Members and Guests attending:
Jan Olek, NCSC
Lee Gallivan, FHWA
Dave Andrewski, INDOT
Gerry Huber, Heritage (sitting in for Lloyd Bandy, APAI)
Allan Forde, Fred Carlson Co., Iowa
Kevin Carlson, Jebro (sitting in for Ray Hogrefe)
Steve Bowman, NCSC
Lynn Warble, NCSC
Ayesha Shah, NCSC
John Dageforde, Nebraska
Erv Dukatz, Mathy
John Volker, Wis DOT
Rick Kreider, KS DOT
Dick McReynolds, KS DOT
Mike Heitzman, Iowa DOT and NCSC Chair
Becky McDaniel, NCSC

Mike Heitzman, the NCSC Steering Committee Chairman, opened the meeting at 7:35 a.m. After introductions, Kevin Carlson of Jebro gave an update on Ray Hogrefe's triple bypass surgery December 24, 2002. Hogrefe is doing fine but is limiting his travel, so Carlson is sitting in for him at this meeting. Heitzman thanked the DOT folks for fighting for travel monies so that they could attend this series of meetings. A copy of the agenda for the meeting is attached as Appendix A.

Update on Center Status – Becky McDaniel

Becky McDaniel gave an update on the activities and status of the center. A copy of her presentation is attached as Appendix B. Some of the key points in her discussion are summarized below.

Vision and Mission Statement Revision: At the summer videoconference it was recommended that the vision and mission statements be revised to include hot mix asphalt in general instead of limiting our activities to Superpave, which is already widely implemented in the region. The vision statement was therefore revised to be “A recognized source of hot mix asphalt expertise” and the Mission Statement was modified to read “To lead further development and implementation of hot mix asphalt and Superpave technology by providing services to its customers.” There were no objections to the Vision and Mission Statement as revised.

Personnel: NCSC Personnel include Jan Olek, Director; Becky McDaniel, Technical Director; Lynn Warble, Communications Specialist; Steve Bowman, Technician; Ayesha Shah, Research Engineer; and new employee James Esler, Research Assistant, a recent Mechanical Engineering
Graduate who is working on several research projects. Esler’s status may change in the next several months. He was hired on a temporary basis to provide manpower for several research projects and the Searchable Database. He has been a great help, but will likely find a permanent position elsewhere.

2002 Training Season: We conducted two binder courses and one mix fundamentals course to a total of 21 participants.

One NHI course was given in Santa Fe, New Mexico. The demand for training has fallen and courses are being revised again. It has been quite awhile since we’ve done an NHI course in this region. We are seeing more requests from the western region, where there is no strong Superpave Center.

A detailed binder training was conducted at Payne and Dolan in Wisconsin. A binder class with an emphasis on DSR and Rheology was also conducted in Iowa. A representative from a university in Peru came to Indianapolis for the binder training class and afterwards he came to the NCSC to receive personal specialized training on mixture.

2003 Training Season: One binder course was already conducted and another one is scheduled for March. A Mix Design Fundamentals course is scheduled for February. Two people are currently signed up. There will also be a Mix Design for Experienced Designers in February, and four are currently registered.

NCSC partnered with Nichols Consulting Engineers to bid on developing a training course for the Recycled Materials Resource Center (RMRC) in New Hampshire on the Use of Recycled Materials in Highway Applications. The proposal was submitted in early January and the results should be available mid-February. This is an exciting opportunity for the NCSC.

Video Production: NCSC worked this year with Fugro-BRE to develop a video to market the results of NCHRP 9-12, which was completed by the NCSC and the Asphalt Institute in 2000. The NCSC worked with Rita Leahy to write, produce, direct and star in a promotional video summarizing the use of RAP in Superpave. The video has been very well received but has not yet been distributed because NCHRP has been working with NAPA on distribution. NAPA will advertise and promote the video, but it will be distributed by NCHRP. They are making copies now, and distribution should begin soon.

Alternate Training Delivery Methods: New training materials continue to be added to the website. Currently available training videos include DSR, RV and BBR. Direct Tension is in progress. Gyratory will be prepared next.

We are also looking into other ways to provide additional training on web. By combining field/lab expertise with internet videos and other materials available on-line, additional training can take place on the client’s schedule. We can customize training to fit clients’ needs. Dick McReynolds mentioned that Kansas already has some videos that were done in conjunction with the technician certification program. If other states would be willing to share their videos
we can put them on the web for everyone to use. NCSC can digitize them if they are not available in that form.

*Newsletter:* Our current contract for the joint newsletter is with NCAT only. Penn State is not participating this time, perhaps due to some personnel changes. Anne Stonex left them, and Dave Anderson is getting ready to retire. We mail out 4000 hard copies about three times per year. We also put an electronic copy on the website. Allen Cooley and Becky McDaniel are working on the next issue, which should be out within a month or two.

Lee Gallivan mentioned that we still need to mail the newsletter to the Northeast mail list, even if they are not participating. McDaniel said she was planning to check their list to make sure the key players get the newsletter. Gallivan said that the Northeast State DOT’s and FHWA offices should be included on the NCSC mailing list, as a minimum, to help keep the Superpave Center name out there. There is a constant re-education for people. McDaniel said we would gladly include them on our mailing list.

*Searchable Database:* The NCSC Website and searchable database continues to grow. Lynn Warble updates and maintains the website. It is added to and expanded whenever something new becomes available. James Esler has been collecting new information and adding to old information for the Searchable Database, as part of his role as the Research Assistant for the center.

*Presentations:* NCSC is continually asked to make presentations around the region and around the country. In 2002, presentations were made at the following:

- Ohio Asphalt Paving Conference
- Asphalt Paving Association of Indiana’s Seminar for Local Governments
- Southeast Asphalt User/Producer Group about RAP
- Iowa Asphalt Paving Conference
- Institute for Safe, Quiet, Durable Highways
- Transportation Research Board Committee A2D03

*Equipment/Protocol Evaluations:* Work continues on the FHWA-sponsored evaluation of the candidate simple performance tests (SPT), in particular dynamic modulus (E*) and creep test. Ten mixtures from seven states in the Midwest have been collected and are being evaluated in the SPT. Two SMA mixes are included, as is one Marshall mix. This will help states begin to build a library of test results for the 2002 Design Guide. Results will be presented later in the meeting. We are collaborating on this project with Dr. Terhi Pellinen, who was a student of Matt Witzak’s at Arizona State.

We also have received 600 samples from Dr. Raj Dongre and are doing ruggedness testing on binder direct tension. We have been invited to participate in the evaluation of the Gilson automated aggregate specific gravity device vs. Corelok and AASHTO Method. We are waiting for equipment loans and protocols.

We would like to get the Steering Committee’s input on other needed activities.
As an example of another role the Center could play, McDaniel updated the committee on INDOT’s use of SST testing as a referee test to evaluate mixes with less than 2% air voids on their volumetric acceptance projects. Under INDOT’s new failed materials procedure, contractors can use the SST results to determine if materials can be left in place or if they have to be removed. That plan was put into effect this year and there were several cases where materials did fall into this category. The NCSC provided testing for two contractors on three projects. Contractors can go to NCAT, Heritage or the NCSC for the SST testing. Andrewski clarified that INDOT’s will allow materials to remain in place, at reduced pay, if the material has adequate stiffness despite the low air voids. INDOT will go 100 percent volumetric next year, which may mean more of this type of testing will be needed. Contractors will have a steep learning curve on this issue. McDaniel noted that other states might consider similar ways that the NCSC can assist them with testing needs.

Completed Research: Research at the center continues to be a major activity. The regional pooled fund project on Use of Reclaimed Asphalt Pavement under Superpave Specifications was completed. A paper summarizing the results of this study will be presented at AAPT in Lexington in March. We have also completed a project sponsored by industry titled Performance Evaluation of Fiber-Modified Asphalt Mixes. A federally-funded project on Asphalt Additives to Control Rutting and Cracking will be completed January 31, 2003.

Ongoing Research: On-going and planned research projects include the following:

- Identification of Laboratory Techniques to Optimize Superpave HMA Surface Friction Characteristics – Iowa, Indiana and SQDH NCSC is working with NCAT as well as the Institute for Safe, Quiet and Durable Highways (SQDH). We are looking at a Dynamic Friction Tester and Circular Texture Meter from Japan to measure friction and surface texture. This could be used to evaluate and optimize aggregate blends. The project will need to be re-evaluated as it is 50/50 matching funds. SQDH gave 50,000. We were waiting for an additional 110,000. However, Purdue’s SQDH center didn’t receive continued federal funding. They are not closing their doors, but they don’t have the funding they used to have. We need to look at the project and see if we can scale it down or perhaps generate interest, and funding, from other DOT’s. If you are interested we can send you information.

- Effects of Hot Plant Fuel Characteristics and Combustion Conditions on Asphalt Concrete Quality – SDDOT (Completion date: March 2003) The South Dakota DOT sponsored this project to look at burner fuel contamination in the hot mix plant. They used 11 different fuels to fire a hot mix plant and adjusted the burner from insufficient to optimum to excess oxygen resulting in 33 cells from which to collect samples of hot mix and heated aggregate. Testing included chromatography on the heated aggregate and fuels (conducted for us by Heritage Research and WRI), binder and mixture tests. We are making a presentation in two weeks to the South Dakota Research Board. We have not seen any detrimental effects due to the fuel types or combustion conditions. Results will be published on the SDDOT website. This project has generated a lot of interest and requests for presentations. We may be able to post the results on our website too.

- Performance Certification of Indiana Superpave Hot Asphalt Mixes – INDOT. The NCSC is assisting an INDOT researcher with SST and IDT testing for this project.
- **Superpave Simple Performance Testing.** We reported on this federally funded work under equipment/protocol evaluations above.

- **Evaluation of Porous Asphalt Mixes (SQDH).** This research is to be funded by SQDH and was to include evaluation of field test site in Indiana and laboratory testing of porous mixes. The project is on hold pending identification of a test site.

- **Evaluation of Surface (Top-Down) Longitudinal Wheel Path Cracking in Indiana.** The NCSC will assist Drs. Terhi Pellinen and Geoff Rowe with SST and other testing to support this research effort.

- **F-SHRP Renewal** (Completion date: April 2003). The NCSC is a subcontract to Iowa State University, as is Ted Ferragut. We are working together to develop the research plans for the future SHRP.

We continue to look for research opportunities. For example, we worked with Virginia Tech to bid on an NCHRP project on Friction and Noise. We are told we came in a very close second. We will continue to bid on NCHRP and other proposals as appropriate.

We have also been working with NCAT and SQDH on a proposed national pooled fund project on Noise. Details will be coming shortly.

We will also take on additional state research projects. There are several pending in Indiana in which we have an interest. Dave Andrewski mentioned that we are involved in several projects with INDOT. He wanted to make sure everyone realized that INDOT sees this as a way to meet their research needs while also providing extra funding for the Center. He encouraged others to participate in research at the NCSC.

The NCSC welcomes additional suggestions for regional or individual state research projects. We also appreciate opportunities to collaborate with other researchers in your states, as we did a few years ago with Ohio State University. We have some resources few other organizations have and will gladly collaborate on projects.

**Involvement on National Level:** The NCSC maintains a presence on the national level through participation in a number of organizations, including TRB, AAPT, ICAR, the Long Term Pavement Performance Materials Data ETG (McDaniel is the new Chair), ASTM D4 on Road and Paving Materials, the National Highway Institute, NCHRP Projects (for example, McDaniel chairs panel 9-37 on Surface Energy), the F-SHRP Renewal Team, the Binder and Mixture ETGs and other groups.

**Challenges and Status:** The NCSC has had space limitations for quite awhile, as reported at the last meeting. The situation will soon improve, however, as INDOT will be adding 14,000 sq. ft. of lab space for us to share. Construction will start in Spring 2003.

**Future Directions:** We see a need for stronger state-center partnership and would like to identify potential areas of joint activities. Here are some possibilities we thought might be of interest.

1. **MP1a – master curves.** As states consider the possibility/need of implementing AASHTO MP1a, we could assist in the development of master curves and analysis of binder data. For
example, you could send us your data and we can use our software to develop the master curve, or we could test some binders for you.

2. DAV – Dynamic Angle Verification. It has been suggested there might be need for a service to verify angles in the gyratory. While the kit is now available, it is not something you can pick up and do once or twice a year with reliability. We could look at providing this service, if there would be enough demand. It would require commitment, training and on-going practice to stay on top of it.

3. Assistance with RAP. Seminars or mix design assistance could be provided.

4. Ignition oven for carbonates – we share geology and aggregate types throughout the region although some states are better off than others. If you have an interest in working on the use of ignition ovens for dolomites and other aggregates that degrade during the burn-off, please advise the NCSC.

5. Friction and surface texture evaluations – if we do purchase the Japanese friction/texture device we could assist with field evaluation.

6. Local road seminars have gone over well. We’d be happy to work with you or your state association on this.

7. Research Projects – regional projects or individual state projects or collaborations can be accomplished.

8. State visits, paving conferences/seminars – we welcome any and all opportunities to interact with people in your states.

Discussion followed. Erv Dukatz mentioned he would like to see the center take a stronger role in the area of pavement properties in the field. There is a profusion of tests with no standards. All the states have test methods. As you travel from state to state there are some good roads and some not so good roads. Is it because of the tests we have in the lab or is it because of construction problems? What really works and what really doesn’t work? Polymer modification needs a cohesive study. Which ones are performing?

Olek asked how we get the states more involved in the center? When we start collecting that kind of information and find something that works for one of the states how do we convince other states that it will work for them? The original idea was that the Superpave Center would be a clearinghouse and the states could get information verified through NCSC channels.

Olek continued that the NCSC could take a trip with the state DOT representative to another state willing to host us and do a demonstration project. The NCSC could give advice on-site and go to neighboring states to show what works. This would help to spread the technology that makes sense and that works. McReynolds stated a different viewpoint on that. He said if a state has a problem, they can go to another state where it does work and let their peers explain it to them. The Center could be a facilitator jointly with states, Olek said. In order for that to work the states would have to embrace that idea and the NCSC would need your help finding problem spots and success stories.

Andrewski stated there is a need for providing service to verify angles for gyratory equipment. It is not an easy process but it works. It seems to be more of an art than an exact science. Pine offers service for that equipment but the kit is expensive at $8000. The NCSC would have to acquire expertise. Internal angles need to be set so we have comparable results. Kreider said
that Kansas DOT purchased a device and they didn’t have consistency initially, though last summer they observed a better trend. They are beginning to have faith that the device is good. Kansas is taking an aggressive role with the DAV in house, at the current time. One person is dedicated to that.

Dukatz pointed out that there is a discrepancy between Troxler and Pine. Troxler admits that different mixes react differently when compacted in their equipment. The tolerance on the internal angle is bigger than on the external angle, which is a problem. Andrewski commented that INDOT has baby Pines. Nobody has a broad knowledge of this testing and expertise on how to do it. Andrewski would like NCSC to get involved and be available to the states. All our experiences are probably different. Dukatz says that there is a perception that we can expect a 50-100 percent increase in accuracy with DAV. Tolerances have been reduced to 0.009 or 0.008 but we cannot run the bulk specific gravity that accurately. What problems do we see out on the field on these mixtures? What is being produced in the field vs. what is a laboratory artifact?

Gerry Huber added that on angle verification we should look at costs and put together a proposal for a pooled fund study. John Volker agreed. NCSC should do a survey of states needing help and put something together.

Mike Heitzman asked if we have this long laundry list and there is time and effort required to do these things, does base funding cover it or will it require more funding? As a Steering Committee, if we cannot complete a laundry list through base funding can we make a list for what items can be included in base funding? Or do the states want to increase base funding to cover the additional work?

Olek said that as part of base funding we will do the investigating and put a proposal together. There is a bundle of services we can do for base funding. State visits, presentations, analyzing data to generate master curves, and binder testing could be covered by base funding. There is another possible model, McDaniel said. We are working for Indiana contractors on failed materials and assisting Steve Cross at Oklahoma State on doing cold in-place recycled mix design for a contractor in Kansas. For this work, we charge a fee that the contractors pay. We could simply charge a fee for calibrating gyratories.

Volker offered another idea for the Center to work on - standardized tests. He said we should be heading down that road. A test everybody uses could be standardized within the user producer group so everyone does it the same way. We should start with something simple that is basic to all mix designs, such as, aggregate specific gravity or mixture bulk specific gravities. We could accomplish that quickly. Next year we could pick out a couple more. Contractors are more mobile now and are crossing state borders. Standardization would be good.

Olek asked about specific gravity. We could write up how all of the states conduct the test. Rich Wolters said he has a list of State specs. Last year the Steering Committee approved of the NCSC aiding in the work to promote test standardization within the user-producer group by being the repository to compare and contrast to see where the differences are. Heitzman offered the results of a survey he had recently taken. The right topic could generate lots of income. McReynolds told of an example of quite a few states that are participating in a pooled fund
Dukatz mentioned that several states gave him feedback that they are very tired of surveys. He would like to find out what data has already been collected and see if we can put together a summary of test methods from information that already exists. It would help us to kick-start this. All the states agree that volumetrics are important. Dukatz would like to start with tests that influence air voids and VMA. If there has to be a survey, keep it to a couple questions and send it to the Steering Committee members, who can then go to the person who has the information. It should also go to industry members.

Dukatz also said that every state has training manuals, and he has a copy of each one. The NCSC could get those manuals for a good start.

Financial Report –Jan Olek

Next, Olek presented an overview of the Center’s financial status. A copy of his presentation is attached as Appendix C. In 2001/2002 Income was $649,743, which includes $166,812 from 00/01. Expenses were $490,571 leaving a balance of $159,171, which was carried over to 2002/2003.  
We are in the last cycle of base funding. Without renewal of base funding, projected income for 2003/2004 would be $302,605, including the $35,605 from 02/03. Projected expenses are $484,518, which would result in a negative balance of $181,913.

We are in the last cycle of base funding, called Base Funding Three. Year 1 was 2002 and Year 2 is 2003. For 2003, money is obligated from two states (Wisconsin and Indiana) and two more are working on it (Kansas and Illinois). We haven’t heard from the others yet but once states get FHWA SPR funds they should be on the way.

Training has generated as much as $68,000 in income in the past, but training has leveled off and the past year was $17,000. Training does not constitute a substantial portion of our income anymore. The majority of time is spent on research and communication efforts for dissemination of Superpave technology.

The Porous Asphalt project is only at $40,000. It was originally projected to be $120,000 but it had to be scaled back, due to SQDH’s loss of continued funding. There is strong interest from SQDH to support that project but a 1 to 1 match is required and they are without funding right now.

Without base funding we end up with a negative 181,000 by 2003/2004. Are the states willing to do Round Four base funding? We have projected $170,000 income from research projects, which represents a conservative number. We don’t know what requests for proposals we can bid on, but we are continually trying to generate more income through research projects.
We have had feedback on the two-year cycle for base funding and it seems the consensus is that we should strive for a tighter relationship between the states. Olek mentioned he still is not happy with our relationship with industry. We would like to see more involvement with industry. It is there to a limited extent and is very often as a result of a state pushing something. There is room for improvement there.

Heitzman mentioned that it up to the states to argue for support for the center. As Steering Committee members go back to their fiscal people, they need some way to convince them to spend the dollars for the Center. SP&R funds are getting harder to come by. Heitzman added that Iowa is now reviewing all requests for SPR funds to see if they add value. He suggested that the Steering Committee assist the NCSC in creating a one-page sheet telling what the states can get for the $25,000. It could also be used with industry to encourage them to become fiscal partners in the center. That same document would be valuable in going to the states and provinces that are not involved right now. Olek asked the committee if they thought that the associations would consider discussing financial support for the center now, especially in light of our working partnership with NCAUPG. Huber’s reaction was that there has to be a perceived need from industry to spend their money on the Center. Perhaps we could market our expertise on MP1a to the binder industry. Hot mix contractors could also be offered comparisons of test methods, standardization, comparison of bulks coming out of gyratories, or angle verifications. We would need to have a marketing brochure specifically for industry.

Olek asked if there is any merit in a meeting where we involve industry and promote what we can offer? How would we deliver that message? Huber thought it would be necessary to form personal relationships with those people and talk to them about the issues. One of the associations would need to be a champion. Just having NCSC ask for industry funds would not work. McDaniel noted that Lloyd Bandy has been a strong supporter of the Center and tried to champion industry funding early on. We do have a track record built up now, which might aid in securing support. Dukatz mentioned that one of the issues that keeps on coming up is developing that relationship to the point where others will accept your results.

Gallivan mentioned that the mechanism is in place if states want to commit to base funding for another two years. A letter should be sent to the state representatives to see if they will commit to another round of base funding. It must have a marketing attachment to help them with their argument. The deadline would have to be mid April, which is when the states commit funds for the new fiscal year, which starts in October. February would be even better. Gallivan asked if there are any states that will not support. Volker said Wisconsin will continue.

John Dageforde thought Nebraska doesn’t need assistance now compared to when Superpave began. There was a need for assistance in Nebraska at the beginning. Nebraska doesn’t have the resources for research, and he doesn’t know whether he can convince his administration, though he will try. He would like to see us go to industry within the state and show what NCSC and Nebraska together can offer industry.
It was concluded that the NCSC staff will work on a draft marketing brochure. We will schedule a conference call with the Steering Committee to discuss/refine the brochure. The brochure will then accompany a request to the states for continued base funding.

The NCSC staff will also distribute a list of potential new activities for review by the Steering Committee, since some states are not represented here. The committee will provide feedback on activities they see a need for, and the NCSC will then follow-up with proposals and cost estimates, if needed, to initiate the top rated activities.

With thanks to all for their continued support and participation, the meeting was adjourned at 9:30 a.m.

Attachments:
Appendix A - Agenda
Appendix B – Update on Center Status – Becky McDaniel