



**To:** Tommy Nantung, INDOT, and Lee Gallivan, FHWA  
**From:** Jan Olek, Director, North Central Superpave Center  
**Date:** 2 May 2005  
**Subject:** Status Report Jan 1 – March 30, 2005

## 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 Jan - March 2005

Training: A training flyer was prepared and mailed in January. The NCSC trained five people during a two-day Superpave Mix Design course, held March 2-3, 2005. The March 30-31 Volumetric Mix Design course was cancelled due to lack of registrants.

The NCSC trained eight people at a Specialized Volumetric Mix Design course prepared for the Nebraska Department of Roads in Lincoln, Nebraska, in February. Five people were trained in Superpave Binder for the NDOR as well.

Communication: 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.

The third and final issue of this contract period of the Superpave Newsletter was published and mailed this quarter. The latest issues of the newsletters can be found at <http://bridge.ecn.purdue.edu/~spave/newstoc.htm>.

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* has been 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 can be completed when the Purwheel machine is moved to INDOT Research from Materials and Tests. Discussions with the PI, who has left the department, are on-going regarding completion of this project.. As soon as the details of completing the project are worked out, a no-cost extension will be requested.

One more aggregate has been identified 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). One additional aggregate is needed and is being sought. Data analysis comparing test results between our friction and texture testing equipment and NCAT's will be completed early next quarter. Testing will accelerate next quarter. A no-cost extension will also be requested.

Follow-up monitoring of the porous friction course test site was approved by JTRP. Planning for the field testing is in progress. Safety training was completed for those who will work in the right-of-way. Noise and friction testing will be scheduled for May.

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. Two temperature thermocouples were installed in the oven to monitor mix temperature as the ignition process occurs. A no-cost extension is being requested due to delays associated with moving into the new laboratory space.

A comparison of candidate simple performance tests to shear tests, funded by FHWA, continues. Creep testing has commenced on the same mix samples at effective temperature. A paper was published in the AAPT journal.

The NCSC has completed frequency sweep testing on lab compacted and field-core samples for a Purdue University project, *High Stiffness Hot Mix Asphalt*. Dr. Pellinen is the PI on this project and is currently working on the draft final report.

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. The NCSC hosted the NCAUPG in Lafayette this quarter at the 2005 NCAUPG Annual Meeting.

### **SAC Meeting:**

The NCSC Steering Committee annual meeting was held on Wednesday, January 26, 2005, in conjunction with the North Central Asphalt User Producer Group (NCAUPG) meeting in Lafayette, Indiana. Tours were arranged of the new NCSC laboratory built at the site of the Indiana Department of Transportation Research Building. A mid-year Program Review is being discussed as a priority for

the NCSC Steering Committee. NCSC Steering Committee Meeting minutes are now available on the NCSC website at <http://bridge.ecn.purdue.edu/~spave/Steering%20Committee/Meeting%20Minutes%20NCSC.htm>

**3. Work Expected in Next Reporting Period (April – June 2005)**

A new contract for the regional newsletters will be prepared. Research will continue as planned. The website and searchable database will be updated with abstracts from the TRB and AAPT meetings. Other major updates and revamps of the website and searchable website will commence. Work will continue on a Program Review scheduled for September 2005.

The NCSC has been invited to conduct Superpave Mix Design training next quarter to approximately 50 engineers coordinated through the Jiangsu Transportation Research Institute in Jiangsu, China.

**4. Issues to be Resolved**

The NCSC offices were temporarily moved to another location within the INDOT building while remodeling of the Superpave Center offices takes place in the former NCSC office/lab space. This has caused some delays in work.

**5. Financial Information as of March 30, 2005.**

<b>2005 North Central Superpave Center Base Funding Expenditures TPF-5 (021)</b>					
<b>July 1, 2004 - June 30, 2005 (Base Four-Year Two)</b>					
<b>States</b>	<b>Quarter One July - Sept 04</b>	<b>Quarter Two Oct - Dec 04</b>	<b>Quarter Three Jan - Mar 05</b>	<b>Quarter Four Apr - June 05</b>	<b>Total per State</b>
<b>Illinois</b>	\$6,250	\$6,250	\$6,250		\$18,750
<b>Indiana</b>	\$6,250	\$6,250	\$6,250		\$18,750
<b>Iowa</b>	\$6,250	\$6,250	\$6,250		\$18,750
<b>Kansas</b>	\$6,250	\$6,250	\$6,250		\$18,750
<b>Michigan</b>	\$6,250	\$6,250	\$6,250		\$18,750
<b>Minnesota</b>	\$6,250	\$6,250	\$6,250		\$18,750
<b>Missouri</b>	\$6,250	\$6,250	\$6,250		\$18,750
<b>Nebraska</b>	\$6,250	\$6,250	\$6,250		\$18,750
<b>Wisconsin</b>	\$6,250	\$6,250	\$6,250		\$18,750
<b>Quarterly Total</b>	\$56,250	\$56,250	\$56,250		
<b>Cumulative Grand Total</b>					<b>168,750</b>

