

OPEN MEETING MINUTES
JUNE 14, 2006
8:00 AM IN THE CONFERENCE THEATRE
AG TRADE CENTER

OLD BUSINESS

1. Review minutes – Diane

Ok as presented

2. Steel Coupon Issue – Greg Leist

Had a snafu at the steel mill

Anticipating having the steel available by next week.

3. MDT Updates - Randy

Truck Calibration – material cost and personnel cost went up, but our cost per centerline mile went down

Chemical Application – more chemical, send crews home quicker

One experimental chemical – side by side comparison with Ice Slicer Elite and salt mix with GeoMelt 55

Looking at going to all chemical in one section, no abrasives

Environment changes from one side of the state to the other; different climate conditions require different methods

Washington – analysis comparing Ice Slicer Elite material to applying liquid onto the salt project – cost less

Going to conduct another test this coming winter

Again, money is driving a lot of the decisions that are being made in regards to how we operate and what material is being used

Cost effective and environmental friendly

Do we need to start looking at ammonia and phosphorous like Colorado?

The dilution rate will be a big factor (100:1 or 500:1).

Tribes have a huge impact in Oregon. Wouldn't let them use any chemicals or abrasives. Found out that the loading was happening from the summer

4. Dept of Energy Final Report – Liz and Dan

No report given – attend the session for this

5. New QPL – Ron

New as of 1st part of June

6. New Deicer Categories – Ron

3 products added to the Calcium Chloride (Category 2)

Category 8 (Sodium Chloride)

New breakouts and additions for brining salts, road use salts and fine gradation

8A-B and 8A-R (brining and road salt)
8C-B and 8C-R (fine gradation)

Non-Chloride Category? Ron is still looking at this category; building it and putting it into sub-categories

Looking at a category for a sodium chloride inhibitor; category for an inhibitor product that can be used for salt brining or on solid salt

7. PNS Pooled Fund – Greg

Completed the PNS brochure – it is available on the PNS table

Looking for new projects – if you have any ideas, get your idea to Mary Gilmore

8. Update on Salt Brining

- Idaho
 - Couer D'Alene just bought a new brining machine for an experimental project; first in Idaho; make at a central location and then transport to other locations; only 2 brine masters
 - Expanding the solid program
 - Still using the mag program
 - Not going to be using any inhibitors this first year
 - This program is economically driven

- Washington
 - Established 2 different brining projects (West –SBA-1); Ritzville (Redmond Product)
 - West side – marginal because of the climate
 - Growing some due to economic reasons
 - Still have a mag and cal program

- Montana
 - Next year will be our 3rd year
 - Rollins only 1st year
 - Entire Kalispell District last year
 - Used Envirotech's product
 - Our corrosion study – not as hygroscopic, dried out
 - Not the product for the entire state
 - Takes more of the brine product because of less solids
 - Going to buy another brine maker for the Helena area- drier, colder area – able to observe it more closely
 - Looking at maybe getting a blended brine product delivered to our storage tanks
 - Not as simple as we thought – moving cautiously
 - Colder areas could have storage problems
 - Still learning from our crews – maybe changing our policies because of the differences in the properties of the brine vs mag

- British Columbia
 - Road maintenance is privatized
 - Experimenting with liquid mag and cal
 - Had issues with use of mag from truckers and hydroelectric co – air borne mag on their lines/conductors
 - 25-30% of contractors using brine
 - Economy and issue with mag will probably see more going to salt brine

- Utah
 - Quit using mag and went to salt brine
 - Build their own brine makers
 - Run a liquid truck with a solid truck right behind it
 - Will get us their specs for the brine makers

- Nevada
 - Use brine
 - Make their own brine makers
 - Will get us their specs for their brine maker

9. Corrosion Testing,

- **Electro Chemical Process – Xiaming Shi**
 - Correlation test – correlate back to the current testing protocol
 - Reproducible results
 - Can do 9 coupons at once

- **Direct Chemical Assay – Dave Wilkening**
 - Developed a test that takes 90 minutes
 - Correlates about 98% with the NACE
 - Equipment cost \$3,500

What happens if the product is contaminated? Will this affect the test? It can— have other tests to determine contamination

- Greg Leist – one of his researchers has developed a test (assay) for another application - but can be adapted to deicer
 - Started a new research project looking at corrosion testing – a marine NACE test

10. WSDOT update on the concrete rebar study with WTI

Establish a test for migration of the chemical and inhibitor into concrete – using deicer and several types of material – trying to determine if the inhibitor actually helps when the chemical is absorbed into the concrete

Estimate a 2 year period to complete the study

Pressure test

NEW BUSINESS

1. Deicer Contracts – What is happening this year in each State/Province

Washington – just rebid; last Feb met with Industry reps; came up with a process and developed a bid for this year;

- allow for a dual award per category (maximum of 2),
- bid pricing for 2 and 7 day delivery on liquids; solid – 3, 7, 30 and 60 day delivery;
- Share risk? Pass through for rail and freight on a 30 day notice
- Adjustment based on diesel fuel
- Move from estimated volume to purchase commitment volume (percentage discount, on a region basis, committed to a target volume – would commit to provide up to 125% of volume)
 1. Asked the supplier to provide a “no-commitment” basis
 2. Asked the supplier to provide a commitment discount basis
- End of season pricing – can accept discounts and will depend on various circumstances

Oregon – maintain and rebid

Idaho – will be bidding that will have the products as 75% less corrosive than salt; fast tracking the bids – hopefully in July – bidding all categories, including the new ones in category 8; continue value added for corrosion

Montana – rebidding liquids, renewing for solids

Colorado – no one here from Colorado

British Columbia – no new updates

2. WTI/MDT D.R.I.V.E. Project in Lewistown, Mt – Eli Cuelho/WTI

- Developing a Cold Regions Research area
- Building a facility at MSU that will have fully controlled environmental chambers

- Can do multi-level research
- Met with several DOT's and got some ideas from them
- Waiting for the Feds to provide the seed money
- Building snow making equipment
- In the planning stages

3. National Snow & Ice Conference (See attachment #1) – Dennis Burkheimer/Iowa DO

Proposal to have a national snow and ice conference (Columbus, OH, Sept 2007)
Get 2 reps from each snowbelt states to find out what research, methods, materials, etc are happening across the nation

Have each state give a brief overview as to what is happening in each state.

Is this something that the vendors would be interested in attending and participating in?

Have a couple of members of PNS on the steering committee to help plan the event.

Evaluate the conference and see if it is viable for the future.

PNS had a concern that we didn't "flood" this with upper level management; input was that this should be geared towards the actual operators and field personnel.

4. Possible Research Topics (See attachment #2) – Dan

Insert from attachment

#5 from Dave Wilkening – no longer an issue for discussion

#1) Performance measures – is it still a viable option – still interested, but finding the time and people to do it is not easy

- Certified eutectic curve as one option; like this idea – especially if we could utilize the Cold Region Test bed to correlate lab and field results
- How important is it to the PNS members? Vendors may not want to spend more money to do this, if it won't be used.

#2) Dilution Rates – still has some merit; would like to see this done

- Colorado did an analysis on a mountain pass; found out that they rate was really more like 500:1

#3) Corrosion alternatives – have something that is quicker than the "dippity do" method

- Have the members of the Mt corrosion forum take a new look at this

#4) Longevity of corrosion inhibitors in solids – is there a shelf life? How long does it last?

→ A lot of variables; storage, humidity, moisture, etc

ATTACHMENT #1

Attached is a proposed agenda (the final agenda would be set by a steering committee to make sure we get it all covered) and a few notes on the National Snow and Ice conference that I have proposed to Aurora <http://www.aurora-program.org/>, Clear Roads <http://www.clearroads.org/> and the FHWA. Here are a few bullets to describe what I am proposing:

1. A national snow and ice conference would be held in conjunction with the Eastern Snow Conference in the fall of 2007 (The Eastern snow conference is the tentative choice for this first, ever National meeting since it has the potential
2. Two representatives from each "snowbelt" state would be invited to attend with all expenses paid for attendance. The ideal pair from each state would be someone with weather as a key part of their job and the other person might be someone working with materials equipment and methods in winter maintenance
3. Time would be allotted on the agenda for any pooled fund group or agency that contributes \$25,000 to the effort. (The attached agenda includes time on the agenda for FHWA, Aurora and Clear Roads. If PNS decided to contribute money they would also be given time on the agenda to talk about the work/research being done within that group.)
4. Each state would be given time to provide updates on their winter operations program within the state (I have always found these to be good learning opportunities)
5. An equipment display would also be available as a part of the Eastern Snow conference but have not determined how to include vendors in the National Snow/Ice Conference

Bottom line- I am looking for the support (either a head nod or a financial contribution) from PNS for this conference concept. If there is time on the PNS agenda in June I would be happy to answer any questions about this proposal or could give a short presentation on the project. I can't imagine it would take more than 15-20 minutes and I can usually do a better job of explaining this project in person than I can via e-mail.

I appreciate you forwarding this to other PNS members for their consideration.

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**National Snow and Ice Conference
Proposed Agenda-Fall 2007**

(Two day meeting held in conjunction with the Eastern Snow Conference)

1. **Welcome and opening remarks-** Host State or designated Master of Ceremony
2. **Introductions**
3. **Meeting structure**
4. **FHWA winter project updates** (2-hours)
 - a. CLARUS
 - b. MDSS
 - c. Surface Transportation Weather
 - d. Others
5. **AURORA** (topics determined by Aurora members)
 - a. Overview of program
 - b. Past projects
 - c. Current projects
 - d. Other
6. **Clear Roads** (topics determined by Aurora members)
 - a. Overview of Program
 - b. Past projects
 - c. Current projects
 - d. Other
7. **Presentations by states** (15-20 minutes per state overview on current winter maintenance practices to include RWIS/Weather, Deicing Chemicals, Deicing/Anti-icing practices, research, etc.)
8. **Winter Maintenance Needs Survey** (This would be a great opportunity to survey attendees to see what there needs are to help with winter maintenance operations- each group contributing funds would be able to ask a couple questions on the survey or this could be done via the Internet a few days after they return home)
9. **Wrap-up**
10. **Survey follow-up-** The Iowa DOT will volunteer to conduct an electronic survey of meeting attendees a week or so after they return home to determine the value of the National Snow conference and desire to repeat in the future

Other items for consideration:

Attendees- Approximately 60-70 people would be eligible to attend the conference with the goal to send two representatives from each snow state. One representative may be responsible for weather forecasting or services provided to support winter maintenance activities while the other may be more involved with equipment, materials and methods associated with winter maintenance.

Travel costs- All travel and costs associated with the meeting would be handled through an administrator to make it easier for states to make travel arrangements (The more costs and hassles that we can remove from attendees, the easier it will be to get them to attend the conference).

Conference funding- Aurora and Clear Roads have committed \$25,000 each toward the creation of the National Snow and Ice conference. I would like to receive a commitment from the FHWA for an additional \$25,000 and make-up any shortages through vendor sponsors (still something that needs to be worked out). Since the group size is small and tucked either before or after the Eastern Snow conference, conference facility costs and needs should be minimal. I estimated \$1,000 for each participant to attend the meeting which hopefully would cover food, lodging and travel. Hopefully the high price of West coast attendees will be offset by lower costs by the East Coast attendees.

Organizing Committee- A committee will be formed from the groups contributing funds to help organize the meeting and set the agenda. (I can take the lead on this groups effort.)

Length of meeting- I would expect that this would likely take two full days to complete, especially if each state does a short presentation and the organizing committee may find ways to spread those out over the two days to keep things fresh.

Materials and Resources- A certain amount of materials will need to be produced for this meeting. I would like each attendee to walk away from the meeting with a master list of Internet Resources that they can use. This would be a compilation of FHWA, Clear Roads, Aurora, SICOP, WMTSP and other main sources of Winter Maintenance Information

Other sponsors and funding sources- These groups have limited information about this proposal but may be interested in supporting the conference through either funds or some in-kind contribution:

- AASHTO
- Vendors
- Host State
- Registration fees from other state attendees (may be two from each state are free and additional representatives are charged a fee to attend)

ATTACHMENT #2

Greetings PNS members,

I know our upcoming business meetings, both open and closed, will be short and jam packed with Conference info as well as regular kinds of items. I thought I would send this for your reference and reading before the meetings. I think this should be an open meeting agenda item.

Background

Montana State University is home to the Western Transportation Institute (WTI). WTI is a research based group of scientists whose focus is transportation issues. You are aware of, or have met some of their staff such as; Dr. Xianming Shi or Steve Albert. Their staff is quite large now with specialists from all over the world.

Recent developments find WTI with over 3 million dollars from both state and federal coffers. The federal dollars have a one to one match requirement and is quite attractive. State research dollars can be used for more process oriented research rather than product related. Another point of interest is their Cold Regions Research Facility being developed in Lewistown Montana. This is an old military airport that lends itself to "on the road" kinds of research. Actual field work, such as snow making machines creating snow or ice-packed roads are possible. Testing of pavement sensors side by side or performance of different chemicals and even create traffic loading to a degree.

WTI has developed study groups at Montana Dept of Transportation (MDT) to work with WTI's staff to try to drill down to the needs of good or appropriate research topics. One of those study groups is winter maintenance, hence this paper. Our most recent meeting, May 18th, came up with five potential topics of research. I told the group I would bring these topics to you for your input and advice. They are;

1. Performance measurement of different blends of the same Category of chemicals. We have been lobbied by manufacturers to give extra consideration for their products because of their formulation. They claim it works better and should not be judged the same as others in the same Category. We've always said "prove it" and we'll consider it. Our last meeting or two we have discussed a "certified eutectic curve" as being the potential to answer that question and maybe it is. However, that curve would give us the freeze point suppression and not an active deicing measurement. Perhaps developing some criteria to measure, and handing it over to WTI, is a solution. It may also help answer the question of "do organic inhibitors alone have benefits regarding melting snow or preventing ice"?
2. Dilution rates of chemicals leaving roadways and entering the environment. We use the rate of 100 to 1 to base our metals content on while a Colorado study indicates a greater dilution rate of 500 to 1. Our rate looks at a single event while Colorado looked at a seasonal impact. We adjusted our ppm for a few metals recently to be consistent with our dilution rate. That rate excludes some products

or inhibitors. Do we want WTI to look at the issue from both a one time and a seasonal rate?

3. The “dippidy-doo” corrosion test we currently use has some issues. Dr. Shi has done some preliminary tests with electro-chemical corrosion testing as a support test to finger print the current procedure. MDT is quite supportive of finding another method to test for corrosion that is supportive of our current method. This test is not new technology but finding a correlation to our method is a new approach and would take running quite a number of samples to find that correlation. Having this procedure as an “either or” method to the dippidy-doo would offer some flexibility and option to industry as well as end users.
4. Longevity of organic corrosion inhibitors when applied to solid chemicals. If a Category IV is stored outside, maybe mixed with abrasives or straight, and is subjected to sun and the elements, does the inhibiting qualities diminish over time? If so, how long?
5. Can we chemically bond a florescent marker to the corrosion inhibitors in production of the brine? If so, we could quickly do a field test with a black light to determine presence of inhibitors instead of being out a month waiting for corrosion test results.

Well, here are the topics or potential research. Read ‘em over and give them some thought. All, some, or none of them have value. MDT can act as lead state if any of you find merit and want to kick in some funds to help with the match if we look into these issues. Or, do you have suggestions for research that needs to be done?

I look forward to seeing you all next month,

Dan