North Central Superpave Center Update

by

Becky McDaniel
Steering Committee Meeting
January 29, 2003
Milwaukee, Wisconsin
Vision

A recognized source of hot mix asphalt expertise

Mission

To lead further development and implementation of hot mix asphalt and Superpave technology by providing services to its customers
Status Update

- Personnel
- Training
- Communication and Technology Transfer
- Research
- Involvement on National Level
- Challenges and Status
Personnel

- Jan Olek, Director
- Becky McDaniel, Technical Director
- Lynn Warble, Communications
- Steve Bowman, Technician
- Ayesha Shah, Research Engineer
- James Esler, Research Assistant
Training in 2002

- **Regional Training**
  - 2 Binder and 1 Fundamentals courses for a total of 21 participants.

- **NHI Courses**
  - NHI is revising courses again – old ones available
  - Taught one course in New Mexico to 24 participants

- **Customized Courses**
  - Payne and Dolan, Binder Course (8 students)
  - Iowa binder course; emphasis on DSR and Rheology
  - Personalized binder training for representative of a Peruvian University
Training in 2003

- One binder course held in January (7 participants), another scheduled for March (have 7 signed up so far)
- One Fundamentals Mix Design for beginners course in February (have 2 signed up)
- One Mix Design course for experienced designers in February (have 4 signed up)
- Partnered with Nichols Consulting Engineers to bid on developing training course on use of recycled materials in highway applications for the Recycled Materials Resource Center (RMRC)
Video Production

- NCHRP hired Fugro/BRE to market results of NCHRP 9-12, completed by NCSC and AI in 2000.
- NSCS worked with Rita Leahy to write, produce, direct and star in (!) promotional video summarizing use of RAP in Superpave (12 minutes).
- NCHRP negotiated with NAPA to advertise. Being duplicated now and will be available from NCHRP soon.
- Very well received.
Alternate Training Delivery Methods

- Investigating and implementing
  - Utilization of Internet technology
  - Combination of printed material & video clips
  - Now have three videos on Searchable Database: BBR, DSR, and Rotational Viscometer
  - Currently working on Direct Tension

- Offers
  - Ability to customize to fit clients’ needs
  - Sharing of field/lab expertise
  - Training on clients schedule.
Training Videos

Superpave Training Videos

- Bending Beam Rheometer
  - Download
  - Stream/Play

- Dynamic Shear Rheometer
  - Download
  - Stream/Play

- Rotational Viscometer
  - Download
  - Stream/Play

Back Home

Superpave Training Videos
© 1997 North Central Superpave Center
E-mail your comments to: recyle@ecn.purdue.edu
Last modified: December 10, 2002
Communication

- **Newsletter (regional and national editions)**
  - hard copy mailed to ~4000 people
  - electronic copies available on web page
  - coordinated, printed and distributed by NCSC three times a year for three centers
  - Current contract with NCSC and SESC only
  - Next issue Spring 2003

- **Website**
  - Maintained and updated periodically
  - Addition/expansion continuing
  - Searchable database well received and expanding
Presentations - 2002

- Ohio Asphalt Paving Conference
- APAI Seminar for Local Governments
- Southeast Asphalt User/Producer Group
- Iowa Asphalt Paving Association
- Institute for Safe, Quiet and Durable Highways
- Transportation Research Board Committee A2D03
Equipment/Protocol Evaluations

- FHWA sponsored evaluation of candidate simple performance tests
  - Collected nine mixtures from Midwest
  - Look at how typical mixtures perform in SPT
  - Start building “library” of test results for 2002 Design Guide
  - Results to be presented later today
  - Look at testing SMAs in the SPT
Equipment/Protocol Evaluations

- Participating in ruggedness testing on Binder Direct Tension
  - Testing 600+ samples from Raj Dongre

- Status
  - Invited to participate in evaluation of Gilson automated aggregate specific gravity device vs. Corelok and AASHTO
  - Awaiting equipment loan and protocols

- Other equipment/protocols possible - work with NCAUPG Technicians, DAV, etc. - suggestions?
Implementation

- INDOT began allowing referee SST testing to evaluate mixes with less than 2% air voids on volumetric acceptance projects.
- We provided testing for two contractors on three projects.
- INDOT will go 100% volumetric next year.
Completed Research at the NCSC

- Use of Reclaimed Asphalt Pavement Under Superpave Specifications - Completed
- Performance Evaluation of Fiber-Modified Asphalt Mixes - Completed
- Asphalt Additives to Control Rutting and Cracking - Completed 1/31/03
Ongoing Research at the NCSC

- Identification of Laboratory Techniques to Optimize Superpave HMA Surface Friction Characteristics - Iowa, Indiana and SQDH
- Effects of Hot Plant Fuel Characteristics and Combustion Conditions on Asphalt Concrete Quality - SDDOT (March 2003)
- Performance Certification of Indiana Superpave Hot Asphalt Mixes - INDOT
- Superpave Simple Performance Testing
Ongoing Research at the NCSC

- Evaluation of Porous Asphalt Mixes (SQDH)
- Evaluation of Surface (Top-Down) Longitudinal Wheel Path Cracking in Indiana
- F-SHRP Renewal (April 2003)
- Worked with Virginia Tech to bid on an NCHRP project on Friction and Noise. Came in a very close second.
Pending Research at the NCSC

- **NCAT Pooled fund study on Noise**
- **Pending INDOT Projects**
- **Preparing to bid on more NCHRP projects**

- **Your suggestions for regional pooled fund projects??**
Involvement on National Level

- TRB
- AAPT
- ICAR
- Long Term Pavement Performance Materials Data ETG, New Chair
- ASTM D4, Road and Paving Materials
- National Highway Institute Instructor
- NCHRP Project Chair, Surface Energy
- F-SHRP Renewal Team
- Binder and Mixture ETGs
Challenges and Status

- Space limitations
  - INDOT adding 14,000 sq. ft. lab space for us to share. Construction to start in Spring 2003.
Future Directions

- Need for stronger state-center partnership
- Identify potential areas of joint activities
  - MP1a implementation/investigation
  - DAV
  - RAP assistance
  - Ignition oven for carbonates
  - Friction and surface texture evaluations
  - Local Roads seminars
  - Research projects
  - State visits, paving conferences/seminars
Discussion