

Montana Society of Engineers

A state society of the National Society of Professional Engineers



Founded 1887

NSPE will See Big Changes in 2006

Dan Munson, PE, President

NSPE is in the middle of restructuring itself into a more state centric organization for the benefit of the members. NSPE's Future Directions Task Force (FDTF) has recommended a new model of governance that will take effect in July of 2006. The reasons are simple. NSPE cannot continue down the path that it has followed for so many years without changing to adapt to the professional environment of the time. As a service organization to engineering professionals, if NSPE does not meet the needs of its members, it will cease to exist. Among the changes that we can expect to see next year are:

- A new governance model that includes a House of Delegates that are comprised of representatives from each state, from a few Practice Divisions, and from the Regions. Small membership states like Montana will get a proportionately large vote in the new system.
- A more state centric philosophy in the organization that promises more help to individual state initiatives.
- An organization that will focus specifically on engineers who are registered, or have the ability to become registered.

As the MSE board, we are willing to take your comments and concerns to the national meeting in July of 2006. If you would like to have input into the process, please contact any of the MSE board members.

MSE's Future Direction

Regardless of what happens at the national level of NSPE, your state MSE board is committed to forging ahead with programs that we feel will affect the greatest numbers of engineering professionals in our region. Our 2006 strategic focus will be on:

- Grow the Montana Joint Engineer's Conference for 3 full days of educational tracts, attracting over 300 engineers from the region.
- Continue to grow a Montana Engineer's

premiere website.

- Grow the Montana MATHCOUNTS program to involve 500 students.
- Dissolve society and professional boundaries by fostering collaboration with other engineering societies, the MPELS board, and other design professionals.
- Continue to grow the Engineering Outreach program to Montana schools.
- Monitor Montana legislative issues for opportunities to enhance the engineering welfare and image.
- Partner with the Montana Board of Professional Engineers and Land Surveyors (MBPELS) on issues that affect our profession in the state.
- Working in collaboration with the MBPELS and the state architecture folks to discuss issues of common concern like public education, building codes, need for design professionals, and incidental practice.

As you can see, our agenda is aggressive. We have confidence that as our professional community pulls together, we can accomplish all this and more in the coming months. This is where we need your help.

We have seen time and time again that so much more gets accomplished when we pool our resources, combine our efforts, and forget imaginary boundaries. We call upon your commitment to get involved and make a difference for our region. When finds their passion and pitches in, we all win.

The MSE board challenges you to get involved with these initiatives and lend a helping hand in an area that you have a passion for. We really need help in the following areas:

- Somebody to bring our website to the next level of service and design. In case you haven't accessed it yet, check us out at www.mtengineers.org. There is a lot that can be done with the website, but we need some volunteer help to get it done.

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December, 2005

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Dr. Robert L Sanks, P.E. Inducted into the Professional Engineers Hall of Fame at 2005 Joint Engineers

*Doug Brekke, PE, Past President and Chairman
of the Joint Engineers Conference*

Robert L. Sanks, Ph.D., P.E. of Bozeman was inducted into the Montana Professional Engineers Hall of Fame at the 2005 Joint Engineers Conference held in Helena on Nov. 3 and 4. A plaque honoring the inductee is hosted at the Montana State University College of Engineering in Bozeman.

The Montana Professional Engineers Hall of Fame is sponsored by the Montana Society of Engineers to honor Montana engineers who made significant contributions to the development of Montana and the engineering profession. Previous inductees are John H. Morrison, Ben F. Hurlbut, W. Paul Schmechel, Leland J. Walker, and Harold S. "Sonny" Hanson.

Dr. Sanks is Professor Emeritus of Civil Engineering at Montana State University in Bozeman. He served MSU as a professor of Civil Engineering from 1966 to 1982.

Dr. Sanks is the editor-in-chief and co-author of *Pumping Station Design*. The first edition won the only 1989 award "Excellence" given for an engineering book by the Professional & Scholarly Division, American Association of Publishers. The second edition was published in 1998 and the third edition is being published this year. The book is recognized as the preeminent text on pumping stations for water and wastewater.

Dr. Sanks is responsible for the first use of several water treatment technologies in Montana. They include land disposal of sewage by spray irrigation (at Rocky Boy); direct filtration of municipal water (Yellowstone River water at Colstrip); secondary sewage treatment by biodisc (at Livingston); and onsite pilot plant tests for design (of secondary wastewater treatment at Livingston and Colstrip).

His research and improvement of trench-type wet wells made them the only type recommended for medium and large wastewater pumping stations by the Hydraulic Institute in the 1989 edition of *American National Standard for Pump Intake Design*.

Introduce a 'Girl to Engineering Day' Set for February 23

With a sharpened focus on diversifying the ranks of engineering, Engineers Week 2006, February 19-25, will spearhead an all-out effort to reach young women and girls, especially during the sixth annual "Introduce a Girl to Engineering Day" on Thursday, February 23.

'Girl Day,' as it's known among engineers, is one of the most crucial components of the EWeek outreach. Women engineers, with help from their male counterparts, are planning to reach as many as one million girls through workshops, tours, speaking engagements, on-line discussions and a host of other activities aimed at showing that engineering is an important career option for everyone.

According to the Extraordinary Women Engineers Project (EWEP) study, led by a coalition of engineering associations and the WGBH Educational Foundation and released in April 2005, a staggering number of high school girls — more than 90% — do not even consider engineering as a career option. Only 3 out of 85 girls in an EWEP online focus group of academically prepared student indicated that they were planning to become an engineer.

To make plans to help reach one million girls on February 23, 2006, visit www.eweek.org/site/News/Eweek/2006_nationalpledgeroster.shtml This site will give direct, hands-on mentoring activities and other ideas to help engineers reach out and encourage this underrepresented group to consider a career in engineering.

Engineers Week is co-chaired by the Society of Women Engineers (SWE) and Northrop Grumman Corporation with major sponsors Agilent Technologies, Inc., Lockheed Martin and S.D. Bechtel, Jr. Foundation.

President's Message

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- Somebody to champion the "Put the Brakes on Fatalities" initiative in Montana.
- A committee to help to review upcoming seminars and evaluate them for applicability to fulfill continuing education requirements.
- Somebody to help launch a new PE recognition program to include publicity, reception, and certificate presentation at the state capital for newly registered engineers.
- Committee help to nominate and evaluate Montana's Engineering Hall of Fame recipients.

Thanks for considering giving the engineering profession a hand up. Please contact any MSE state board member for additional information.

A plaque honoring the inductee is hosted at the Montana State University College of Engineering in Bozeman.

Only 3 out of 85 girls in an EWEP online focus group of academically prepared student indicated that they were planning to become an engineer.

Stray Thoughts

By Tom Abel, PE, Secretary-Treasurer

JEC - The 2005 Joint Engineer's Conference is now history. For those of you who wonder why it is called the "Joint" engineers conference, it is because every year it is held in the same old joint in Helena, the Colonial Inn. We are looking at a new "joint" in the future, maybe in Bozeman.

We had the pleasure of having NSPE president Kathryn Grey visit us from Wheaton, Illinois. It is amazing to us that of all the engineering groups in the United States, she could visit, she spent her time and money to visit Helena, Montana and our little group of 130 engineers- and then only 6 showed up for the MSE meeting. Kathryn is a delightful person, and we enjoyed what she had to say.

Doug Brecke, Dan Munson, Kathryn Grey and I met with Tim Lloyd, head of the Montana Building Codes Department. It was an interesting discussion with Tim. We learned there are 43 entities (cities, counties, towns) that are empowered by the State Building Codes to review plans and perform inspections. Some are full fledged building departments like we have in Kalispell, or in Missoula. Some are part time plan reviewers who also drive the snowplow.

Also discussed was when plans are required to be looked at by a design professional. Law does not require them, but Tim's plan reviewers make a determination when a professional should be involved. There is not consistency in the 43 entities about requiring professional involvement. This was identified as an area of concern. We offered our cooperation and help and asked to be involved in policy decisions regarding engineering requirements and inspections in the State.

We were on a roll, so we ducked next door and met with the International Code Council group. Present were several inspectors from around the state including our building official from Kalispell. We spent about 20 minutes exchanging concerns and war stories. It was an amicable exchange and one we wish continue. We hope to work closer with this group in the future.

One session I attended was worthy of note. The session was given by Bob Swan of Euclid Chemical Company. Bob did two sessions, one on concrete in general and the other on concrete repair techniques. He had a good balance of technical information, humor, and new innovations that made a very interesting presentation. Only engineers could get excited about concrete, but there are some exciting things out there. It is possible to use no re-bar in walls or floors - non-ferrous fiber mats will replace bars up to #4 size, totally eliminating the chloride corrosion of re-bar problem, and a savings in labor. I had heard Bob in Kalispell give a talk and was impressed with him. He left 70 degree weather in Las Vegas to visit Helena in the snow for 2 days. He said he agreed to coming to support his only supplier in the state, and because we asked him nicely.

WHAT GOES ON THERE STAYS THERE

My wife and I were in Las Vegas the weekend before the conference for the Jimmy Buffet Concert and Halloween. Jimmy is alive and well and so are the baby boomer parrot heads. There were some great hats and costumes at the pre-concert street party that lasted all afternoon and at the concert itself. The winning hat in the parrot head hat contest had an operational blender mounted on it. Sherry and I wore

shorts, Hawaiian shirts and flip flops that light up when you walk. The after concert party was definitely devoid of people over 35,- and it was only 10:00.

Margaritaville T-shirt: "Jimmy Buffet for President - Let's get a real pirate in office!'" Buffet said on stage that if elected president the first thing he would do is change all the clocks in the country to read 5:00 every hour. Margaritaville was the place to be for pina colladas, and other frozen concoctions that were very expensive and had little booze in them, but it was Las Vegas after all.

It is true what they say about Las Vegas, to leave there with a small fortune, you have to go there with a large one. I did find a sure fire way to double your money. Take the bills out of your wallet, fold them in half, put them back. Your money is now doubled.

We are the original high rollers when we go to Vegas. Sherry won over \$100 playing video poker, but she put it all back into the machines over the course of the weekend. When she wins, she always puts \$10 to \$15 back into the machine immediately thinking it is sure to hit again, but it rarely does.

I, on the other hand, hit it big and carried the money home with me. I put \$5 in the slot machine, and hit on 3 identical bars. The machine paid out \$13.25. So there you have it. My wife went home with nothing, I went home with \$13.25.

Playing machines that are designed to take your money is boring, and after you have seen all the concrete patterns in the various sidewalks and the string bikinis next to the pool there is not much else to do but look at the architecture. I was fascinated by the Luxor. It is a seemingly glass pyramid with a large searchlight that shone straight up into the sky like the World War II surplus searchlights in the 50's that announced the opening of a new gas station or burger joint. We went inside expecting it to be a solid pyramid of rooms, but were surprised that it was about 20 stories of open space. The rooms and hallways were "hung" on the inside of the pyramid walls. I had to know how the elevator accessed those rooms and what 45degree angle smoked windows looked like from the inside. We found the elevator (called an inclinor) that actually traveled up the joint between two walls. We stepped inside the inclinor with a lady who had a magnetized room key. The key did not work in the inclinor, so she asked to try our key. It was then we had to say we did not have a key, we were just curious about the inclinor- to which she said you had to be a guest there to ride it. So much for seeing 45 degree windows. The room rate there is \$500 per night, so it is unlikely we ever will see it.

GAS PRICES

With gas prices at an all-time high this summer, the mind begins to think of ways to beat the high prices. My personal dream is to go to the mailbox, fold up all the Victoria Secret flyers, credit card offers, and other junk mail and stuff it into a combustion chamber in my car. Then drive to town powered by my junk mail- kind of like on the original *Back to the Future* movie when professor Emmett Brown comes back from the future in his flying DeLorean with a garbage powered reactor. I know there is not enough energy in a couple of letters to power my car very far, but the idea is a good one. We have all this waste that is becoming our next major ski hill in the Pacific Northwest (Flathead County Landfill & Ski Area - have you heard about it? The mountain is higher than the trees and growing daily.) Much of that waste could be converted into usable power. You could drive into

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2005-06 MATHCOUNTS Update

Dan Munson, PE, President
& State MathCounts Coordinator

We are less than 2 months away from our first MATHCOUNTS competitions. Check out the schedule below to find out when in February your local chapter competition will be held. Then call or e-mail the chapter coordinator and volunteer some time to help out with the competition. We only need a few hours of your time during that day, but it's time well spent. You will see young brainpower in action, and get to see the next generation of engineers at work. We look forward to hearing from you!

MATHCOUNTS Support

If you haven't already contributed to the Montana MATHCOUNTS program with a financial donation, please consider it. Montana MATHCOUNTS is a nonprofit organization primarily supported by local engineers and engineering based companies. To keep the quality of the program high, and the middle school registration fees low, we are totally dependent on the generosity of our state engineers. We trust that you will see the benefit in helping us out. Donations should be sent directly to:

Montana MATHCOUNTS Foundation
P.O. Box 20996
Billings, MT 59104-0996

Thanks for your help and kindness.

MATHCOUNTS Contacts & Competition Dates

North Central Chapter

Thursday - February 16, 2006
MSU-Great Falls - Heritage Hall
Contact:
Bill Burkland, Coordinator
Phone: 406-447-5054
Fax: 406-447-5036
e-mail: bill@rpa-hln.com

Eastern Montana Chapter

To be announced.
Dawson County HS Auditorium
Contacts:
Mike Hunter, Coordinator
Phone: 406-377-9433
e-mail: hunter@dawson.edu

Kalispell Chapter

Friday - February 3, 2006
West Coast Center Hotel -
Kalispell, Montana
Contact:
Tom Heinecke, Coordinator
Phone: 406-752-2216
Fax: 406-752-2391
e-mail: theinecke@m-m.net

Billings Chapter

Friday - February 17, 2006
MSU Billings - Liberal Arts
Contact:
Dan Munson, Coordinator
Phone: 406-655-2540
Fax: 406-655-2511
Dan.Munson@northwestern.com

Missoula Chapter

Thursday - February 16, 2006
Ruby's Inn - Missoula, Montana
Contact:
Guy Sharp, Coordinator
Phone: 406-273-2461
Fax: 406-273-6987
e-mail: sharpguy@amerion.com

Bozeman Chapter

To be announced.
MSU—SUB, Room 276
Contact:
Jerry Stephens, Coordinator
Phone: 406-994-6113
Fax: 406-994-6105
e-mail: jerrys@ce.montana.edu

Butte Chapter

Tuesday, February 7, 2006
Red Lion Inn - Butte, Montana
Contact:
Sandra Anderson, Coordinator
Phone: 406-533-0671
Cell: 406-868-0090
e-mail: sandra_andersondavid@hotmail.com

Montana STATE MathCOUNTS Competition

Monday - March 20, 2006
MSU Strand Union Building - Bozeman,
Montana
Contact:
Dan Munson, State Coordinator
Phone: 406-655-2540
Fax: 406-655-2511
Dan.Munson@northwestern.com

As you make plans for the New Year, consider contacting the Chapter Coordinator in your area about helping out with their Competition. You will have the opportunity to watch some of Montana's best and brightest work math problems that will leave you scratching your head. The few hours you volunteer will make a big difference for the Coordinator. A competition is easy to conduct with a few extra helpers compared to the competition operating with too few.

You will thoroughly enjoy the time!

To keep the quality of the program high, and the middle school registration fees low, we are totally dependent on the generosity of our state engineers.

Montana's New Energy Code

Kenneth Phillips, P.E., Program Engineer
State Building Energy Conservation Program

This last summer Montana adopted the 2003 International Energy Conservation Code with a few amendments. These amendments can be found at www.buildingcodes.mt.gov. All Jurisdictions should now be enforcing the new code. As a designer this means that an additional compliance submittal is required when you submit your plans to building codes.

The building code applicant is responsible for demonstrating compliance with the energy code. This can be accomplished using 5 available compliance formats: design professional submitted design and analysis showing compliance, submission of an ASHREA 90.1 analysis, submission of a complete COMcheck TM or REScheck TM analysis, and for small scope projects one of 2 different forms are filled out by applicants and returned signed detailing energy information for plan reviewers to determine how compliance is obtained.

The Department of Labor & Industry, Building Code Bureau does inspect the envelope, lighting and mechanical for compliance. If there are any non-compliance issues the inspection report is then forwarded to the builder, contractor, owner or their representative for attention.

One of the simplest ways of showing compliance is to run a COMcheck or REScheck compliance report. The COMcheck is for commercial projects and the REScheck is for residential projects up to 3 stories. This software is available free at www.energycodes.gov. It is fairly simple to use and provides a very easy to follow format for the code plan reviewer. I would highly recommend visiting this website as it has on-line power point presentations that walk

you through the COMcheck and REScheck process as well as lots of other building energy related topics. It's a great place for easily accessible energy related resources for the design professional.

The 2003 IECC manual is available for purchase from the International Code Council store at www.iccsafe.org or at 1-800-786-4452, or at the Building Codes Bureau at 406-841-2048.

If you need any additional information please contact Paul Tschida at 841-5232 or myself at 841-5244. Our respective email addresses are ptschida@mt.gov or kphillips@mt.gov.

Stray Thoughts —Continued from Page 3



the landfill with a pick-up full of tree branches and exchange the load for a fully charged battery for your electric car. The landfill would be in the business of converting waste products into stored electricity. Our waste would actually be worth something so people would not throw things out of the car windows any more, solving our littering problem too! Such a deal. What are your ideas? Let me know and I will include them in this publication. tom@abelengineeringinc.com

As a designer this means that an additional compliance submittal is required when you submit your plans to building codes.



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National Society of Professional Engineers®

- NSPE Job Board
- NSPE 2005 Convention
- New EJCDC Custom CDs
- NSPE Spring Ethics Form
- Membership
- Licensure, Ethics & the Law
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- And Much, Much, More . . .

- Engineering Times
- Products & Services
- Contract Documents

Visit www.nspe.org TODAY!

***Holiday
Greeting
To ALL!***

***Your Montana Society of
Engineer's State Board
wishes all of you a very
peaceful and joyful
Christmas!***

***May you experience
happiness in the
surroundings of the ones
you love, and may the new
year prove to be successful
and fulfilling!***

***Merry Christmas and
Happy New Year!***

05-06 MSE Board

Dan Munson, President
Dan.Munson@northwestern.com

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sandra.anderson@edocsusa.com

Jeff Ruffner, Vice President
jruffner@mse-ta.com

Tom Abel, Secretary/Treasurer
tom@abelengineeringinc.com

Doug Brekke, Past President
DLB@5400.TV

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Deadline for the Next
Issue of this Newsletter is
March 10, 2006

Submit articles and advertising to
mse@assoc.mgt.com
