



## Memorandum

To: Tommy Nantung, INDOT, and Lee Gallivan, FHWA  
From: Jan Olek, Director, North Central Superpave Center  
Date: 03 October, 2005  
Subject: Status Report July 1 - Sept 30, 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 the region has adopted Superpave as the mix design system of choice. 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 July - Sept 2004

Training: The NCSC Steering Committee members were recently polled as to the training needed in their states. These responses are being collected and analyzed. The 2005 training season will be planned next quarter based on the responses.

Communication: A conference call was held this quarter between the NCSC and the SESC to determine topics for the next issue of the newsletter. This will be the third and final issue of this contract period and is scheduled to be published 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. A major update of the searchable database of Superpave information was completed this quarter. Information is added and updated on a continuing basis with a major emphasis during the summer months.

Third Party Testing: The NCSC obtained samples last quarter from Bucko Construction to perform referee testing. The shear testing was completed and results were mailed to Bucko 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. Purwheel testing of the identified mixtures could not be done due to continued trouble with the Purwheel test machine. A no-cost extension was approved. A decision to use the Purwheel test machine at INDOT Materials and Tests was made since the machine at Purdue University continues to have trouble.

Work accelerated on an investigation of the frictional properties of Superpave HMA surfaces funded by INDOT and the Iowa Department of Transportation through JTRP. Partial funding is also being provided by the Institute for Safe, Quiet and Durable Highways (SQDH). A graduate student started work on the project in August. Aggregate sources were identified this quarter and we are working with INDOT to arrange transportation of the large samples to the lab. Arrangements have also been initiated for us to take our friction and texture testing equipment to NCAT early next quarter to compare the two devices. We had borrowed NCAT's equipment last year to start the field testing on the project in Iowa, so need to know how our devices compare.

The final report on *A Field Evaluation of Porous Asphalt Pavement* was completed last quarter. A proposal for follow-up monitoring of the test site was approved by JTRP this quarter and planning for the field testing is in progress.

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. Aggregate sources have been identified for further testing. We are working with INDOT to schedule pick up of the materials for transport to the lab next quarter.

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 and presentation.

The NCSC is also conducting some testing for a Purdue University project, *High Stiffness Hot Mix Asphalt*. Dr. Pellinen is the PI on this project. The NCSC is continuing to conduct 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 and a third center may come on board for the final issue of this contract period. The Technical Director is working with the Southeastern Superpave Center on a friction and noise research project. NCSC is planning travel to NCAT in the fourth quarter 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. Early next quarter the NCSC will send formal invitation letters to the speakers, prepare the registration flyer for printing and mailing, and finalize conference details with the hotel.

### **3. Work Expected in Next Reporting Period (Oct - Dec. 2004)**

Planning for the third and final issue of the regional newsletters has begun; publication is planned for December. Research will continue as planned. The searchable website will continue to be updated. A fourth biennial review has been started and should 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.

5. Financial Information as of Sept 30, 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
Indiana	\$6,250				\$6,250
Iowa	\$6,250				\$6,250
Kansas	\$6,250				\$6,250
Michigan	\$6,250				\$6,250
Minnesota	\$6,250				\$6,250
Missouri	\$6,250				\$6,250
Nebraska	\$6,250				\$6,250
Wisconsin	\$6,250				\$6,250
Quarterly Total	\$56,250				
Cumulative Grand Total					\$56,250