

Montana Society of Engineers

A state society of the National Society of Professional Engineers



Founded 1887

Hurricane Katrina Disaster Relief

Dan Munson, PE, President

NSPE wishes to extend its sincerest condolences to the thousands of victims of Hurricane Katrina. The Society has been receiving numerous requests from members asking how they can assist the disaster relief efforts in the Gulf Coast region. In response, NSPE has established a Hurricane Katrina Relief Fund of \$50,000 to assist state societies and their members in the affected region and is looking into opportunities for engineers to volunteer their services. If you'd like to make a tax-deductible contribution to this fund, checks can be sent to:

**NSPE Hurricane Relief Fund
P.O. Box Dept. 855
Alexandria, VA 22334-0001**

Credit card contributions can be made by calling **1-888-285-NSPE**. Further information about the response effort can be found on the [Federal Emergency Management Agency](#) and Red Cross Web sites.

\$50,000 is a great start, and we would like to challenge each member NSPE to double the amount of this fund to \$100,000. NSPE is also looking for help with the engineering necessary to return the devastated areas back to normal.

New Member on the PE Board

Congratulations to Tom Heineke, P.E. who has replaced Dan McCauley on the Montana Board of Professional Engineers and Land Surveyors. Like Dan, Tom has been an active member of MSE for many years. Tom served on the State MSE board from 1998 to 2003 and was very instrumental in leading our organization through a number of challenging legislative issues. Tom works with Morrison Maierle in Kalispell and continues to be a strong advocate for professional licensure and registration. Tom will be a great advocate for our profession while on the board.

Our special thanks go to Dan McCauley, P.E. who has been a strong presence on the MBPELS for the last 8 years. His experience and sound counsel has been a beneficial to the board, and all engineers in the state. He brought a great sense of balance and common sense to the board, and his efforts are to applauded. His recent responsibilities as an engineering advocate on the Architect and Professional Engineering Collaboration Committee will be assumed by Tom Heineke. We wish Dan the best as he continues his practice with Great West Engineering in Helena.

September, 2005

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Met MBPELS

Sandra S. Anderson, PE, President-Elect

The Montana Board of Professional Engineers and Land Surveyors is composed of nine individuals, who are appointed by the governor with the consent of the senate. They serve a term of four years, and may be reappointed to additional terms. Board members are chosen from three groups:

- Five are professional engineers who have been **practicing engineering for at least 12 years**, have been in **responsible charge of engineering teaching or important engineering work for at least 5 years**, and have been **licensed in Montana for at least 5 years**. No more than two of these five may be from the same branch of engineering.
- Two are professional land surveyors who have been practicing land surveying **for at least 12 years**, have been in **responsible charge of land surveying or important land surveying work for at least 5 years**, and have been **licensed in Montana for at least 5 years**.
- Two are members of the public at large, who are not engaged in or directly connected with the practice of engineering or land surveying.

The board is required to meet at least twice per year, but generally meets quarterly. The current members of the board are:

PAULETE FERGUSON
PRESIDING OFFICER
PUBLIC MEMBER
MISSOULA, MT
Term Expires: 7/1/2007

DENIS APPLEBURY
VICE PRESIDING OFFICER
PROFESSIONAL LAND SURVEYOR
VICTOR, MT
Term Expires: 7/1/2006

VIC CUNDY
SECRETARY
PROFESSIONAL ENGINEER
BOZEMAN, MT
Term Expires: 7/1/2007

TOM HEINECKE
PROFESSIONAL ENGINEER
KALISPELL, MT
Term Expires: 7/1/2009

JAMES HAHN
PROFESSIONAL LAND SURVEYOR
BILLINGS, MT
Term Expires: 7/1/2007

DAVID GATES
PROFESSIONAL ENGINEER
BUTTE, MT
Term Expires: 7/1/2007

STEVE WRIGHT
PROFESSIONAL ENGINEER
COLUMBIA FALLS, MT
Term Expires: 7/1/2006

JAKE NEIL
PROFESSIONAL ENGINEER
GREAT FALLS, MT
Term Expires: 7/1/2005

JANET MARKLE
PUBLIC MEMBER
GLASGOW, MT
Term Expires: 7/1/2006

Tom Heinecke is the newest addition to the board, installed at the August 18 meeting. Tom has been very active in MSE at both the local and state levels, and continues to participate in MATHCOUNTS.

You may contact the board at:

Address:
BOARD OF PROFESSIONAL ENGINEERS &
PROFESSIONAL LAND SURVEYORS
301 South Park, 4th Floor
P.O. Box 200513
Helena, MT 59620-0513
Fax: (406) 841-2309

Board Office Contact:
Todd Boucher, Executive Officer
Program Specialist, Brooke Jasmin
Telephone: (406) 841-2367
E-mail: dlibsdpels@mt.gov

For information on complaints contact:
Chris Bernet, Compliance Specialist
Telephone: (406) 841-2334
E-mail: bolcomp@mt.gov

For further information, view the web site at
[http://mt.gov/dli/bsd/license/bsd_boards/
pel_board/board_page.asp](http://mt.gov/dli/bsd/license/bsd_boards/pel_board/board_page.asp)

JEC - November 3-4

Remember to attend the Joint Engineers Conference in Helena, Montana on November 3 and 4, 2005. For more information and a registration, check the MSE website www.mtengineers.org

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Stray Thoughts

By Tom Abel, PE, Secretary-Treasurer

Being a relative newcomer to the engineering profession, and very new to the MSE board, I am not sure what is an appropriate subject for a newsletter article, so I will try more than one.

Book Review

My wife does not come right out and say it but she implies sometimes that I have nerd tendencies due to my profession. The recent book I read may confirm this. The title is “Why Buildings Fall Down” by Matthys Levy and Mario Salvadori. One of the authors is a principal of Weidlinger Associates, the other was a professor of civil engineering and architecture. They look at the pyramids – some did fall down. They look at the tower of Pisa, the Tacoma Narrows Bridge, the World Trade Center, the Hyatt Regency Hotel, Kansas City Missouri and many others. There is no calculus (I am not that nerdy), but the reasons for collapse are technically explained in such a way that it makes sense and one can learn from each disaster. I picked up the book at The MSU Bookstore for around \$11 used. Once into it, I could not put it down.

Inspections

We have a small construction engineering firm, and we do a variety of work for our clients. I have learned in the 10 years we have been in business that most of our clients come to us for much the same reason they go to a dentist, because the *have* to, not because they *want* to.

We try to stay focused on our reason for existence - to *provide safe structures* for our clients, and to design with *efficient use of building materials*.

I once read that in the early days of engineering if a building failed, the first born of the engineer was put to death. Today, there is an army of attorneys and an engineering board poised to pound on us at the least sign of engineering weakness.

Part of the design process for us is to make certain the job is being built the way we designed it, and this requires inspections. Most of our clients are glad to get out of our office with a stamped set of plans and their checkbook still intact. They are not usually willing to pay more for our hourly rate to monitor the construction, especially if the job is a long distance from our office. We have some clients and contractors who insist on us visiting the job at critical times like right before concrete pours, or after a roof structure has been assembled, but most of our clients are not willing to pay us to look after the job. We are finding the lending agencies are forcing inspections, sometimes using us and ~~sometimes using their own people. Apparently~~

the lending institutions do not want to be left holding a structure that is not to code or has poor workmanship when the owner defaults on his loan.

When the job is in the jurisdiction of a government entity that enforces codes, there are mandatory inspections. All too often the job of inspection falls only onto the city, county and state inspectors. Montana being Montana, there is too much work and not enough money to go around. As a result the city, county, and state inspectors have too much on their plates. I know in the Flathead there is only one state inspector, and he has to cover the entire county, an area 3 times the State of Rhode Island. It is difficult to get a written inspection report from some inspectors. This is really bad when a client relies upon the state or city to inspect, and nothing is said in writing. It is really bad if the government inspector shuts down the job, and there is nothing in writing why. If something should become a problem, like a settling foundation, or cracked walls, there is no written record of inspections.

When we perform a “site visit” (we try to avoid the word “inspection” because it implies we are in control of the job), we do a one or two sheet summary including the date, time, weather, who was present on site, what we observed, and any follow up action recommended as a result of our observation. We might see the concrete contractor has not adequately compacted the earth and gravel below footings. The follow up action might be to inform the owner that we saw improper compaction.



One day after hours I was driving by one of our jobs while with my wife. Most husbands would stop for a beer, look at sun on the mountains, or go for a walk in the woods, but this day we looked at the progress of the foundation we designed for this metal building. (See above under “nerd”.) The picture is of a sonotube footing we designed for the metal building, with wood structural members. The concrete contractor missed on the location of the sonotube, and the building contractor upsized the column from what was on the drawings apparently without coordinating with the concrete contractor.

Our drawings showed a steel weld plate onto which a column base or angle irons could be welded. Instead of doing this the concrete contractor used anchor bolts placed dangerously close to the outside of the sonotube. Now the building is on the foundation. How did this pass the building inspector, and why was in not

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2005-06 MATHCOUNTS Update

Dan Munson, PE, President
& State MathCounts Coordinator

Welcome back to the new MATHCOUNTS season! We are in the process of sending out registration packets to 436 Montana middle schools. Last year we had 500 Mathletes® from 72 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. I bet if you 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 on 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 try 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 see 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 23rd 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 300 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!

Stray Thoughts —Cont. from Pg 3
written up? I wrote one of our site visit reports and informed the owner, but will not charge him for this. I have no idea if it will be fixed properly or not at all, and we have no power to make it happen. The building inspector does have the power to make the repair happen.

So how can we, the engineering community, help fill the inspection void that apparently exists in this state. I suggest this is a good topic to be taken up at the upcoming Joint Engineers Conference in Helena, November 3,4, 2005.

Sailboat Racing

My disease is yacht racing. We have a Santa Cruz 33 that we resurrected from sitting in a field in Oregon, Wisconsin. Other guys can install a fitting and go racing. It is not that easy for an engineer. I recently installed a set of blocks on the baby stay, to bend the mast at the middle. Bending the middle of the mast forward allows the leach of the mainsail to relax, which means less drag, which means more speed, which, is what we are always seeking. First I had to estimate the load on the stay. Then I checked the blocks for the rated capacity. Next I had to select the proper line that would not break under tension, had UV protection, and was the proper length. The last anal retentive task was to check that the rope clutch used to maintain tension would not pull through the foam core deck of the boat. If you think this is bad, try putting 3 engineers on the same boat and go race. Good luck!



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.

Legislative Update

Jeff Ruffner, PE, Vice President

The devastating hurricane in the gulf region is going to have a significant effect on the schedule of national legislation. Hurricane Katrina has changed the pace of business as Congress deals with the huge disaster. Reconciliation on appropriation bills will be delayed by at least 3 weeks and many of other issues will be delayed to a later time for consideration.

By the end of this week, Congress will have passed over \$60 Billion for FEMA and other agencies which most expect will only fund recovery through the end of the September. Given the magnitude of the disaster and the potential price tag, most do not fully know how the spending on the disaster will effect other projects in the appropriation bills.

On the State legislative front, the issue I have been following is SJR 35. For those not familiar with SJR 35 it is joint Senate resolution from the 2005 Montana legislature directing the staff to conduct a study of the effectiveness of professional and occupational boards and programs dedicated to public service in Montana and to provide recommended policies for the creation of new boards, board rulemaking, and board accountability.

I was made aware of the study by a survey request I received. According to the results of the survey, approximately 65,000 licensees were notified and 928 responded. I know from my participation in the survey it was sometimes difficult to fully get my point across with my answer because of the general nature of the questions. Of course it had to be that way because I was answering from an engineering profession viewpoint and the survey was directed

to all licensees from a wide variety of professions.

I would recommend that all of us interested in the Engineering Profession follow this study as I believe that this could significantly impact the practice of our profession here in Montana. A strong Engineering profession requires a strong board. It is too early to predict if the study will result in possible changes in the board structure (if any) but it is something we should all watch closely and make sure our voices are heard.

Listed below are some of the future key dates relative to this study:

- November 4, 2005 – Stakeholder comments briefing
- February 10, 2006 – Stakeholder comments briefing
- May 12, 2006 – Recommendations for legislation
- July 14 2006 – Review of draft legislation

For more information on this issue you can go to the website at http://leg.state.mt.us/css/committees/interim/2005_2006/econ_affairs/default.asp

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Visit www.nspe.org TODAY!

This could be a great opportunity for a company or an individual to adopt a great civic program and make a difference in the communities.

MATHCOUNTS Coordinator is Urgently Needed

Recently, our Eastern Montana MATHCOUNTS Coordinator had to step down so we are looking for some help to run the competition in eastern Montana. It has historically been held in Glendive, and attracts schools from Glasgow, Wolf Point, Scobey, Lambert, Circle, Sidney, Terry, Broadus, and Glendive. The competition can be moved to any central location in eastern Montana. The National MATHCOUNTS organization sends out all the literature and handles all the registration with National for all schools in Montana. The chapter coordinator is asked to:

- Set a chapter competition date in February
- Secure a place to hold the competition
- Recruit a number of volunteers to help score and proctor the competition Arrange the competition treats and trophies
- Hold the competition
- Forward the results to the Montana MATHCOUNTS office

Fund-raising is done from the Montana MATHCOUNTS office. The coordinator is encouraged to correspond with the teachers in their chapter to answer any questions, and to drum up support for the program. Schools pay a fee to register their students in the program, and MATHCOUNTS pays for all the expenses of the competitions.

If you have a desire to help us out with this exciting and worthwhile program, please let us know. If you have any connections in those parts of the state that you feel would be a great fit for MATHCOUNTS, please let us know and we will contact them. Your help is appreciated. Please give us a call at 259-7300.

05-06 MSE Board

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sandra.anderson@edocsusa.com

Jeff Ruffner, Vice President

jruffner@mse-ta.com

Tom Abel, Secretary/Treasurer

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Doug Brekke, Past President

DLB@5400.TV

Connie Dempster, Executive Secretary

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