



To: Tommy Nantung, INDOT, and Lee Gallivan, FHWA
From: Jan Olek, Director, North Central Superpave Center
Date: April 26, 2006
Subject: Status Report October 1 – December 31, 2005

Background

The North Central Superpave Center began on July 1, 1995, as one of five regional centers established 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.

Work Performed Oct. – Dec. 2005

Training: A flyer was prepared and mailed to individuals on the NCSC mailing list from the Midwest states. The 2006 training course offerings include one Binder class on February 8-9, 2006, and one Mix Design class February 22-23.

Communication: The latest issues of the newsletters can be found at <http://bridge.ecn.purdue.edu/~spave/newstoc.htm>. Work continues on a National Newsletter contract for the period from December 2005 through May 2007, for the North Central Superpave Center and the Southeast Superpave Center. A phase-out to electronic format to reduce costs for the Southeast region has been incorporated into the contract. The North Central regions' customers have indicated they would like to continue receiving a hard copy via mail. The Northeast Superpave Center has been contacted regarding publication of the National Superpave Newsletter for their region, however it has yet been determined if the northeast region will re-join the newsletter effort.

Routine updates were made to the NCSC website. Information is added and updated when new information is received. A re-design of the site, which will streamline navigation, is in its final stages.

A student continues to help to update Searchable Database links and information.

Third Party Lab: A friction test on a steel plate from a company in Michigan was completed and a report was sent to the company.

Kansas DOT sent 15 binder samples to NCSC for grading and analysis, using the Abatech software to determine critical pavement temperature. Testing was completed and results were submitted to Kansas DOT.

Research continues to be a major activity.

The JTRP study *Continued Monitoring of Indiana's SPS9A Site* was approved. Preliminary field survey data is being requested for analysis in order to proceed with the next phase of the study.

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. After installing the Purwheel equipment at Research, mechanical problems were identified that are being resolved. Testing commenced, however, the Purwheel is once again having mechanical problems.

Identification of Laboratory Techniques to Optimize Superpave HMA Surface Friction Characteristics, is 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). Aggregate blending and sample preparation is ongoing. A student began work this quarter sieving and batching aggregate. Data analysis is underway to compare test results between our friction and texture testing equipment and NCAT's. NCSC staff planned to travel to Iowa to run field trials, however, the trip was cancelled due to weather conditions. A no-cost extension will be requested since the NCSC had to take on work planned for Iowa State University after the professor who was working on the project left the university.

Follow-up monitoring of *Long Term Performance of a Porous Friction Course* is on-going. Additional noise and friction testing will be conducted next quarter. Quarterly testing is planned for the first year to determine if seasonal variations in noise or surface texture are significant factors that require further evaluation.

Work continued on the study *Determining the Binder Content of Hot Mix Asphalt Containing Dolomitic Aggregates Using the Ignition Oven*. Testing is underway with dolomitic aggregate and different binder contents and gradations. Limited testing has commenced with pyritic aggregate. Trial ignition tests with the glass cleaning oven are also being conducted.

A comparison of candidate simple performance tests to shear tests, funded by FHWA, continues. Creep testing on same mix samples at effective temperature was delayed due to equipment scheduling conflicts. Testing is underway with dolomitic aggregate and different binder contents and gradations. Limited testing has been conducted on pyritic aggregate. Trial ignition tests with the glass cleaning oven are also being conducted.

A comparison of candidate simple performance tests to shear tests, funded by FHWA, continues. Creep testing on same mix samples at effective temperature was delayed due to equipment scheduling conflicts. Testing will commence next quarter.

A new project, *Investigating the Feasibility of Integrating Pavement Friction and Texture Depth Data in Modeling for INDOT PMS*, began in the first quarter of 2005. Periodic friction and surface texture measurements are being conducted on the INDOT Research Test Road to allow comparison of the friction values obtained with the portable Dynamic Friction Tester and Circular Texture Meter to the towed friction trailer.

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 currently participating in the centralized Newsletter publication and a third is considering joining the effort. The Technical Director is working with the Southeastern Superpave Center on a friction and noise research project, as well as on comparing the NCAT Test Track results to those obtained from the Accelerated Pavement Testing Facility.

The NCSC has always worked closely with the North Central Asphalt User Producer Group (NCAUPG), serving as secretary and coordinator of the annual meeting since 2002. Preparations are

currently underway for the next North Central Hot Mix Asphalt Technical Workshop and Conference, to be held January 10-12, 2006, at the Millennium Hotel in St. Louis, Missouri.

SAC Meeting:

The annual NCSC Steering Committee meeting is scheduled for January 10, 2006, prior to the North Central Hot Mix Asphalt Technical Workshop and Conference.

Work Next Quarter:

A new contract for the regional newsletters will be finalized. Research and testing will continue as planned. The website re-design will be in its final stage and the searchable database will continue to be updated. Preparations will be made for the next NCSC Steering Committee Meeting, which will be held in conjunction with the NCAUPG Hot Mix Asphalt Conference.

Financial Information as of December 30, 2005

North Central Superpave Center Base Funding Expenditures TPF-5 (021)					
July 1, 2005 - June 30, 2006 (Base Five-Year One)					
States	Quarter One July - Sept 05	Quarter Two Oct - Dec 05	Quarter Three Jan - Mar 06	Quarter Four Apr - June 06	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
Wisconsin	\$6,250	\$6,250			\$12,500
Quarterly Total	\$50,000	\$50,000			
				Cumulative Grand Total	\$100,000