

Montana Society of Engineers

A state society of the National Society of Professional Engineers

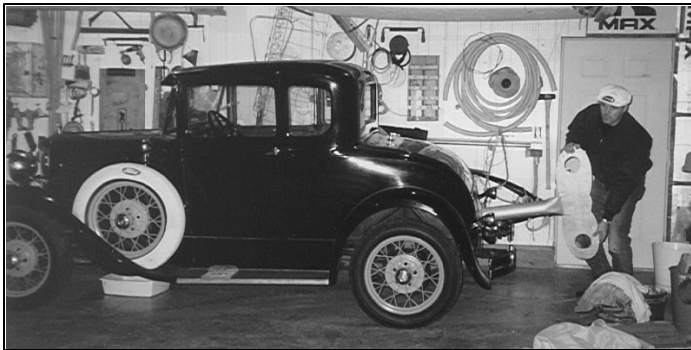


Founded 1887

President's Message: More Than Stray Thoughts

Tom Abel, PE, President

At our last Montana Society of Engineers board meeting in Helena the gavel was officially passed to me, Tom Abel, your new president of MSE. Actually past president, Jeff Ruffner, left the gavel in Butte, so he passed his pencil to me instead. As far as I am concerned, the gavel is still in Ruffner's hands so if you have any problems, see him.



President, Tom Abel, fin tuning his Model A Ford

Many thanks to Jeff Ruffner for the great job of leading MSE this past year. He excelled in attending the NSPE events at his own expense and brought back some interesting insights and information. He brought us through a tough time when we almost lost the services of our administrative assistant, Connie Dempster. With Jeff's leadership, MSE trimmed some expense, increased revenue and were able to keep Connie and pay her a fair wage for her work. She had been working for MSE for very little compensation previously. Thank you also Sandra Anderson who leaves the board, having gone through all the chairs and now is a civilian again, but always welcome to our board meetings. Welcome to our newest board member, Steve Smith who works for Osmose Inc. of Helena. Continuing on the board are Ken Phillips as President Elect and Crystal Kuntz as Vice President, and Jeff Ruffner as past president (to keep us in line). Connie Dempster continues on as our administrative assistant and actually runs the show and keeps all of us in line.

Going into fall, we talked about football and whether we as a board should promote one team or not. While most of us as engineers graduated from the Bozeman school, there are still some who favor the team from that school in Missoula where you drive down Higgins Avenue slowly with your window rolled down and they hand you a degree thru the window. It was decided not to promote any team in our newsletter lest we offend any of our members.



I have been asked by board members if now that I presidential duties, will I still write the "Stray Thoughts" articles for the newsletter. Here are my Stray Thoughts on that question.

Joining the National Society of Professional Engineers was because MSE offered a special introductory membership (read cheap). Not soon after joining Tom Heinecke approached me about going through the chairs which I agreed to with some reservations, one of which was being a new member and not really knowing much about MSE. After several meetings I asked myself "What does MSE or NSPE do? Why should a person be a member of MSE/NSPE?" These are questions answered by the recent Vice Presidential candidates for NSPE. Their answers were not great either. The answers to these questions have slowly unfolded during my tenure. NSPE seems to spend a lot of time trying to attract new members, as their membership has been decreasing. There is that old saw: "The last act of a dying bureaucracy is to rewrite the rule book." It seems rewriting is

exactly what NSPE is doing. There seems to be way too many "Task Forces", "Advisory Groups", "White Papers" and the like. Jeff noticed it and so did previous presidents. However, NSPE is slowly changing. We are seeing more interest in encouraging young people to join the engineering profession, and we all receive the weekly and daily e-mail news blurbs relating to engineering. We kind of get a selected news service for engineering topics.

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September, 2008

I have been asked by board members if now that I presidential duties, will I still write the "Stray Thoughts" articles for the newsletter. Here are my Stray Thoughts on that question.

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**Flathead Valley
Community College
sponsored a meeting at the
college for the purpose of
obtaining input from the
local engineering
community for
requirements for an
associate engineering
degree.**

President's Message—Continued

NSPE is a place for engineers to have a united voice for whatever purpose. It is a medium for engineers to network and meet other engineers. NSPE maintains a standard of ethics for the engineering profession, and they lobby for us in Congress. NSPE is looking for ways to provide more value for your membership.

MSE has a few bright spots. We are a big player in the Joint Engineers Conference. Doug Brekke has been the spark plug for the JEC for years and has brought it to where it is now. This year Crystal Kuntz has taken the lead to organize the JEC and has made some great improvements. The JEC is a time and place to meet fellow engineers in our own state.

The MathCounts program is growing every year championed by past president, Dan Munson. It is a great way to get young students thinking abstractly. If you have not helped in a MathCount competition, you should volunteer. The experience is rewarding.

MSE has an engineering website that features Montana engineering news, JEC information, a job board, and places for companies to advertise. If your company is not advertising in the MSE website, you need to get with the program. It is cheap. Even Abel Engineering Inc. can afford it.

For me the most important aspect of MSE is our little Kalispell engineering group. We are very loosely organized, there are no dues, no officers, and we meet when there is a reason to meet. We keep in touch buy e-mail. Only a few of our 30 or so members are members of MSE. We meet jointly with another group called the Montana Environmental Consultants Association. There are local groups in Kalispell, Helena, Billings, and Great Falls, Two Dot, and Jordan. To get the most benefit from MSE, you should have a local group.

This is all important stuff, but engineering can appear to be kind of dull, especially to those not in the profession who have never experienced first hand the thrill of minimizing the amount of concrete used in a metal building footing, or fine tuning a septic system so it meets all the County regulations and still has a small size pump.

I also belong to the Glacier Street Rods, and North Flathead Yacht Club. Given the choice of cruising the drag in a hot rod, racing on Flathead Lake in a sailboat, or listening to a lecture on engineering ethics, guess which would be my last choice? The reason there is always a photo of a hot rod or sailboat in my articles, is hot rods and boats are more interesting to me than most engineering topics, and there is a lot of engineering and physics in both hot rods and boats. (I do get very excited about engineering, but not every day. Some days it is pretty boring.)

The engineering jokes have some truth to them, like "How can you tell an extroverted engineer? He is the one looking down at someone else's shoes." Or "What does an engineer us for birth control? His personality" We have to spice up our profession. I have a suggestion. At the JEC this year, everyone wear a goofy hat. Wear your baseball cap sideways (the North Dakota "lock" position). And that is why you see photos of cars in my articles, trying to add interest to a potentially boring article.

To answer the question, I will continue the Stray Thoughts, and also provide the presidents article, maybe combined.

Stray Thoughts:

Abel Engineering Inc. had a hit from our MSE website ad. Two guys from Korea wanted shop drawings for some steel cabinets. We said we could do that for them. The Koreans sent a specification sheet for a US military project, some sort of prefab housing. When asked if they had a cabinet design, they said no and could we provide that (such things as how to form corners, how hinges are mounted, how shelves are supported, etc.) They had never built a cabinet, ever. They had no experience, no manufacturing facility ("Can you do this in Kalispell?") They asked.) We stayed with them so see if they were willing to put up the money for design and manufacturing. It turned out they had unrealistic expectations for time, wanting to build prototypes, send to a testing lab, set up manufacturing, all in 6 weeks, and we never got to the money part. It stopped there. We did have a local cabinet manufacturer interested. We did get a result from our MSE website advertising!!!

Two county workers are leaning on their shovels towards the end of the day. Suddenly one of them stomps on a snail, mumbles some profanity at the snail, and then kicks it into the ditch at the side of the road. His buddy asks him what that was all about. The guy says "That thing has been following me around all day."

Two guys are in a balloon lost. They come over a park in a small town near some trees. They holler down to a person in the park "Hey, where are we?" There was no answer. The balloonist tries again "Hey you down there, where are we?" The guy in the park looks up and answers "You are in a balloon about 25 feet in the air." The balloonist turns to his buddy and says "That guy is a mathematician." "How do you know?" his buddy asked. "Well, he carefully listened twice to the question before he answered, his answer was short and very precise, and his answer was totally worthless."

News from Kalispell MSE

Flathead Valley Community College sponsored a meeting at the college for the purpose of obtaining input from the local engineering community for requirements for an associate engineering degree. The meeting lasted nearly 3 hours. There were engineers from several local firms, and the State Forest Service. Professor Effat Rady was the prime mover in the meeting. She obtained some insight from local firms on what skills would be desirable for a 2 year degreed

person. Math, surveying, trigonometry, and coming to work on time were things mentioned by the engineering group.

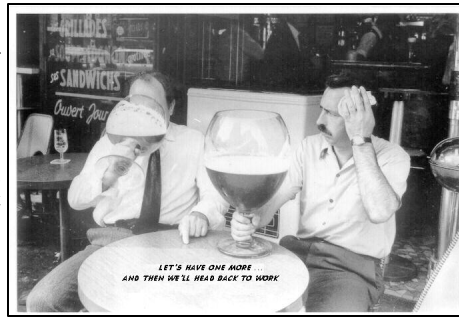
Update on the North Flathead Yacht Club docks. The strengthened wave wall barely moves during storms. Last years we saw 12" deflections, this year the deflections are barely measurable. We will not be able to check for damage until winter when

the lake is taken down. There is not evidence of damage from the topside. The pilings were fastened together with and I beam on top and angle iron cross bracing making it a type of moment frame with welded connections.

Contact me any time.

Tom Abel, President

tom@abelengineeringinc.com



Let's have one more then we'll head back to work.

News from the Capitol City

Kenneth Phillips, PE, Vice President

Its election season and the absolute last thing I want to discuss is politics. We are going into session with a surplus so lots of folks are thinking about governmental needs. Recently in the Environmental Quality Council, a bipartisan interim committee, they discussed what bills they are going to support in session and both parties agreed on several points and disagreed on a few. Energy is a hot topic so I was informed that energy efficiency in State Government is getting lots of support from both sides, that's good. With ever increasing demands, existing energy consumers must become more efficient because we are not building new power sources as fast as we are subdivisions.

I thought about what forms common ground between the two much divided parties and what has caused the American public to be so aware of energy usage. When it comes down to it its one of the backbones of the American ideal and that is the good old American capitalistic system. Supply and Demand has moved even the most ardent of conservatives to align with the most liberal of their fellow countryman. The high cost of gasoline has affected everyone and that has united this country as much as terrorism did in 2001. You

hardly ever saw any energy related articles in the NSPE newsletters until recently and now the majority of articles relate to energy innovation and legislation.

Capitalism has caused us to shift our priorities way before any governmental legislation has. The political leaders aren't leading the charge the capitalist are. T. Boone Pickens is running national ads with his energy plans. Google and Exxon Mobile are investing in long term energy innovations. Our own engineering community is promoting energy development through increased wages in disciplines that have an impact. Our young generation is going to look at the salaries of petroleum, mechanical, electrical and chemical engineers and start thinking about these as career choices. This has brought me an ex-hippie type liberal to rethink the positive aspects of capitalism. Because on the campaign trail you hear a lot of glittering generalities in the business world you see massive mobilization to correct the problem. So in that light, OPEC, I want to thank you for helping me be a little more proud of our American system of capitalism. Keep them gas prices high yall.

The high cost of gasoline has affected everyone and that has united this country as much as terrorism did in 2001.



**2008
Joint
Engineers
Conference**

**Pre-Conference Option (6 PDHs):
Wednesday ~ November 5, 2008**

**Regular Conference (13 PDHs):
Thursday and Friday
November 6-7, 2008**

**Red Lion Colonial Hotel
406-443-2100
Helena, Montana**

**Opportunity for up to 19 PDHs
of Continuing Education**

Seven Concurrent TRACKS

- Power
- Structural / Geotechnical
- Traffic and Transportation
- Going Green
- Water Resources & Municipal Design
- Technical Track (Hands-On Computer Lab)
- Miscellaneous Mechanical & Management

Over 50 Sessions in All

New at the website this year...

- More information on each of the sessions offered
- Pre-registration for your session (no need to pay!)
- Downloads of session materials

**Pre-Register
ON-LINE at ...**

www.mtengineers.org

**2008 JEC Information & Registration:
Visit: www.mtengineers.org**

2008 Joint Engineers Conference

Crystal Kuntz, PE, Vice President & Chair JEC

Fans of the JEC!

It's that time again; the weather is starting to cool as a sign that fall is eminent. And, of course, with the fall comes the JEC and the latest update! By now, everyone should have received their postcard mailing announcing the 2008 JEC. We are pleased this year to offer seven concurrent tracks with over 50 confirmed speakers offering sessions in everything from power to going green. This year the JEC will also be offering an extended session on the Wednesday before the conference, thanks to members of IEEE, offering a review of the NESC.

Through the months of July and August the JEC crew worked with Mercury Business Systems to get the on-line registration formatted and running. This year offers true on-line registration making things simpler for everyone (especially those of us doing the paperwork!). In the interest of getting everyone in the "JEC mood", we are offering a pre-registration option. This option allows folks to peruse the course sessions and pre-register for the ones that they would like to attend without the obligation of payment (so you can register first, and deal with all that nasty paperwork later). This not only gives folks the opportunity to see what the 2008 JEC has to offer, but it provides valuable insight for the JEC committee regarding the level of interest in various programs. With this information, we can ensure that there is adequate seating available for those folks interested. So!! If you've not yet had the opportunity, please visit our JEC registration website at www.JECRegistration.com and pre-register or finalize your registration for the conference. Also, please feel free to forward any comments regarding the web registration process. This is

the first year we've automated this aspect of the conference, and while we'd like to believe we caught the bugs... well... we all know how that goes. So please feel free to drop any comments to me at presentations@jecregistration.com.

On the vendor-front, things are looking grand! The vendor show that was slated to take place in the ballrooms at the Red Lion Colonial filled up so fast that additional vendor spaces were added in the hallway at the request of others. To date, we have two of these vendor spots remaining. If you are interested in joining our list of stellar vendors for the 2008 JEC – contact Connie at mse@assoc-mgt.com and she'll get you set up!

On another note, the JEC committee is already looking forward to the 2009 conference. We have some speakers slated for presentations and others that have expressed an interest. Our annual planning meeting will take place during the 2008 JEC at 6:30 am on Friday, November 7th (further details on room to be announced at the JEC). Anyone interested in serving on the committee is more than invited to attend! We also invite all societies to nominate two delegates to officially serve on the JEC committee as representatives for their society. The heterogeneous nature of this committee is what makes the JEC such a great event. If your society has not held an active role in the past, this is an excellent opportunity for your group to not only bring in some of the top presenters in your field, but also make a little money for your group as well. All conference profits are distributed among those societies which play an active role in the JEC planning committee. If you have suggesting on ways to improve the JEC, discussion on the schedule, venue or other elements – we'd invite you to attend the planning meeting on Friday, November 7, 2008.

See you at the 2008 JEC!

In the interest of getting everyone in the "JEC mood", we are offering a pre-registration option. This option allows folks to peruse the course sessions and pre-register for the ones that they would like to attend without the obligation of payment (so you can register first, and deal with all that nasty paperwork later).

Society	JEC Sessions brought in by this society
IEEE	11 Sessions
MSE	17 Sessions
SEAMT	4 Sessions
ASHRAE	6 Sessions
ITE	6 Sessions
ASCE	4 Sessions
USGBC	3 Sessions
SAME	2 Sessions
Total	53 Sessions

MATHCOUNTS News!

By Dan Munson, State MathCounts Coordinator

Welcome back to the new MATHCOUNTS season! We are in the process of sending out registration packets to over 400 Montana middle schools. Last season we had 442 Mathletes[®] from 63 middle schools participate, and we are looking for more participation this year. That's where you come in.

Do you have a child in middle school that may be interested in healthy math fun? How about a niece, nephew, or friend in middle school? Sad to say, some middle schools have not shown interest in this exciting and worthwhile program. Ask your local middle school if they have an active MATHCOUNTS program, you may be surprised by the answer. If they don't have an active program, press further and ask them why. Some schools are willing, but really need help from parents or friends to help coach a team. How's your coaching ability these days? These middle school kids will give you a run for your money when it comes to solving practical math problems.

I've personally helped coach teams for a number of years, and it is truly a rewarding experience to turn kids on to math and analytical problem solving. That's what we engineers are all about anyway! Consider volunteering as a MATHCOUNTS coach this year. It's a perfect way to give back to the young academia world, and nurture kids along the way. Some of these kids will be shaping our next generation of engineers, solving the world's latest problems.

If coaching is not your bag, stay tuned. We will be asking for your help with our local chapter competitions in February, where you can experience in person the power of middle school analytical determination and team building skills. Either way, I challenge all of you to make a difference with a young student, share your knowledge and expertise, and help make Montana MATHCOUNTS the best program around! The small time investment is worth the satisfaction of seeing some of our best and brightest young math stars shine!

About MATHCOUNTS

MATHCOUNTS is a combination math coaching and competition program. Students are tested on such topics as probability, statistics, linear algebra, and polynomials. The competition consists of written tests and a fast-paced oral match. The purpose of the MATHCOUNTS program is to motivate middle school students in mathematics and interest them in technology related careers. It is designed to create interest and enthusiasm in mathematics by creating an environment similar to athletic programs, including intensive training, competition, teamwork and recognition. Widely recognized as an effective middle school mathematics coaching

and competition program, MATHCOUNTS is celebrating its 26th Anniversary. Additional information on MATHCOUNTS is available at www.mathcounts.org.

The National Society of Professional Engineers on a national level organizes the MATHCOUNTS program. Locally, the Montana Society of Engineers organizes MATHCOUNTS, with local volunteer effort being provided by area engineers, students, and professionals.

Every year, a free copy of the annual *MATHCOUNTS School Handbook* is provided to all U.S. middle schools. Containing creative math problems that meet National Council of Teachers of Mathematics standards for 7th and 8th grades, teachers utilize these problems as part of in-class instruction or as an extracurricular activity. After months of coaching by a teacher or other volunteer, participating schools select 6th, 7th and/or 8th grade students to compete individually or as part of a team in their local MATHCOUNTS chapter competition held in February of each year. There are seven MATHCOUNTS Chapters in Montana. The winners of the local competition advance to the Montana State competition held in Bozeman in March of each year. The four student winners of that competition advance to an all expense paid National competition. ESPN even broadcasts the MATHCOUNTS National Competition!

Problem of the Week:

The Ever-Changing Olympics

Over the years events have come and gone from the Olympic roster. For a few of the early years tug-of-war was actually an event. In 1900 one of the American teams was made up of eight guys who also participated in many track and field events. If the average weight of the team was 250.5 pounds and the heaviest guy weighed 264 pounds, what was the average weight of the other 7 guys? Express your answer as a decimal to the nearest tenth.

Solution

First, let's figure out the sum of their weights using the average equation (sum/number of items = average)

$$(a + b + c + d + e + f + g + h)/8 = 250.5$$
$$a + b + c + d + e + f + g + h = 2004$$

Thus if the heaviest guy weighed 264, we can substitute that in for one of the variables and solve for the sum of the remaining unknown guys.

$$a + b + c + d + e + f + g + 264 = 2004$$
$$a + b + c + d + e + f + g = 1740$$

Thus the average weight of the remaining guys is $1740/7 = 248.6$ pounds, to the nearest tenth.

The National Society of Professional Engineers on a national level organizes the MATHCOUNTS program. Locally, the Montana Society of Engineers organizes MATHCOUNTS, with local volunteer effort being provided by area engineers, students, and professionals.

MATHCOUNTS News—Continued

More Ever-Changing Olympics

An event that was eliminated from the Olympic Games is the Standing High Jump. In this event, participants jump as high as they can from a standing position—they didn't get a running start like participants do for the modern high jump. In 1900 Ray Ewry set a world record of 1.65 meters (5.41 feet) and captured the gold.

This feat was even more impressive because Ray was confined to a wheelchair paralyzed with polio throughout his childhood. He also earned a record 10 Olympic gold medals (the two medals earned in 1906 were at the intercalated Olympic Games, thus he is left out of many record books).

MATHCOUNTS Contacts:

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Montana MathCounts depends on volunteers to make the different competition happen at the Chapter and State levels but without the financial support of our corporate sponsors — there would be no competitions to offer! Here is the list of last year's very special companies:

2007-08 MathCounts Corporate Sponsors

Advance Silicon Materials, LLC

American Public Works Association—

Rocky Mountain Chapter

Ash Grove Cement Company

Blackfoot Telephone Cooperative

CDM, Inc.

CHS, Inc.

Columbia Falls Aluminum Company

ConocoPhillips

Cretex Concrete Products West, Inc.

Dennis & Phyllis Washington Foundation

Electrical Consultants, Inc.

Engineering, Inc.

ExxonMobil

Great West Engineering, Inc.

HDR SSR Engineering, Inc.

Montana Engineering & Admin.

Montana Refining Company

Montana-Dakota Utilities

MSE Technology Applications, Inc.

NorthWestern Energy

Peabody Coal Company

Robert Peccia and Associates

Stillwater Mining CompanyWestern

Energy Company

Western Sugar Company

Westmoreland Resources, Inc.

Yellowstone Electric Company

Thank you all!

Montana MathCounts depends on volunteers to make the different competition happen at the Chapter and State levels but without the financial support of our corporate sponsors — there would be no competitions to offer!

NSPE: Your Source for On-Line Education

Web Seminars:

Don't let the year-end without enough PDH credits for your license renewal. There are Web seminars! Register at www.nspe.org/education/ed1-onlineopps.asp. NSPE members only pay \$119.00 per course.

On-Demand, On-Line Courses:

NSPE is offering on-demand courses through the Resource Catalog! If you missed the Web seminar because of your busy schedule? Take the course now and earn your PDHs from the comfort of your home or office at your convenience. Choose from a variety of topics presented by leading experts in the field. NSPE members only pay \$89.00 per course.

Take the course now and earn your PDHs from the comfort of your home or office at your convenience.

*2008 Joint Engineers
Conference
November 6-7, 2008
Red Lion Colonial Hotel
Helena, Montana*

*Registration at
www.mtengineers.org*

2008-2009 MSE Board

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Deadline for the Next
Issue of this Newsletter is
December 10, 2008

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

2008 JEC Vendors

The following Vendors are making their plans for the Joint Engineers Conference:

Central Insurance Agency
Belgrade, Montana

**Montana Contractors Association—
Concrete Division**
Helena, Montana

JCCS, P.C.
Missoula, Montana

Hilti, Inc.
Bozeman, Montana

Rational Technology of ID, LLC
Boise, Idaho

Planned & Engineering Construction
Helena, Montana

TWEnterprises
Billings, Montana

Columbia Hydronics Corporation
Vancouver, Washington

NorthWestern Energy
Butte, Montana

Advanced Pump & Equipment, Inc.
Bozeman, Montana

Cretex Concrete Products, West
Helena, Montana

Coral Sales Company
Portland, Oregon

PacifiCAD, Inc.
Helena, Montana

iLevel Trus Joist
Helena, Montana

Contech
Helena, Montana

Unico Systems
Helena, Montana

Northern Fire & Communication
Billings, Montana

Northwest Pipe Fittings, Inc.
Billings, Montana

Make your plans to attend the 2008 JEC today!