



Memorandum

To: Tommy Nantung, INDOT, and Lee Gallivan, FHWA
From: Jan Olek, Director, North Central Superpave Center
Date: 03 October, 2005
Subject: Status Report Oct 1 - Dec 31, 2004

1. Background

The North Central Superpave Center began on July 1, 1995 as one of five regional centers to assist the states/provinces and industry with the implementation of the Superpave Mix Design system for hot mix asphalt. The role of the NCSC has evolved to include all general hot mix asphalt issues as states in the region have adopted Superpave. The Center is administered through the Joint Transportation Research Program at Purdue University. Progress is reported in terms of the major activities of the NCSC, as established by the Steering Committee.

2. Work Performed Oct - Dec 2004

Training: The NCSC Steering Committee members were polled as to the training needed in their states, and a determination was made to offer one Volumetric Mix Design course and one Superpave Binder course during the next training season. The 2005 training courses will be held during March 2005. A training flyer will be prepared and mailed early in the next quarter. In addition, the Nebraska Department of Roads has requested specialized binder and mix design courses be provided in Lincoln in February.

Communication: Work is progressing on articles for the third and final issue of this contract period of the Superpave Newsletter. Delays in obtaining the planned articles have caused publication to be rescheduled to early next quarter. The latest issues of the newsletters can be found at <http://ce.ecn.purdue.edu/~spave/newstoc.htm>.

Routine updates were made to the NCSC website. Information is added and updated on a continuing basis. Redesign of the site is being considered for the future.

Third Party Testing: None this quarter.

Research continues to be a major activity.

The JTRP study *Development of Indiana's SPS9A Site* has been completed. The final report was submitted last quarter. Continued monitoring of the SPS9A site has been proposed to INDOT for consideration in developing its research program for FY2005 and 2006. The project is tentatively programmed for FY2006.

The study *Performance Certification of Indiana Superpave Hot Asphalt Mixes* is funded by JTRP and is being conducted in cooperation with the Indiana Department of Transportation, Division of Research. All testing has been completed except for Purwheel testing, which could not be done due to continued trouble with the Purwheel test machine. The testing will be completed as soon as the Purwheel machine is moved to INDOT Research from Materials and Tests. A no-cost extension will be requested early next quarter when a better estimate of the time needed to complete the study can be made.

Work continued on securing aggregates for the *Identification of Laboratory Techniques to Optimize Superpave HMA Surface Friction Characteristics*, funded by INDOT and the Iowa Department of Transportation through JTRP. Partial funding was also provided by the Institute for Safe, Quiet and Durable Highways (SQDH). We took our friction and texture testing equipment to NCAT and ran tests on the NCAT test track to compare our machine and theirs, since initial field data for this project was collected using NCAT's equipment. Testing will accelerate next quarter.

Follow-up monitoring of the porous friction course test site was approved by JTRP last quarter, and planning for the field testing is in progress. Safety training will be completed early next quarter for those who will work in the right-of-way, and noise testing will be scheduled for March or April.

Work continued on the study *Determining the Binder Content of Hot Mix Asphalt Containing Dolomitic Aggregates Using the Ignition Oven*. A graduate student started working on this project in August, doing limited testing and familiarizing himself with the process and the literature. We obtained dolomitic aggregate and aggregate containing pyrite for the testing using the ignition oven. Testing is in progress.

A comparison of candidate simple performance tests to shear tests, funded by FHWA, continues. Future testing is planned using the Universal Test Machine (UTM). A paper for AAPT based on this work was accepted for publication.

The NCSC is also conducting testing for a Purdue University project, *High Stiffness Hot Mix Asphalt*. Dr. Pellinen is the PI on this project. The NCSC completed frequency sweep testing on lab compacted and field-core samples for the study.

Interaction with other Centers and Organizations: The Superpave Centers cooperate with each other routinely. The North Central Superpave Center serves as the

publisher/editor for the regional Superpave Center newsletters. Two centers are participating in the centralized Newsletter publication. The Technical Director is working with the Southeastern Superpave Center on a friction and noise research project. NCSC traveled to NCAT to compare NCAT and NCSC's friction equipment.

The NCSC has always worked closely with the North Central Asphalt User Producer Group (NCAUPG), holding the annual NCSC Steering Committee meeting in conjunction with the NCAUPG Annual Meeting. The NCSC has assumed a larger role in the NCAUPG Management by handling arrangements for the annual meetings, organizing committee conference calls, being responsible for minutes of calls and meetings, and budgetary responsibilities, since 2002. Two Planning Committee conference calls took place in the third quarter; the first in July, the second in September, to discuss and arrange the agenda for the 2005 Annual Meeting. The NCSC also prepared and sent a mailing to potential exhibitors for this conference. During the fourth quarter the NCSC sent formal invitation letters to the speakers, prepared the registration flyer for printing and mailing, and finalized conference details with the hotel

SAC Meeting:

The next NCSC Steering Committee meeting will be held from 7 - 9:45 a.m. on Wednesday, January 26, 2005, in conjunction with the North Central Asphalt User Producer Group (NCAUPG) meeting in Lafayette, Indiana. Tours will be arranged of the new NCSC laboratory built at the site of the Indiana Department of Transportation Research Building.

3. Work Expected in Next Reporting Period (Jan - March 2005)

Writing articles for the third and final issue of the regional newsletters is underway; publication is planned for early next quarter. Research will continue as planned. The searchable website will continue to be updated with a major update to take place during the summer. A fourth biennial review will be finalized next quarter.

4. Issues to be Resolved

The NCSC laboratory equipment was moved into new quarters in April, disrupting research progress. Equipment maintenance and recalibrations have been performed and testing progress has resumed. Next quarter the NCSC offices will temporarily move to another location within the INDOT building while remodeling of the Superpave Center offices takes place in the former NCSC office/lab space.

5. Financial Information as of Dec 31, 2004

| 2005 North Central Superpave Center Base Funding Expenditures TPF-5 (021) July 1, 2004 - June 30, 2005 (Base Four-Year Two) | | | | | |
|--|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-----------------|
| States | Quarter One July - Sept 04 | Quarter Two Oct - Dec 04 | Quarter Three Jan - Mar 05 | Quarter Four Apr - June 05 | Total per State |
| Illinois | \$6,250 | \$6,250 | | | \$12,500 |
| Indiana | \$6,250 | \$6,250 | | | \$12,500 |
| Iowa | \$6,250 | \$6,250 | | | \$12,500 |
| Kansas | \$6,250 | \$6,250 | | | \$12,500 |
| Michigan | \$6,250 | \$6,250 | | | \$12,500 |
| Minnesota | \$6,250 | \$6,250 | | | \$12,500 |
| Missouri | \$6,250 | \$6,250 | | | \$12,500 |
| Nebraska | \$6,250 | \$6,250 | | | \$12,500 |
| Wisconsin | \$6,250 | \$6,250 | | | \$12,500 |
| Quarterly Total | \$56,250 | \$56,250 | | | |
| Cumulative Grand Total | | | | | 112,500 |