12. SPG - Performance Grading Specifications - Voth

### Presentations and Discussion on Performance Grading Specifications

- a. Panel: Voth, King, Hanz – Comparison of Approaches + National Implementation Needs
  - i. **Hanz (Presentation G and Spreadsheet)**
    - Who are the users? Need to keep it simple.
    - PAV Aging. What temperature will be used? Concerns with implementing the PAV aging protocol.
  - ii. **Voth – Summer Testing Program (Presentation H):**
    - Sampling and handling guidelines. ASTM D140 includes guidelines. There are also guidelines in place by a few state agencies.
    - Include high float emulsions?
  - iii. **Gayle King – Summary of Approaches (Presentation I)**
    - Need to find a project coordinator.
    - What is the ETF message to sell SPG benefits to the states? Modernize specifications and address properties of new materials.

- b. Guest Presentations by G. Baumgardner (Ergon) + Geoff Rowe (Abatech)
- i. **Baumgardner, SPG Overview and Research Update (Presentation J)**
    - Differences observed between systems for conventional PG binders and emulsions residues.
    - Thin film aging study confirmed that SBR systems develop elasticity with time.
  - ii. **Rowe, Design of Asphalt Binder Specifications for Surface Treatments and Pavement Preservation (Presentation K)**
    - Need to include an ultimate strength test in emulsion specifications to define benefits of modification in stiffness region of 10 MPa – 50 MPa.
    - Specification Needs
      1. High Temp. stiffness/viscosity
      2. Low Temp. stiffness/viscosity
      3. Intermediate Temp toughness/strength
    - Failure test is needed to understand large strain behavior.
      1. Which test for round robin/summer testing?
    - Durability in UK – Progression of VET (similar to R-value) with extended aging.
    - NCHRP 9-50
      1. BBS did not have good correlation unless emulsion was cured on the aggregate.
      2. Failure properties at low temperatures measured with SENB showed good correlation with IT performance.
    - Emphasize relationship between stiffness and failure properties.

**13. SC Breakout Sessions (Tabled due to time constraints)**

**14. SC Breakout Reports (Tabled due to time constraints)**

## **Day 2**

**Tuesday, May 23<sup>rd</sup>**

### **1. Task force for polymer and latex**

- a. Gayle King proposed forming a task force of emulsion suppliers to address a specification that is acceptable for both SBS, SBR, and other modified emulsions.
- b. Task Force Members: Ergon – Codrin Daranga, Marathon – Joe Brandenburg, MTE- Andrew Hanz, Husky – Jen Penner, Flint Hills – Jeff Shoger. Chair Gayle King. Polymer suppliers will be available as needed.
- c. Ken Gryzbowski volunteered PRI as an independent lab. Commented that a performance specification is the end goal do not need to focus on purchase specification.

### **2. Tack Coats - Schuler/Dietz (Presentation F)**

- a. FHWA has published a Tech Brief (<https://www.fhwa.dot.gov/pavement/asphalt/pubs/hif16017.pdf>)
- b. CSU performed research on tack coat on overlays for CDOT, published in 2017 Transportation Research Record.
- c. Further research and discussion ongoing regarding application rates and materials selection.
- d. Refer to research by LSU, NCAT, and Colorado State University.

### **3. Quality Assurance (QA)**

#### **a. Matls., Prod Eval., Education, Cert. - Franco (Presentation L)**

- i. Intro. and Overview
  - AI offers a basic emulsion certification class. Need to determine when to incorporate new methods into coursework.

#### **b. Quality Assurance (QA) – Materials and Production - Franco**

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

#### **c. Quality Assurance (QA) – Education and Certification - Galehouse (Presentation M)**

- i. Education and Training Leading to Certification of Personnel
- ii. Certification of Plants/Materials
- iii. Accreditation of Labs – **Soneira**

### **4. Next Steps – Franco/Lubbers**

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

### Summary of Attachments

Label	Title	Presenter	Affiliation
A	Review of ETF Mission & Goals	Colin Franco	RIDOT
B	TSP <sup>2</sup> Activity Report	Larry Galehouse	NCPP
C	Introduction of JTSI Group and TRI	Frank Hao Li	JTSI Group
D	MnRoad/NCAT Partnership	Buzz Powell	NCAT
E	TS2a 2017 Mid-Year Meeting Minutes	Word Document	AASHTO
F	Preserve Your Roadway	Jason Dietz	FHWA Resource Center
G	SPG-EPG Overview and Round Robin Testing Plan	Andrew Hanz	MTE Services Inc.
H	2017 Summer Testing Program	Mike Voth	FHWA Resource Center
I	Development of AASHTO Emulsion Performance Grading Standards	Gayle King	GHK Inc.
J*	SPG Overview and Research Updates	Gaylon Baumgardner	Paragon Technical Services
K*	Design of Asphalt Binder Specifications for Surface Treatments and Pavement Preservation	Geoff Rowe	Abatech
L	Quality Assurance Essentials	Colin Franco	RIDOT
M	Certification Update	Larry Galehouse	NCPP
N	AASHTO Resource Overview	Casey Soneira	AASHTO Resource

\*Presentations not available at time of minutes distribution. Contact Andrew Hanz for a copy.