MSCR Task Force Report

• Overview
  – What is Multiple Stress Creep Recovery (MSCR) test?
  – Purpose of MSCR Task Force activities
  – Task Force WebEx meetings and topics

• MSCR Recovery Study

• Recommendations
  – Adopt MSCR Recovery as PG Plus test (TXDOT)
  – Adopt MP 19 (LA DOT)
What is MSCR?

- MSCR (pronounced massacre)

- The MSCR test is a laboratory test for measuring high temperature properties of an asphalt binder which:
  - can replace the existing high temp. test for short term aged binder in M 320 (G*/sinδ)
  - can better relate predicted laboratory polymer-modified binders’ high temp properties to actual rutting performance of in-service pavements
MSCR Advantages

• $J_{nr}$ is better correlated with rutting potential than $G^*/\sin\delta$
  – Lab research
  – Field Studies

• May eliminate the need for “PG Plus” tests for modified binders
  – Elastic Recovery, Phase Angle, etc.
Barriers to Implementation?

• AI believes that MSCR is an advancement in technology that can replace the existing high temp. test in M 320 (G*/sin\(\delta\))

• However, barriers exist to implementation
  – Lack of manpower to do necessary transitional testing to validate MSCR test and specifications
  – Lack of suitable DSR equipment and software
  – Concern about how MSCR will affect binder supply and polymer modification
  – Lack of guidance from regional partners/suppliers
MSCR Task Force

• Purpose?
  – To move evaluation of MSCR test and specification forward
  – To provide a resource and information for all SEAUPG states
  – To identify and address any barriers to implementation
  – To conduct MSCR ILS (Round Robin)
  – To consider possible implementation of MSCR in the future
WebEx Meetings

- MSCR TF has met 12 times using WebEx
- Meetings are well attended and interest is good
- Early WebEx meetings provided background
- Later WebEx meetings included more technical presentations, interpretation of data; ILS analysis; MSCR Recovery study; discussion of implementation
MSCR Information

Free Webinar:
- Understanding the MSCR Test and its Use in the PG Asphalt Binder Specification

Guidance Documents
- AI's Guidance Document on MSCR Implementation (PDF 419 kb)
- AI's Guidance Document on using MSCR with AASHTO M320 (PDF 344 kb)
- FHWA Tech Brief on the MSCR Procedure (PDF 771 kb)
- SEAUPG - Use of MSCR to Replace PG Plus Tests (PDF 44 kb)
- SEAUPG - Guidance for Evaluation of MSCR Recovery to Replace PG Plus Tests (PDF 63 kb)

Research Papers
- SEAUPG MSCR ILS Final Report with Appendix (PDF 1.1 mb)
- SEAUPG MSCR ILS Final Report with Appendix (PDF 476 kb)

Presentations
- Why We Need MSCR (PDF 1.69 mb)
Updates

• Some barriers to implementation have been addressed
  – Several states have purchased new DSRs
  – States are becoming more familiar with performing the MSCR testing (ILS, MSCR Recovery study, AMRL proficiency, etc)
  – Suppliers have been performing MSCR testing of their products
  – AI Guidance documents have been developed and provided
Recent Activities

- Florida DOT announced their decision to adopt MP 19 on July 2013
- LA DOT – Recommended that SEAUPG Adopt MP 19
- TX DOT – Recommended that SEAUPG Adopt MSCR Recovery as a replacement for PG Plus tests
Summary – MSCR Task Force

• Significant progress has been made since MSCR Task Force was formed two years ago
• All 14 SEAUPG states are now participating
• WebEx meetings continue to be well attended by suppliers/ states
• Latest activity: MSCR Recovery study
• States are starting to propose implementation
Questions? Discussion?