



**To:** Tommy Nantung, INDOT, and Lee Gallivan, FHWA  
**From:** Jan Olek, Director, North Central Superpave Center  
**Date:** July 21, 2006  
**Subject:** Status Report Jan 1 – March 31, 2006

### **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 January – March 2006**

Training: A Binder class was taught to six students in Indianapolis on February 8-9, 2006. One Mix Design class was scheduled for February 22-23 but due to lack of registrants, it was cancelled.

Communication: The latest issues of the newsletters can be found at <http://bridge.ecn.purdue.edu/~spave/Newsletters/Newletters.htm>

Preliminary work began on the first issue of the new newsletter contract, which is slated for publication in April/May. The new contract period will run from May 2006 through November 2007 for the North Central Superpave Center and the Southeast Superpave Center.

Routine updates were made to the NCSC website. The content is edited and updated when new information is received. A web re-design is being discussed. The Searchable Database links and information continue to be updated by NCSC staff and students, in order to keep the database current.

The NCSC is investigating moving the website to the engineering web cluster, which is a large server housed within the Engineering Computer Network (ECN). One of the benefits of moving the website is the readily available technical assistance through ECN. Good content management software is also available through ECN.

After the NCSC mid-year Program Review, held September 14-15, 2005, it was determined that the NCSC should have a marketing plan. The NCSC Steering Committee named a sub-committee called the NCSC Marketing Committee. The Marketing Committee met with NCSC staff in Chicago on March 20, 2006, and used FHWA marketing strategists to begin developing a plan of action to market the Center and direct the Center's activities in a way to attract industry funding and to keep the state agencies on board with base funding. Prior to that meeting, the NCSC staff met with the Purdue University Director of Engineering Marketing and Communication to brainstorm.

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 and 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 with us left the university.

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

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 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.

The 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 work comparing the NCAT Test Track to 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. The North Central Hot Mix Asphalt Technical Workshop and Conference was held January 10-12, 2006, at the Millennium Hotel in St. Louis, Missouri. Presentations are available on the NCAUPG website at <http://bridge.ecn.purdue.edu/~spave/NCAUPG/Activities/2006/North%20Central%20Hot%20Mix%20Asphalt%20Conference%20Presentations%202006.html>.

The next meeting of the NCAUPG will be held January 11-12, 2007 in Minneapolis. Contract negotiations are underway with the Hilton Minneapolis St. Paul Airport.

**SAC Meeting:**

The annual NCSC Steering Committee meeting was held on January 10, 2006, prior to the North Central Hot Mix Asphalt Technical Workshop and Conference. Minutes from that meeting are available at <http://bridge.ecn.purdue.edu/~spave/Steering%20Committee/January%202006%20St.%20Louis/NCS%20Steering%20Committee%20minutes%20-%20Final.pdf>.

**Work Next Quarter:** The new contract for the regional newsletters will be finalized. Research and testing will continue as planned. Further discussions will take place on the website re-design and migrating the web to a new server. The searchable database will continue to be updated. A video conference of the NCSC Marketing Team will possibly take place next quarter as the Marketing Plan evolves.

**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	\$6,250		\$18,750
Indiana	\$6,250	\$6,250	\$6,250		\$18,750
Iowa	\$6,250	\$6,250	\$6,250		\$18,750
Kansas	\$6,250	\$6,250	\$6,250		\$18,750
Michigan	\$6,250	\$6,250	\$6,250		\$18,750
Minnesota	\$6,250	\$6,250	\$6,250		\$18,750
Missouri	\$6,250	\$6,250	\$6,250		\$18,750
Wisconsin	\$6,250	\$6,250	\$6,250		\$18,750
<b>Quarterly Total</b>	\$50,000	\$50,000	\$50,000		
				<b>Cumulative Grand Total</b>	\$150,000