Montana Society of Engineers

A state society of the National Society of Professional Engineers

Founded 1887

President's Message:

Stephen T. Smith, PE, President

I hope you all enjoyed your summer and the recent Labor Day weekend. Our Montana summers are glorious, but too brief. The good news is that fall in Montana is also glorious. This summer, I progressed to be the MSE president, which confers the honor of writing this portion of the MSE Newsletter. So, here it goes…

2011 has already proved itself to be an "interesting" year, as in the ancient Chinese curse. Disasters, both natural and political, seem to be in the news every day. Engineers have a long history and are well versed in the issues of preparing for and minimizing the effects of natural disasters. We are not so good at dealing with the political varieties. That is where the MSE comes in.

The MSE, and through it, the NSPE, provides one of many avenues through which engineers can and should address the political issues of our state and country. Engineers have a perspective and depth of understanding on many issues that should be stated clearing to our politicians and to the public. Such issues include ones directly related to engineering, such as how or whether to build in flood planes or wildland-urban interface areas to the more political, such as how to fund transportation systems or whether and how to prevent or prepare for global warming.

However, when it comes to the political world, we engineers tend not to show up, but to dig in to our projects. **"The world is run by those who show up."** (See http://ascelibrary.org/meo/resource/1/jmenea/v13/i4/p61_s1?bypassSSO=1 for an excellent engineer written article by this title.) There are many means to "show up." Some type of political involvement should be part of the balance of life and profession for each of us. Many of us are "experts" in some field and we should use that expertise to influence political (including regulatory) outcomes. For example, my field of expertise is wood preservation. Through my career, I have served leadership roles in the American Wood Preservers Institute and remain active in the Treated Wood Council (national organizations) and participate in the Western Environmental Trade Association and Intermountain Roundwood Association (regional organizations). I have been a member of the NSPE for about 30 years and, obviously, I am now active with the MSE. I vote and occasionally, but not often enough, write my representatives. I try to be one who shows up.

Our U.S. economy seems stuck in neutral. Our citizens are suffering lost confidence. U.S. businesses are postponing investments because of regulatory uncertainty. This last part is crucial to solving the others. Will green house gasses need to be controlled? Will the boiler MACT rules be kept, revised, or cancelled? What health care will companies be required to offer? The list of uncertainties is long and central to business planning. Engineers need to show up and offer our opinions, both as individuals and as groups. MSE and similar professional organizations offer a means to participate in at least some of these important issues.

I invite you to join us at the upcoming Joint Engineers Conference (November 2-4 in Helena) and the MSE annual meeting (November 3, 7:00 pm, at the Overland Express, dinner provided). Please. Show up!

September, 2011

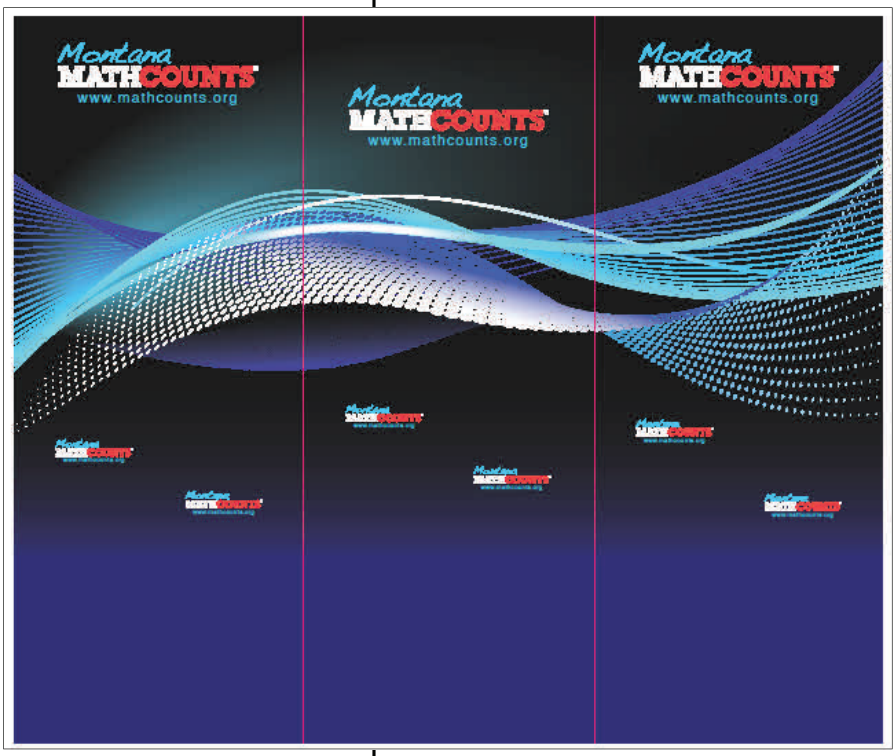
"The MSE and NSPE provides one of many avenues through which engineers can and should address the political issues of our state and country."

Inside This Issue

Montana MATHCOUNTS Update!

Dan Munson, PE, MathCounts State & Billings Chapter Coordinator

With fall comes planning for the 2011/2012 Montana MATHCOUNTS season! Stop and visit the MathCounts table in the lobby of the Red Lion Colonial during the 2011 Joint Engineer Conference. We would love to show you some of the many rewards MathCounts has to offer 6-8th grade students across the state. This is a program that will reward your involvement immediately! The time invested is completely up to you — as short as a few moments to a several hours! Stop by and visit the table!



"Plans for the 2011-2012 Season are underway!"
—Dan Munson, State Coordinator

2011/12 CHAPTER COORDINATORS

If you would like to help out at the Chapter level, contact the Chapter Coordinator near you:

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For this and other math news—visit www.mathcounts.org and remember to thank all our wonderful sponsors:

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2011 Joint Engineers Conference News!

Crystal Kuntz, PE, President & Chair of JEC

The registration is now open for the 2011 JEC—EARLY registration ends at midnight on September 30, 2011. Motel rooms at the Red Lion Colonial are going FAST! Make your plans today!

Wednesday will signal the start of the JEC with the first class beginning at 1:15 pm—schedule posted on website. Each session scheduled at the Colonial are 90 minutes long or 1.5 PDH per session. This year's technical tour is worth 3.0 PDHs.

The Engineering Honors Banquet will be held Wednesday evening with the reception getting underway at 5:30 pm and the banquet starting at 6:30 pm. In addition to the awards, this banquet will also feature a keynote by John L. Busch. Mr. Busch is a historian and author of "Steam Coffin—Captain Moses Rogers and The Steamship Savannah Break the Barrier". Mr. Busch will show way the proposition of making the first crossing of the Atlantic Ocean on a 'steamship' was met with a mixture of skepticism and FEAR!

Thursday will focus on the VENDORS. Booths are all sold! The show will start on Thursday morning and conclude Thursday evening with the VENDOR Social from 4:30 to 6:30 pm — the cash drawings will be held at 6:00 pm—you must be present to WIN!

The PE and LS Licensing Board will hold a town hall styled meeting during lunch on Thursday—room TBA. This is an excellent opportunity to address licensing and other issues.

Friday will focus on the Societies. Societies have been invited to post their meetings at the JEC website. If you do not see your Society meeting, check with the society president—the president of each society determines when your meeting will be held.

Note: This year's technical tour will be on Friday—November 4. The tour will be of the Dave Gates Generation Station and the Fly Wheel Energy Storage Facility in Anaconda, Montana. The tour will leave at 8:00 am and return by 4:30 pm—lunch will be provided. There is no extra charge when opting for the tour but the tour is limited to the first 38 PAID registrants.

Key JEC Dates:

- September 1, 2011 = Early Registration is OPEN
- JEC—November 2-4, 2011
- Engineering Honors Banquet with Keynote—November 2
- Technical Tour—November 4

www.mtengineers.org

New Challenges with Aging Infrastructure

Brian Schultz, PE, Secretary/Treasurer

"Today, utility companies are working on replacing water, sewer, communication, electric, and natural gas systems that in many cases have supported towns and cities across this country for more than 70 years."

In the past decade, we have all seen, been exposed to, or possibly been involved in projects to upgrade and improve the country's existing infrastructure, including anything from roads and bridges to every aspect of the utility industry. Aging infrastructure continues to be an increasing item of interest among both government and private sector organizations; an item that brings new challenges and questions to the engineering world and often on a scale most of us have never been asked to work with before. These circumstances call an engineer to be responsible for far more than just providing a stamped set of construction plans to a crew in the field.

Today, utility companies are working on replacing water, sewer, communication, electric, and natural gas systems that in many cases have supported towns and cities across this country for more than 70 years. Organizations are now working with completely different tools, equipment, materials, and codes than when the existing infrastructure was built. In the electric and communication industry there are constant technological updates and a new drive towards "smart grid" installations. The expectation has been set that new infrastructure will always surpass the existing infrastructure in safety, efficiency, ease of maintenance and operation, longevity, etc. (and it should) while at the same time having the ability to be retrofitted into the existing system. All of these investments come at a cost to the utility companies, and even more so, to the customers they serve.

As professional engineers and members of the Montana Society of Engineers, we agree to uphold the highest levels of honesty and integrity in the industries in which we work, as well as consciously acting as servants to the public and the communities in which we practice our profession. Young engineers, like me, have a tendency to see our obligation to uphold the "safety, health, and welfare of the public" as only a consideration in the technical design areas of our engineering, but our duty to the public includes much more than this. In all industries, but especially for public utilities, an engineer's responsibility to the public must also include a critical economic evaluation of their design as well.

Replacing large portions of our aging infrastructure has become a necessary investment and one that will inevitably affect the utility rates we all pay. As engineers begin to evaluate what to include in the scope of an infrastructure project and wade through the plethora of technological updates that are now available, we must always weigh the costs associated with the design to the actual safety and reliability needs and desires of the public. This type of judgment call is often a difficult one to make, and an engineer will almost always be biased towards the stronger, safer, more reliable design because this has become a part of our nature. All public utilities have regulating agencies they report to, and these agencies will play the key role in helping a utility company formulate an infrastructure improvement plan that is in the best interest of the public.

Regulating bodies, such as the Montana Public Service Commission (MPSC), act as the representative of the public's interest in working with utilities that are developing plans for infrastructure improvement projects. The MPSC also provides one of the most effective communication tools to relay project information back to the public. If a utility company is going to complete a large infrastructure project successfully, it is vital that they work with their regulating body in order to combine the safety and reliability improvements that are in the best interest of the utility with the economic and quality of service expectations of the public.

In what ways can a utility company take the lead to communicate and set up accountability with its regulating body before and during large projects like these? There are many ways a company can build this relationship, and some of the ways I have I seen my own company do this is by providing detailed reports and filings describing the need for infrastructure improvement based on historical data

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New Challenges with Aging Infrastructure —*Continued from Page 5*

involving safety and reliability statistics, regional and nationwide trends in the industry, improvement options with new materials and technology, combined with in depth cost analysis and projections of the future consequences or improvements with each possible option.

During the project, the utility company needs to set a higher standard of accountability as well. I have also seen this done by offering frequent and regular project updates based on physical and financial percent complete reports given to the MPSC. Another helpful option is to hire a third party consulting group, agreed on by both the company and the regulating body, to oversee the project proposals, project process development, and possibly even to offer auditing services throughout the duration of the project. All of these efforts to develop communication lines, build trusting relationships, and convey important and timely information will allow the utility an opportunity to act in its best interests, and provide the regulating body the support it needs to successfully represent and maintain the best interests of the public.

Before a project of this magnitude begins, it is also important to provide the larger public with a general understanding of the size and scope of the work being done. Anytime a utility plans a maintenance project, let alone complete replacement of existing infrastructure, the engineers and utility crews will always be faced with disrupting the lives and day-to-day business of their customers. This will often include access issues with road closures, temporary loss of services, and new equipment or technology installations the customer is not familiar with. These circumstances present a project management engineer with one of the most crucial times in their career when they need to be able to communicate thoroughly and effectively with customers and clients.

As we continue to see and be involved in large infrastructure improvement projects across our state, it is important as engineers that we recognize not only our roles to design safe, reliable, and long lasting solutions to the problems we face rebuilding infrastructure, but also to recognize the importance of communicating with the public and regulating bodies in order to look after not only the direct day-to-day needs of our clients and customers, but also the long term economic impact to the public as well.

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"These circumstances present a project management engineer with one of the most crucial times in their career when they need to be able to communicate thoroughly and effectively with customers and clients."

WANTED:

Chair for the Joint Engineers Conference Committee!

This is a great video — it will make you glad that you chose to be a Professional Engineer! -Connie

From the MSE Office

Crystal Kuntz is looking for a Co-Chair for the 2011 JEC with the idea that you would move into the Chair role for the 2012 JEC. This is a rewarding experience with a great foundation that mostly needs a LEADER to direct and orchestrate the steps that are in place and have been proven to work. Contact Crystal or this office if you would like more information.

The MSE Society meeting will be held Thursday evening—immediately following the Vendor Social—at 7:00 pm at the Overland Express on November 3, 2011. The Overland Express is across the street from the Red Lion Colonial (an easy walk). MSE will be buying dinner. Robert Greene—current VP of NSPE will be there and share news from national. MSE has invite lobbyist Jennifer James to share her views on the current state issues. The evening should prove to be very informative—relaxed with opportunity for socializing. Bring a friend and see what is happening with NSPE/MSE!

2011-2012 MSE Board

Deadline for the Next Issue of this Newsletter is December 10, 2011

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

Early Registration—Open till September 30, 2011
2011 Joint Engineer Conference
November 2-4, 2011 ~ Helena, Montana
www.mtengineers.org

FROM: Christopher M. Stone, P.E., F.NSPE, F.ASCE, LEED AP
NSPE President

RE: 2020 Transformation Plan

As you know, we made changes to this year's House of Delegates meeting to reduce governance and increase participation of all the delegates where we focused on a future destination for NSPE and the profession. Coined the "2020 Transformation Plan", we want the public to know what a professional engineer is and to recognize P.E. as the only recognized standard for the engineering profession; we want the public to know that P.E.'s are a learned, honorable profession; that we take an oath to protect the health, safety and welfare of the public; that P.E.'s are held to the highest ethical standards, and; that P.E.'s are LEADERS in the engineering profession, in business, and in our communities. LEADERS is the acronym for our focus this year at NSPE. LEADERS = Licensure, Ethics, Advocacy, Diversity, Education, Recruitment, Sustainability.

Please watch the video regarding the "2020 Transformation Plan" at http://www.youtube.com/watch?v=HyvWqzbCkxY

Chris
Christopher M. Stone, P.E., F.NSPE, F.ASCE, LEED AP
National Society of Professional Engineers
President 2011-2012