



## WSPE eNews

A monthly publication from the Wisconsin Society of Professional Engineers

### November 2014 Edition

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#### 1. Welcome Mark Nagurka, P.E., Ph.D

We have a new Executive Board officer, Mark Nagurka, P.E, Ph.D. His complete bio and contact information can be found here:  
<http://www.wspe.org/stateofficers.shtml>

Welcome him to the WSPE Executive Board as our new Vice President of Education Portfolio.

He was voted in at the Board of Directors held earlier this month in Green Bay, WI. Jay Goldberg had to step down due to priorities and introduced us to Mark as a replacement. We wish Jay all the best as we all have to reshuffle priorities from time to time. We thank Jay for helping us find a replacement. The Executive Board looks forward to incorporating Marks skills to our society's benefits!

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#### 2. President's Message

By Pam Mazur, PE, *Fox River Valley Chapter*

Greetings Everyone,

The fall Board of Directors meeting was held on October 14 in Green Bay and there were several points discussed that you will be hearing more about:



*Pam Mazur, PE  
WSPE President, 2014 - 2015*

- 1 We have a new VP-Education, Mark Nagurka, Ph.D, P.E.
- 1 The 2015 Discovery Conference will be held in the Green Bay area and a task force has been formed to work on the details

- 1 We are going to pilot a chapter PDH session internet broadcast once we've identified an appropriate venue
- 1 The Governors New Product Award competition is underway
- 1 Voter Voice Legislative Action Center is now available ([see article number 11 below](#))
- 1 WSPE has adopted a Social Media Policy
- 1 Our National Delegate Jim Buggs is looking for candidates for committee roles

Please keep in mind the importance of working with our youth – the MATHCOUNTS program is in the process of registering schools and clubs for the upcoming competitions, and scholarship applications are available for engineering students through Engineers Foundation of Wisconsin.

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### 3. Metro Chapter Tour: New Baggage Handling System at Milwaukee Airport

By Kevin T. Keast, P.E., *Metro Chapter*

**When:**  
Wednesday, October 22,  
2014

**Location:**  
General Mitchell  
International Airport  
5300 S. Howell Ave  
Milwaukee, WI 53207

**Time:**  
5:00 – 6:00 pm



*Bob Schumacher explaining a difficult structural challenge on the project, outside by the carousels (conveyers in the background)*

On Wednesday, October 22, our October Metro Chapter Meeting took a fantastic tour of the airport's new baggage handling system. The tour was led by Rod Mayer (President, RPMayer & Associates, LLC.), along with insights from Tim Kipp, the airport engineer in charge of the project, and Bob Schumacher, the structural engineer of record.

We started with a brief history of the airport structures, and how 9-11 influenced the changes that are now almost complete. We got a lesson on good bag "hygiene" (don't tie your red yarn on the handle!) and why they do things a certain way at check in, then proceeded to the new building that houses the automated screening system.

As one can imagine, there are several thousand feet of conveyer belts and assorted lines running. Automated systems check size, sort and eventually screen all baggage. Most are processed without incident, but we did witness an irregular sized package trigger an alert. The brief line shutdown was addressed and corrected in minutes by a worker.

There were also a few bags that were rejected and sent along a different line to the manual screening room. Here the TSA folks in the familiar blue uniforms picked the bags off the line for a closer look. We also got to see the bomb containment unit, which is present in the event an explosive device was detected.

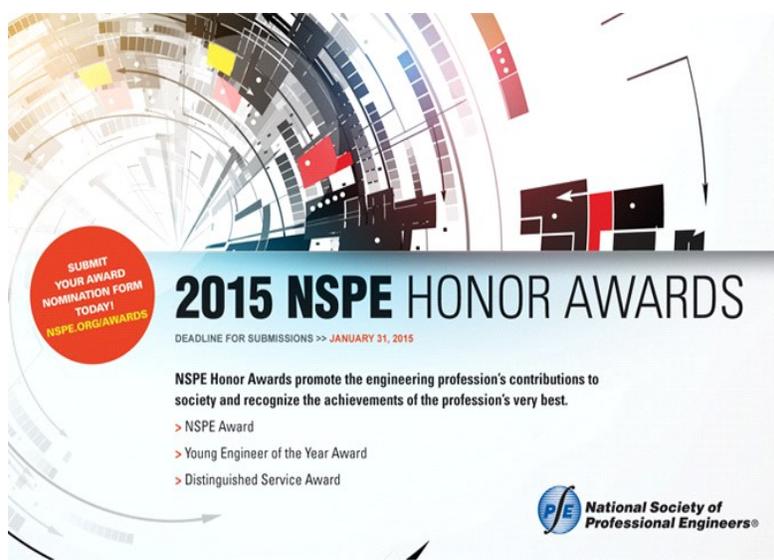
From there, it was out to the carousel where the bags ended up before getting loaded into the baggage cars for transport out to the waiting airplane. Finally, we ended up in the baggage handling control room. Large screens with graphics depicting the entire operation at a glance.

This is truly a smart technology system! After the tour, many of us got together at Jalapeno Loco for drinks, food, and a few laughs. We want to give a big thank you to our presenters, and to chapter member Mary Turner for helping set this up.

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### 4. 2015 NSPE Honors Awards

Submitted by John Parisi, P.E.



If you have any nominations for these awards, please contact John Parisi at [John.Parisi@foth.com](mailto:John.Parisi@foth.com).

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#### 4. Solution for Clogging Pumps

*by Mike Gerszewski, Village of Hartland  
Jim Fischer, ITT Water & Wastewater USA*

**Hartland, Wisconsin, USA**  
*October, 2011*

***New pumps eliminate clogging, cut energy bills, stop emergency-visits,  
reduce pump-wear, improve worker-safety and relieve concerns for  
basement flooding.***

The alarm sounded again. My cell phone rang at 2:00 am; I got up and called the crew members, another clogged pump! Emergency calls had become the norm. Something had to be done!

At the Village of Hartland, Wisconsin, clogging pumps caused a number of significant problems that we were able to solve by switching to a new innovative type of non-clog submersible pump. We had been experiencing frequent problems in our collection-system lift-stations. Of greatest concern were the frequent emergency service calls to manually remove debris from the clogged pumps. Unscheduled service calls had become a major expense as overtime hours and unplanned maintenance costs snowballed. This alone was sufficient reason to look for a solution, even though we would soon find many more reasons. Our first step was to try a new type of pump at one of our pump stations where we were experiencing continual clogging. Installation of the new type pump immediately eliminated the clogging problem. Encouraged by this success, we replaced pumps at another problem-laden station and again achieved the same positive result: no more clogs or emergency service calls. In addition, the new pumps went well beyond just solving our clogging problems. They delivered to us a number of other valuable benefits: 1) We saved significant energy; 2) we saw reduced pump-wear; 3) we realized reduced maintenance costs; 4) we enjoyed improved worker safety; and 5) we relieved concern for basement flooding. All these benefits convinced us to convert three additional lift stations, making a total of five lift stations, all to use this new type of pump.

The pump clogging issue was our only concern at first, but as we worked to clear the clogs from the pumps, we began to investigate and dissect the clogging materials.

We found that the main cause of the problem was disposable wipes and non-woven sheet materials. At one station, new homes constructed in the area were found to be a big delivery source for offending materials as hired cleaning services were flushing disinfectant-wipes and other similar types of cleaning wipes down the drains rather than carrying them away. The result was required frequent unscheduled service calls, at all hours of the day and at a rate of three to four times per week – all to clear the clogging pumps and to keep my cellular phone quiet. Health issues were a concern to my staff as personnel had to remove so much hazardous stringy debris from the pump impellers on such a frequent rate that they became very concerned about their increased risk of exposure to pathogens and hazardous waste. We had to look for a better way. We turned to Flygt for ideas.

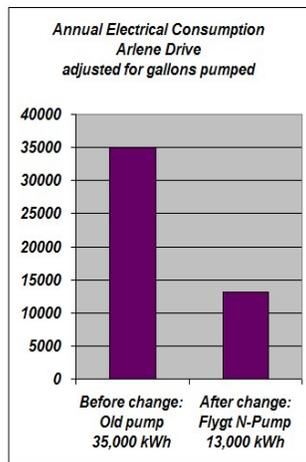
In 2003, we acted to switch one pump station to Flygt Model NP 3153 / 20-hp pumps. After this solved all clogging problems in that lift station, we decided to

employ more N-pumps. In 2005, we replaced two multi-channel equipped submersible pumps at another problematic lift station.

We decided to compare the energy bills from before and after upgrading to Flygt N-pumps. We were surprised at what we found. Initially, all that we had cared about was solving the pump-clogging problem, but when we realized huge energy savings too, we were thrilled! In addition, my staff was happy as we realized improved worker safety, which is something you cannot measure financially. One of my main responsibilities as a supervisor is to protect my staff; reduced exposure to blood borne pathogens gives me peace of mind. My maintenance budget no longer has consistent stress from the continual costs expended for the removal, unclogging of the pumps and reinstalling the machines. Finally, my cellular phone rings a lot less frequently now.

**Arlene Drive Lift Station**

In 2003, Hartland replaced our old pumps with two Flygt Model NP 3153 / 20-hp pumps. After this solved all their clogging problems in that lift station, we decided to employ more N-pumps.



**Annual energy savings:**  
First station: Arlene Drive Lift Station  
When we realized huge energy savings...we were amazed.

Arlene Drive Lift Station

- 1 Electric costs were cut from \$4,200 to \$1960
- 1 Annual savings, corrected for gallons pumped:

**\$2240 savings/year**



**Crystal Drive Lift Station  
3102's, 5 HP**

In 2005, they replaced two pumps with Flygt model NP 3102's.

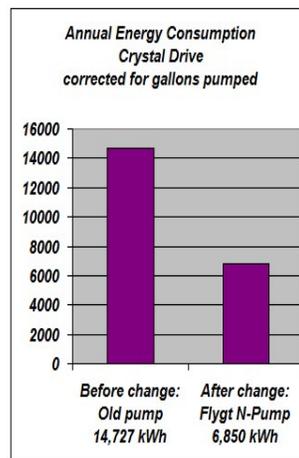
**Annual energy savings:**

Second station: Crystal Drive Lift Station

Crystal Drive Lift Station

- 1 Electric costs were cut from \$1,780 to \$883
- 1 Annual savings, corrected for gallons pumped:

**\$897 savings/year**





### **Crystal Drive Lift Station**

#### **It was a profitable move**

The Village of Hartland profited in many ways:

#### **It was a profitable move**

The Village of Hartland profited in many ways:

1. Unscheduled service-calls to clean clogged pumps were eliminated. This saved time and the maintenance budget.
2. The risk for basement-backups was eliminated.
3. Worker safety was improved as personnel no longer had to clean the hazardous stringy material from the pump impellers. The stringy debris contains hazardous waste and blood-borne-pathogens that are a health risk.
4. Energy bills at each lift station were cut by more than 50%.
5. The energy savings paid for the new pumps in 3 years.
6. Pumps now last longer due to reduced wear.



The retro-fit conversions were so successful that the Village of Hartland converted 3 additional lift stations to Flygt N-pumps.

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## **6. Changes to DNR Wastewater Plan Review**

By Gerald Novotny, WisDNR

On October 9, 2014 the Department of Natural Resources, Bureau of Water Quality initiated some changes to reduce paperwork and streamline wastewater plan approvals. Certain types of projects have been identified as eligible for expedited review. When an expedited review is requested, the goal for the plan review staff is to either approve the plans, or provide the reasons why the project does not meet the criteria for an expedited review, within 30 days of receipt.

A new one page form, 3400-205, has been created which should be submitted with all requests for plan approval. The form will allow us to quickly assess the nature of the project and route to the appropriate plan reviewer. The new form includes a box to check if an expedited review is requested.

An abbreviated facilities plan format has also been developed for minor modifications to municipal treatment plants and for sanitary sewer replacement and rehabilitation projects seeking Clean Water Funds. In addition all the plan submittal forms have been converted to a fillable PDF format.

It is expected that these changes will improve communication, clarify plan submittal requirements and reduce review times.

Information on the changes and the new forms are available on the wastewater plan review web page:

<http://dnr.wi.gov/topic/wastewater/SewerageSystems.html>.

Questions can be directed to Gerry Novotny, 608 267- 7625, or e-mail: [Gerry.Novotny@wisconsin.gov](mailto:Gerry.Novotny@wisconsin.gov).

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## **7. Wisconsin's Professional Engineer of the Year and Young**

## Engineer of the Year Awarded for 2014

By Ed Rodden II, WSPE Executive Director

Award Recipients:

Dave Werren, PE, Professional Engineer of the Year  
Kay Schindel, PE, Young Engineer of the Year

At our Discovery Conference held in Wisconsin Dells in May we welcomed and recognized two individuals:

### ***David Werren, PE: Wisconsin Professional Engineer of the Year Award***

Dave was born in Madison and obtained his Bachelor and Master's degrees in Civil Engineering at the UW Madison. He started work at Warzyn Engineering in Madison during college as a technician. He continued with Warzyn for 12 years, leaving in 1987 as the Chief Civil Engineer. At that time he started a Madison office of Baird & Associates, then a small consulting company of 5 people in Canada doing highly specialized coastal engineering work.

Dave is a registered PE in nine states, and has worked on projects in more than 40 foreign locations

### ***Kay Schindel, PE: Wisconsin Young Engineer of the Year Award***

Kay received his undergraduate degree in "Environmental Engineering" in Germany and graduated as "Master of Engineering" from the "Mechanical Engineering – Energy Systems" program of the UW-Madison. Kay has been a licensed engineer in WI since 2011. He has been working on designing and commissioning HVAC and solar systems, and building enclosures for over 8 years. Kay also oversees Maintenance of multiple facilities.

These two individuals were elected by their peers. Join us in congratulating them on their award.

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## **8. Support the Engineers Foundation of Wisconsin**

By Al Lindner, P.E.

ATTENTION!



Support the Engineers Foundation of Wisconsin with your tax deductible donation. EFW provides scholarships to high school students that plan on going to engineering colleges to study engineering. Last year the state foundation gave \$12,000 in scholarships plus scholarships that are provided by the WSPE local chapters.

For the first 4 people that donate \$50 or more I will send a license plate holder that announces that you are a Professional Engineer. The license plate holder is made from cast aluminum. I only have 4 license plate holders and the first 4 will be selected by the order of the email response to [al.lindner@graef-usa.com](mailto:al.lindner@graef-usa.com)

I will reply to everyone's email and indicate if you are one of the 4 and provide instructions on who to mail the check to.

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## **9. Earn 8 PDHs on November 11th at MSOE!**

By Brittney Lynn, Graduate and Professional Education at MSOE

Earn 8 PDHs at our [Make Better Decisions with Systems Thinking](#) professional education course on November 11th from 8am to 4:30pm on MSOE's downtown campus.

Brief description of the course: This one-day workshop is designed to immerse attendees in the basic concepts and applications of systems thinking in the business world. We'll define systems that exist in the workplace, look at system archetypes, discuss how systems behave, and consider their counter intuitive behavior. The class format will include both discussion and experiential activities that will focus on application of systems thinking tools and analysis in the workplace. Participants will be asked to forecast the outcomes of decisions being considered in their own workplace.

[Register now](#)

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## **10. Apply Today for the Wisconsin Manufacturer of the Year Awards**

By Katy Pettersen, Wisconsin Manufacturers & Commerce

Manufacturers contribute to the vibrancy of Wisconsin and our communities through good business practices, innovative processes, and productivity enhancements. Manufacturing creates economic growth and is the engine that drives the Wisconsin economy. The Wisconsin Manufacturer of the Year (MOTY) award program is an annual recognition of excellence in manufacturing. It celebrates the successes of manufacturers in the state: their innovations, philanthropy, technological advances, commitment to customer satisfaction, and quality jobs. Applications are being accepted through November 21. Visit [www.wimoty.com](http://www.wimoty.com) for more information and to apply.

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## 11. Voter Voice Legislative Action Center

By Ed Rodden II, *WSPE Executive Director*

WSPE is proud to introduce our **Voter Voice Legislative Action Center**.

We are in collaboration with NSPE and are utilizing a portal available through them:

<http://www.nspe.org/resources/issues-and-advocacy/take-action/voter-voice-legislative-action-center>

We will also provide a link to this area on our Continuing Professional Competency webpage <http://www.wspe.org/cpc.shtml> under the "Legislative" heading.

This mechanism will allow you, the WSPE members, to monitor certain bills, view current active advocacy campaigns, locate your legislator, and contact them either House or Senate. It provides the most convenient, and organization approach to communication with your legislators. By developing a profile, as a new user (from NSPE link above) you can be ready to act and view legislation affecting Wisconsin, National, and other state professional organizations. WSPE will create advocacy campaigns where members can read a particular bill. Within these bills you will know where it is in the legislature, who sponsors it, and the history since introduction. These campaigns will be made visible and administered by Executive Director Ed Rodden II, through discussion with VP-Government Affairs Glen Schwalbach, and President Pam Mazur. These campaigns will influence the Professional Engineer license or affect Engineer activities within Wisconsin.

**Word of Caution:** *Please keep your membership active, if you are delinquent or your membership expires, you will lose access to this site.*

When action is needed, we send out an eBlast notification asking you to respond if a piece of legislation is introduced, changed or becomes a larger concern to you, as a member and a Professional Engineer. You can communicate to your legislators through this portal by exchanging emails, direct mails, phone calls or faxes with the push of a button. WSPE will put the text together so all you will need to do is hit send to follow the society's stance.

If you have a piece of legislation which you would like us to consider or have concerns with, please contact our VP-Government Affairs, Glen Schwalbach at [glenschwalbach@netzero.net](mailto:glenschwalbach@netzero.net) (920) 680-2436 or our Executive Director, Ed Rodden II, WSPE Executive Director, at [execdir@wspe.org](mailto:execdir@wspe.org) (414)531-1129.

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## 12. Thank You WSPE Supporters!

Gold Level



Bronze Level



Are you interested in having your company support Wisconsin Society of Professional Engineers? Review our webpage dedicated to this initiative <http://www.wspe.org/sponsors.shtml>

Contact Ed at [execdir@wspe.org](mailto:execdir@wspe.org) (414) 531-1129 to understand this program further.

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### 13. Call for WSPE's Governors New Product Award (GNPA) Entries

By Dale R. Swenson, P.E., *Metro Chapter Member*

Registration is now open: <http://www.wspe.org/gnpe.shtml>. As WSPE members, please spread the word about this prestigious statewide competition. Over 70 companies and over 40 organizations have been contacted in regards to the competition. Several organizations have already committed to informing their members.

The deadline for GNPA entries is February 16, 2015. WSPE's GNPA banquet and awards ceremony will be held during WSPE's Discovery Conference (DC) in Green Bay, May 2015. If you cannot enter or participate in WSPE's GNPA competition, please consider WSPE GNPA Corporate Sponsorship: <http://www.wspe.org/2014GNPAForm02.php>.

WSPE's GNPA competition eligibility: Any new product, machine, process or material that has been developed in Wisconsin may be entered, provided that it was first placed on the market between 2009 & 2013.

Please contact myself or Ed Rodden with questions or interest.

Dale R. Swenson, P.E., WSPE GNPA Chair  
[gnpa@wspe.org](mailto:gnpa@wspe.org) (262) 366-5686

Ed Rodden II, E.I.T., WSPE Executive Director  
[ExecDir@wspe.org](mailto:ExecDir@wspe.org) (414) 531-1129

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### FREE 6-Month Trial Membership!

Interested in WSPE but not sure if you want to join? Try a 6-month FREE trial membership, courtesy of WSPE.

Go to [www.wspe.org/WI%206%20months%20Free%20Membership%20Application.pdf](http://www.wspe.org/WI%206%20months%20Free%20Membership%20Application.pdf) to download an application.

Contact Ed Rodden, WSPE Executive Director, at [ExecDir@wspe.org](mailto:ExecDir@wspe.org) for details.

### We Need Your News!

- 1 Is your chapter hosting an event?
- 1 Did your chapter get some new members?
- 1 Have you started your own business?
- 1 Is your company taking on a really challenging project?

If you said "yes" to any one of these questions, or would like to share anything even remotely newsworthy with the rest of WSPE, please contact Ed Rodden, WSPE Executive Director, at [ExecDir@wspe.org](mailto:ExecDir@wspe.org).

We look forward to including your news in our monthly updates!



Join the discussion at [WSPE's LinkedIn Group](#) or



["Like" us on Facebook.](#)



[Follow us on Twitter.](#)

### **We Need Your Email Address!**

If you are reading a paper copy of the WSPE eNews, you're missing out! Send your email address to Ed Rodden, WSPE Executive Director, at [ExecDir@wspe.org](mailto:ExecDir@wspe.org) or call him at (414) 531-1129 to receive electronic eNews.

### **Advertisers Wanted**

Help us offset the costs of producing this eNews by placing an advertisement here! If you are interested in advertising your company here, please contact Ed Rodden, WSPE Executive Director, at [ExecDir@wspe.org](mailto:ExecDir@wspe.org) or [\(414\) 531-1129](tel:4145311129).

Thanks for your help.

### **Update Your Information with WSPE**

Did you...  
...get a new job?  
...get promoted?  
...get a new phone number or email address?  
...get your PE license?

You can update your information yourself on the NSPE website!  
[Click this link to update your membership information.](#)

Alternatively, you can send your new information to Ed Rodden, WSPE Executive Director, at [ExecDir@wspe.org](mailto:ExecDir@wspe.org) or call him at (414) 531-1129 and he'll make sure your information is updated in both the WSPE and NSPE databases. We'd also like to include an article in the next eNews summarizing your recent change or accomplishment to inform your fellow WSPE members.

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### **WSPE Mission Statement**

*WSPE is an organization of licensed Professional Engineers (PEs) and Engineering Interns/Engineers in Training (EIs/EITs).*

*WSPE enhances the image of its members and their ability to ethically and professionally practice engineering through education, licensure advocacy, leadership training, multi-disciplinary networking, and outreach.*