

# CENTRAL STATES WATER

The Official Magazine of the Central States Water Environment Association, Inc.



Outstanding Member Association Award

Presented to

Central States  
Water Environment Association

2007

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# WEFTEC

Dennis Lindeke

This year's WEFTEC in San Diego was an outstanding success for CSWEA members. Association members honored for their contributions to the profession are as follows:

**Honorary Membership:** Dr. Bill Boyle, for his lifelong commitment to education and the affairs of WEF and CSWEA. Dr. Boyle has been an engineering professor at the University of Wisconsin. Only one or two WEF members per year are awarded this high honor. Beginning in 2008, CSWEA will be establishing a new award to recognize the contributions of teachers to environmental education. As an ongoing tribute, it will be called the "Bill Boyle Outstanding Educator Award".

**Schroepfer Innovative Facility Design Medal:** Tom Sigmund, formerly of CH2M Hill and now with the Green Bay Metropolitan Sewerage District, WI, with others, for planning, design and engineering services for a \$72 million project in Jackson County, Missouri. The project was to cost effectively increase the wet and dry weather capacity and treatment efficiency of the Little Blue Valley Sewer District's Atherton WWTP.

**Outstanding Member Association Award:** This year's award goes to all of us, the Central States Water Environment Association. Thanks go to Dan Lynch for preparing the nomination packet and revising and resubmitting it for several years. But really, the recognition goes to everyone who, over the years, has made this a first-class learning organization for water environment professionals.

## Operations Challenge

The two CSWEA Operations Challenge teams, the Shovelers and the Pumpers, again represented us well at WEFTEC '07 in San Diego. Thank you to Howard Jacobson, Rick Ashling and Jim Miller for their continuing leadership with this event. And thank you to all of the team members for the time and effort required to train for and participate in this exciting event. Special WEF recognition is coming to Jim Miller, as he has been involved with Operations Challenge for the entire 30 years of its existence.



## Young Professionals

In the last issue of this magazine I introduced a new WEF/CSWEA initiative to recruit new YP members. It is the half-price, three-year membership option. It has been a great success, with 11 new YPs taking advantage of this deal. If you have yet to recruit a new member and/or a new YP, this is a reminder to continue the search.

To demonstrate our ongoing commitment to YPs, CSWEA will initiate another award in 2008, called the

"Outstanding Young Professional of the Year" award.

## Midwest Water Industry Expo

The next event on our training calendar is the 3rd annual MWIE. It will be held January 23-24, 2008, in the Wisconsin Dells, Chula Vista Resort. It is a growing showcase for the equipment manufacturers and distributors that serve our profession. In addition to the equipment expo, 18 hours of technical programs are presented providing the opportunity for both wastewater and public water supply operators to obtain cost effective certification renewal contact hours. Information on booth and attendee registration is available at [www.cswea.org](http://www.cswea.org).

## WEFMAX

This is a training session put on by WEF staff and WEF leadership for association members in positions of leadership. It is also an opportunity to share success stories. WEF association members from across the country discuss what they have learned about leading a volunteer group such as ours. The conference will be held in Minneapolis, March 13-15, 2008, at the same location that the 2008 annual CSWEA conference will be held. At last year's WEFMAX conference in Chicago, over 80 persons attended. All state section chairs, committee chairs and executive committee members are strongly encouraged to attend. Note that this new magazine you are reading was first introduced at a WEFMAX meeting.

## 2008 Annual Conference

Mark your calendars for May 19-22, 2008. The conference will be held at the Minneapolis Sheraton South Hotel, in

Bloomington. It is an excellent conference center, with everything under one roof, on one floor. The location is also convenient, about 10 minutes west of the airport and the Mall of America. Dr. James Barnard, a pioneer in the development of the Bio-P process, will be the keynote speaker. Paul Douglass, local TV meteorologist and author, will be the farewell breakfast speaker. It has been said that these annual conferences are only for engineers and managers, not operators. To address this concern, we will be having an all day track called "Operations Forum", with timely presentations on plant operations and collection systems. There is also the ongoing concern that the exhibit sessions are not well attended due to conflicts with technical sessions. This year the exhibit sessions will stand alone one afternoon, with no competing technical sessions.

### Training

The primary mission of WEF/CSWEA is to train professionals to protect the abundant water resources on this planet. This training takes many forms, from small specialty seminars such as laboratory techniques to huge events like WEFTEC. The business of protecting the water environment continues to evolve and we all need to keep pace with the changes. CSWEA, and other related professional groups, are chartered to present training that reflects basic industry knowledge, as well as ongoing changes in our industry.

At the core of our business are the plant and collection system operators. The engineers, managers, manufacturers, educators, etc. all serve to provide the operators with modern facilities to effectively and efficiently

treat wastewater and protect our water environment. These operators are in day to day charge of billions of dollars of complex infrastructure that is critical to protecting our water environment. Municipalities struggle to provide resources for training, such as that provided by CSWEA. However, without trained staff these facilities are at risk of meeting the goals of producing clean water. I believe that every operator should strive to obtain the highest level of certification possible for his/her facility. This serves two purposes: 1) To achieve certification an operator must demonstrate basic knowledge on a wide variety of topics that will increase their job performance and job satisfaction. 2) To maintain this certification they must attend ongoing training to continually improve their knowledge and performance, and to stay current with changes and new information for the profession.

As a facility manager I want all of the operators trained to the highest level possible. They need to make informed, independent decisions on processes and equipment to best protect the public's investment and our water environment. As a manager, I am also responsible for creating an environment where operators can effectively use this knowledge to the benefit of the public. In my absence, I want to have a high degree of confidence in the operators' skill and knowledge, which is the result of being trained and certified.

Each of us has a personal and professional responsibility to make certain that high-quality initial and ongoing training happens. As facility managers, engineers, educators, etc. it is our responsibility to ensure that our policy makers understand the need and value of training. CS

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# Plan to Attend

Eric R. Lecuyer

As I write my message on Thanksgiving Day, it occurs to me that we have been blessed within Central States over the past year and should be very thankful for those blessings. We have experienced a period of growth and success as an association and our future appears to be very bright. We hope each of you have had a wonderful holiday season and are looking forward to the New Year with the same optimistic outlook. While I have been reflecting on the past year and looking forward to the new, I have been struck by just how busy we have become. A quick check of the calendar of events in this issue of *Central States Water* will confirm the health and vitality of our association with many more activities, seminars and conferences scheduled throughout the year. Just a few short years ago, Central States conducted two events per year: the Annual Meeting and the Education Seminar. For 2008 Central States will host or co-host eight events, beginning with the Third Annual Midwest Water Industry Expo and culminating as CSWEA is one of the co-local hosts of WEFTEC '08 in Chicago! Add in the various State Section events and CSWEA and its sections have 26 events during 2008. No wonder we are all so busy.

It is also exciting to realize that we have not simply increased the number of events, but we have worked hard to improve the quality of each event, making each worthy of including in your busy schedule. We are very conscious of the many competing factors that we face; employers universally expect us all to do more with less, family time seems to be more and more compressed and extra curricular activities, like serving on CSWEA committees, attending CSWEA events and volunteering your time only makes sense if there is a high value return for that time investment. Our goal is to always make your time investment worthwhile, whether attending our Education Seminar, Annual Meeting or one of the many Section seminars. The return on your time investment must be more than meeting a continuing education requirement. It must provide you with value: value in social and business networking, value in seeing the latest technology and learning the latest techniques and emerging issues, value in helping shape regulations and having a voice equal to that of our pseudo-environmentalist friends and value in your personal



and professional development. At Central States, we are working hard to earn your attendance by seeking the very best technical sessions possible and by providing the most enjoyable conference experience possible, and by assuring that you have fun, too. If it has been a while since you have been to a CSWEA or section event, do yourself a favor and sign up, invest a few days in your professional development and ongoing training or education with Central States. You will not be disappointed.

With this tremendous growth in activities it seems that we are depending on the same few hands to cover many of the organizational and behind-the-scenes efforts that it takes put on each event. Working on a local arrangements committee or planning a seminar is a fun and rewarding experience. If you have been looking to get involved in a leadership role in Central States, now is the time. Many hands make for fast work; few hands makes for drudgery, overextensions of volunteer time and burnout. Contact your State Section Chairs and CSWEA Leaders and ask how you can get involved. Join a committee and become part of something much bigger than we each are as individuals. You will find this to be a rewarding and fulfilling experience.

I must recommend that all CSWEA and section leaders, committee chairs and members and anyone else interested in the future of CSWEA and WEF attend WEFMAX '08, hosted by CSWEA in Bloomington, MN this March 13-15, 2008. WEFMAX offers a unique opportunity to network directly with the future president of WEF and leaders from many other WEF member associations from around North America. I have had the good fortune of attending many WEFMAX meetings over the years and have never failed to pick up a few new ideas and come away with renewed enthusiasm and optimism about the future of Central States, the Water Environment Federation and our collective abilities to improve and preserve the world's water resources. This is yet another event that should not be missed.

Why not take a minute now and flip to the CSWEA Calendar of Events (page 53) and reserve each of the dates in your calendar to ensure that you have a fulfilling and rewarding year in 2008. CS





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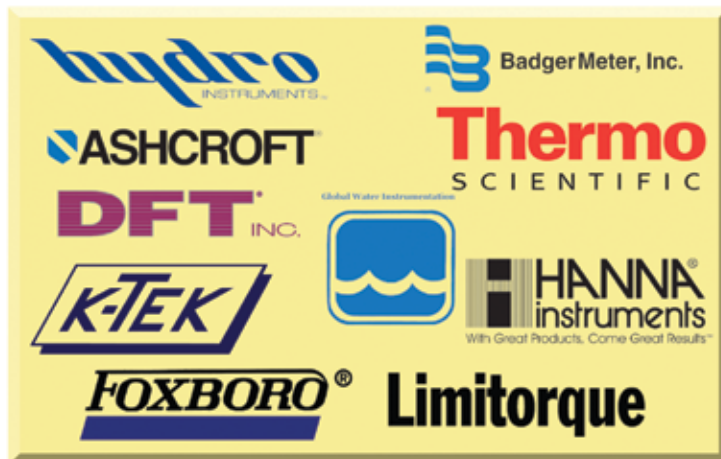
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# CSWEA/IWEA WEFTEC '07 Welcome Reception

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Over 350 Central States and Illinois members enjoyed yet another outstanding Welcome Reception at WEFTEC '07 in San Diego. A special thanks to our many sponsors who made this event possible. Please be sure to support and thank our sponsors, listed below:

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Nancy and Bill Boyle at the WEFTEC awards ceremony.



WEF Past President Michael Read presents Lindsey Bergsven with the Winning Student Paper Award.



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Bill Boyle and Rusty Schroedel.



Eddie McCall and Joan McNamee.



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# Operations Challenge at WEFTEC '07

By Howard Jacobson

**T**he 2007 Operations Challenge Teams again represented CSWEA by exceeding expectations in placing 24th (Shovelers) and 28th (Pumpers) at the National Competition at WEFTEC '07 in San Diego.

A special thank-you should go to the Team Captains, Jim Miller, Rick Ashling, vendors and manufacturers who donated their time, materials and cash to help fund this event. Special thanks to Paul Nehm and his staff at Madison Metro Sewerage District for allowing the teams to use their facility for training.

The event standings were as follows:

**Shovelers' standings:** Collections 20th, Maintenance 28th, Process Control 12th, Safety 24th & Lab 27th.

**Pumpers' standings:** Collections 23rd, Maintenance 25th, Process Control 18th, Safety 27th & Lab 28th.

The experiences provided by this organization to the team members and support people are truly appreciated.

The goal of this program is to provide continued education, professional growth and camaraderie between the participants. I feel that

this event shall continue to prove to be beneficial to the organization by challenging its membership and providing for the future leadership of CSWEA. We would also like to thank our sponsors for Operations Challenge. Supporting CSWEA's Operations Challenge teams were: Process Equipment Repair Services, TKDA, Earthtech, ITT Flygt Corporation, Parsons Engineered Products, HDR, Pipe Services Corporation, Greeley and Hansen, Quality Flow, Peterson and Matz, Inc and Bonestroo, Rosene, Anderlik & Associates, Inc. CS



CSWEA's Shovelers attack the Collection System Event.



CSWEA's Operations Challenge 2007 Pumpers and Shovelers teams.



CSWEA's Pumpers pose with their namesake, monster pump.



Less Lange (R) fills PWO Rep Howard Jacobson in on something that the Ops Challenge teams did.



IL Section Chair Sue Baert served as an Operations Challenge judge for the lab event.



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# Announcing the 3rd Annual Midwest Water Industry Expo

By Dan Lynch and Jay Kemp

**T**he **Annual Midwest Water Industry EXPO**, jointly sponsored by Central States and the Wisconsin Water Association, brings together water and wastewater professionals with equipment suppliers and manufacturers to promote the free exchange of information. Our goal is to bring a quality water and wastewater exposition to the upper Midwest so operators and others have a chance to see equipment that is usually only on display at national conferences. The EXPO is also the exhibitors' opportunity to present their goods and services to their current and potential customers in a venue dedicated to promoting the latest technology and equipment. We expect the third EXPO to build on the success of the first two.

The EXPO planning committee has grown to 14 individuals thanks to an infusion of vendors following last year's event. The expanded membership has made the committee stronger and will make the **3rd Annual Midwest Water Industry EXPO** the best so far. The EXPO is becoming the exhibitor's event.

Registration brochures will be sent to over 19,000 operators and facilities in Wisconsin, Illinois, Minnesota and Iowa. We have improved pre-event publicity with ads and articles in publications in all four states. A new, more professional advertisement is being used as well as a redesigned attendee brochure. Continuing education credits (CEUs) for this year's EXPO will be increased from two to four CEUs per day for Wisconsin and Iowa operators with similar amounts expected for Illinois and Minnesota.

The **3rd Annual Midwest Water Industry EXPO** will be held on **January 23-24 at the Chula**

## Vista Resort in Wisconsin Dells.

The Chula Vista is a premier Wisconsin Dells vacation resort set in the woods along the Wisconsin River. The newly remodeled Chula Vista offers an indoor water park, several unique shops and the same amenities as the Kalahari. A discount rate of \$99 per night is offered to attendees; the reservation deadline is December 23. Rooms sell out quickly, so plans should be made soon. Although at a new location, the 2008 EXPO will continue many of the past EXPO highlights, including:

- A fundraising raffle worth thousands of dollars in prizes with the proceeds going to help solve water or sanitary problems in third world countries
- Over 100 exhibitors
- Over 700 attendees
- Over 30 vendor presentations
- Wednesday and Thursday lunches and a Wednesday meet-and-greet

We appreciate everyone who exhibited and attended in the past and hope many more will join us in 2008. The past EXPOs would not have been successful without the large number of operators and other water professionals who attended. The EXPO is a great mid-winter break and learning experience in a relaxed setting. We want to see all of you at the Chula Vista in January 2008.

The first and the second EXPOs were both very successful with favorable comments coming from both the attendees and the exhibitors. We expect to see the growth of the EXPO continue with the **3rd Annual Midwest Water Industry Expo** – it's only going to get bigger and better! If you were not part of the first two EXPOs, you missed a great experience so plan on coming to the third. You won't regret it. See you in the Dells! CS



# Exhibitors

(Listing current as of December 14, 2007)

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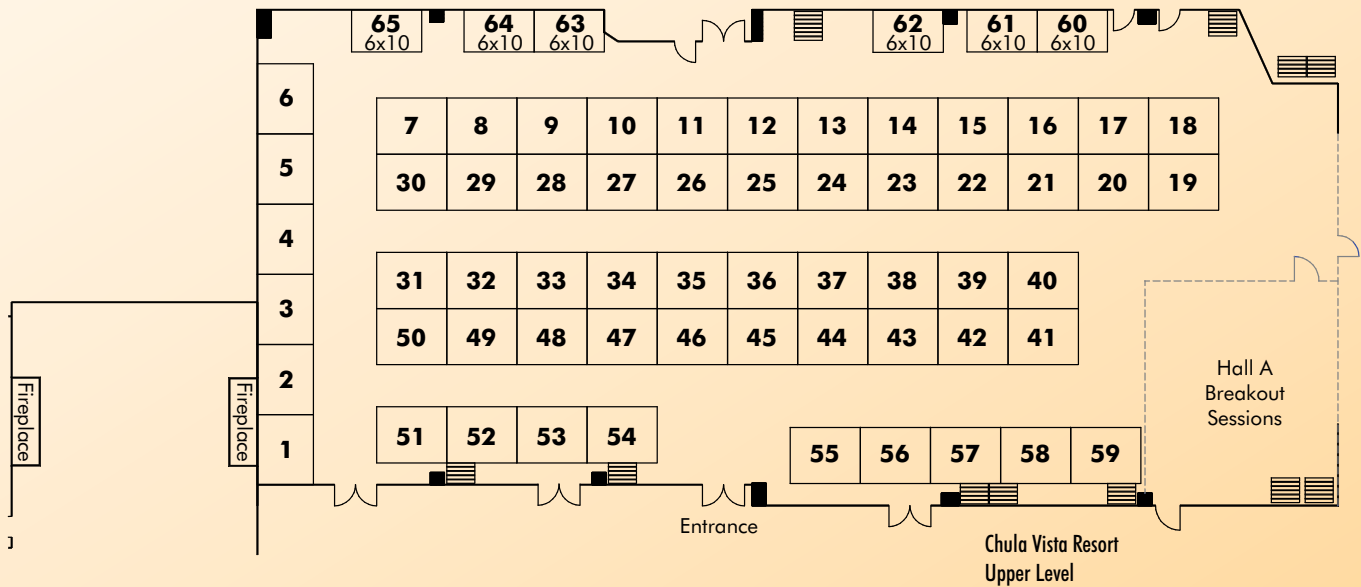
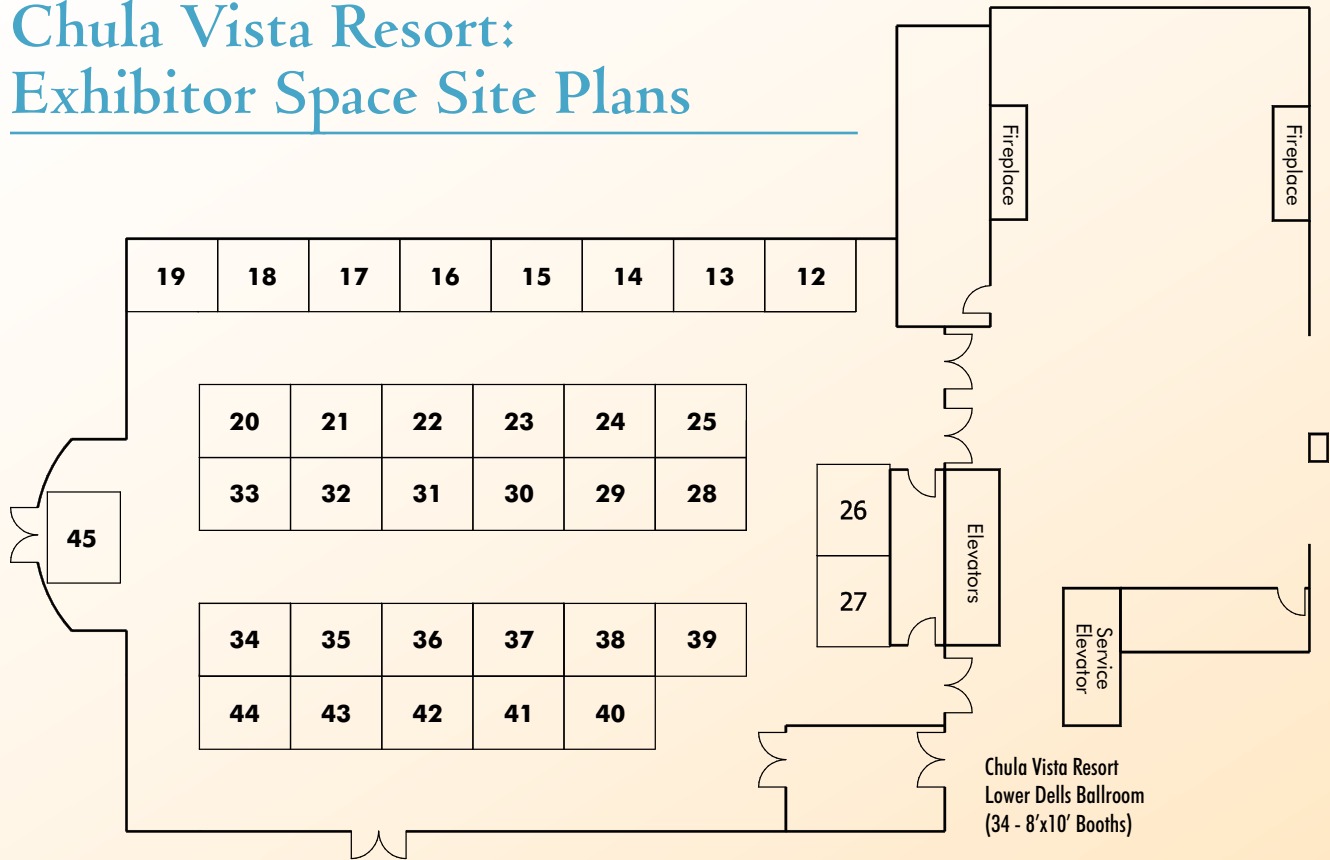
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## Vendor Talks Program



The following half-hour vendor talks have been scheduled for MWIE '08 as of December 2, 2007.

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Ruekert/Mielke	Sensus Meter Company
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Up to 30 half-hour presentations will be made during MWIE '08, with contact hours and CEUs being awarded by Minnesota, Wisconsin, and Illinois agencies.

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# Getting the most out of attending a trade show

**G**oing for a stroll through the park brings great rewards. The soft scent of the flowers, children's happy laughter, and wildlife peeking through the foliage are just some of the delights that can await you. Meandering through a trade-show though, only wastes time and money, ultimately causing great regrets. Learn how to successfully apply your time and then reap the rewards received from careful planning.

- Obtain a map of where the exhibitors are located from the event's organizers. It will make it easier to plan your strategy.
- Make a list of exhibitors that interest you. Have "must see," "should see," and "want to see" sections. Stick to your list. Prioritize.
- Design a lead gathering form. It is an evaluation tool that will help you compare one vendor's product to another.
- Have specific goals. Make them quantitative. Know exactly what it is you are looking for.
- Research the different vendors to find similarities and differences. Plan intelligent questions to ask them.
- Consider contacting those you "must see" before the show and make an appointment. Often, people have their time booked before the date of the show.
- Book your air travel and hotel accommodations early. It will save you money and worry.
- Arrive at the show a day early. Being rested will give you the dynamic outlook you need to get the best experience from the show.
- Carry stacks of business cards, hand them out, and have a case for carrying the ones you receive home.
- Attend the demonstrations. Many exhibitors will either have video demonstrations or product demonstrations scheduled or ongoing.
- Read the exhibitor directory. It is loaded with information.
- Use the first hour and the last hour of show hours wisely. These are the times when the exhibit hall is not busy.
- Work the room with a "wing man." If you get stuck talking, he or she can help you exit gracefully, but more importantly, having a partner will help you make critical decisions on the spot.
- Take a light bag to store give-aways. Plastic bags can cut into your hands. A soft cloth bag may minimize the discomfort.
- Pack comfortable shoes and clothes. High heels can become daggers to your soles. Consider insoles.

By keeping these considerations in mind, your time at your next trade-show should be as easy as a walk in the park and as valuable as a fistful of dollars. CS

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# CSWEA Receives WEF's Outstanding MA Award at WEFTEC '07



*In awarding the Outstanding MA Award to CSWEA, WEF Speaker of the House Deb Houdeshell cited the award nomination package prepared by Dan Lynch, titled "Reinventing CSWEA". The following is the member association biography that was submitted as part of that award winning nomination submittal.*

The Central States Water Environment Association was formed at a meeting of individuals interested in sanitary engineering held at the Chicago University Club on December 17, 1927. Those present represented the states of Illinois, Indiana and Wisconsin. Association members were heavily involved in the

initial formation of the federation and took an active role in the early years of the federation. The association hosted the first meeting of the federation's board of control in 1928 and the first national meeting for the general membership in 1940, both in Chicago. Association cities have hosted many other federation annual meetings and events over the years. Minnesota joined the association in 1934, Indiana left in 1958 and Illinois formed an additional member association in 1979. To solidify the association as one organization, while still allowing the sections to operate as semi-autonomous units within their respective states, the association just completed a major governance change.

The association and its sections both have independent decision-making boards and self-sufficient financial resources. They also have their own committee structures, but these committees deal with somewhat separate issues. In a general sense, the association committees deal with issues

of common interest throughout the association (i.e. awards, governance, association activities and events), while the section committees' focus more on operational, regulatory and/or other issues within the state. The areas of overlap between association and section committee are those in which there is a common interest including the new public education, membership, and students and young professionals committees. These committees were recently reactivated/created at the association level to provide coordination between, and support to, the state sections.

The association currently sponsors four separate major events, the annual meeting, the education seminar, the Midwest Water Industry Expo and the WEFTEC Social. The expo is the newest event. It is a WEFTEC-like equipment exposition targeting water and wastewater operators in four states of the upper Midwest. The association's other major ongoing activities include its newsletter, the website, the awards

### OUTSTANDING MA AWARD

L-R Bob Clavel, Dan Lynch, Rick Ashling, Eric Lecuyer and Carol Strackbein are presented with WEF's Outstanding MA Award by WEF House of Delegates Speaker Deb Houdeshell and WEF President Mohamed Dahab.

(Photo by Ted Denning, courtesy of Illinois Clarifier)



program, the Operators Challenge and student chapters. The sections also sponsor nine seminars independent of the association. These seminars are generally co-sponsored with other water and or wastewater professional associations within their state and cover topics of interest to the water environment industry, such as: operational issues, collection systems, bio-solids, government affairs, management, security, etc. The association and section events serve about 3,000 people per year through these seminars.

The association and the sections have active student outreach programs with nine current student chapters and more under development. The association has successfully completed its first three student paper competitions (with the association representative winning the 2004, 2005 and 2007 WEF paper competitions). In May 2005, the association held its first student design competition at the association conference. The student design competition winner went on to place third in the WEF competition, in 2006 the design team placed second. The association has had strong representation in the Stockholm Junior Water Prize since it started in 1997 with association representatives winning the U.S. competition in 1999 and taking one of three finalist positions in 2000, 2004, 2005 and 2006.

Central States continues to thrive thanks to the dedicated efforts of its leaders and many volunteer members. The entire membership of CSWEA should take great pride in receiving this coveted award and take pride in the leadership and vision provided by our officers and members as we re-invented ourselves. Congratulations to all involved. CS

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# Planning the Future for Wastewater Pumping Stations in Madison

By Ned W. Paschke, PE and Michael E. Simon, PE, MBA

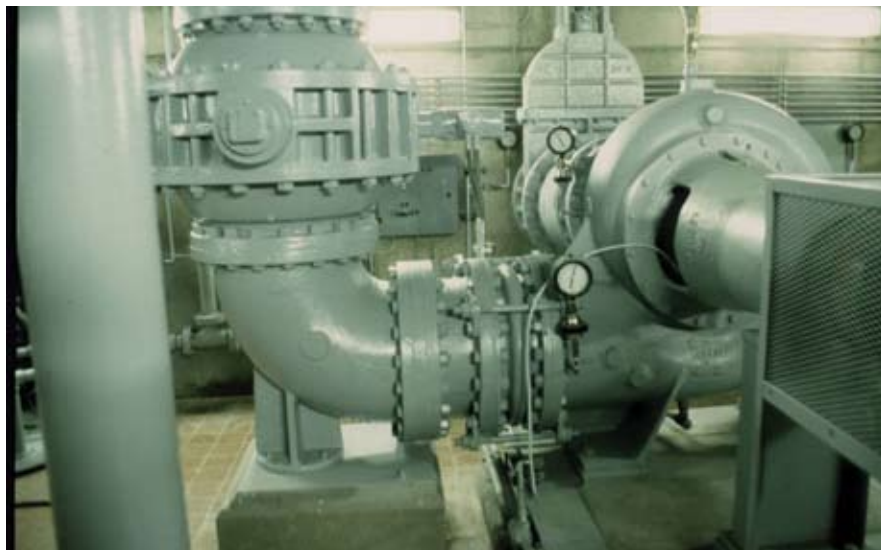
## BACKGROUND

Anticipating significant growth and recognizing the ongoing effects of age, wear and corrosion, the Madison Metropolitan Sewerage District (MMSD) completed a detailed assessment of its wastewater collection system in 2002. The resulting MMSD Collection System Facilities Plan examined all major components of the collection system and presented a prioritized 20-year plan of recommended improvement projects. The facilities plan also studied collection system screening and solids handling alternatives, maintenance practices, and special flow diversion opportunities within the metropolitan area.

The first five-year period of recommended projects and activities is now essentially complete. Looking back, a key aspect of the MMSD facilities plan concerned the evaluation and recommendations for its 17 regional wastewater pumping stations. The system is somewhat unusual in that all flow is pumped into the Nine Springs Wastewater Treatment Plant through remote pumping stations and forcemains. The geography of the Madison area, including a central isthmus and multiple large lakes with their respective drainage basins, has contributed to MMSD's use of regional pumping stations. The pumping system today serves a population of 330,000 and transmits an average daily flow of 42 MGD.

## PUMPING STATION CAPACITY, CONDITION, AND CRITICALITY

The pumping station evaluation work began with a detailed review of source data available for the 17 stations and their individual pumping units. A typical MMSD station (see above photo) is equipped with three or four pumping units, with some having as many as six or as few as two. Individual motor sizes ranged from 30 HP to 500 HP, and individual pump ages ranged from six to 74 years. The initial work also included detailed 20-year population



Inside a typical MMSD pumping station.

projections, flow projections, and socioeconomic forecasts for the individual drainage basins prepared for MMSD by the Dane County Regional Planning Commission.

The capacity of each pumping station was examined in several ways. The maximum existing pumping capacity was documented based on actual installed pumping equipment in each station. Some stations achieved their maximum capacity with the largest single pump operating, while other stations used parallel operation of multiple pumps. The "firm" existing pumping capacity was also documented, i.e. the pumping capacity remaining if the largest single pump is not available for service.

To allow comparison between stations, the actual pumping capacities were compared to a regional MMSD design curve used to set design capacities for new wastewater facilities. The design curve reflects the trend that larger stations, with larger service areas and populations, tend to experience relatively lower peak-to-average flow ratios due to attenuation of flows and travel times within the collection system. The present actual flows at each station, and the projected

20-year future flows, were used to compute benchmark peak pumping capacities at each station for the present and the 20-year future. These benchmark peak capacities were then compared to the actual maximum and firm pumping capacities installed in each station.

The results of the capacity analysis (see Table 1) identified a substantial range in the relative status of the 17 pumping stations. The present maximum pumping capacities ranged from 83% to 359% of the benchmark values, and the present firm pumping capacities ranged from 50% to 359%. For the 20-year future scenario, the existing maximum pump capacities were 67% to 159% of the benchmark, and the firm capacities were 40% to 159%.

Physical condition was another important consideration in evaluating the MMSD pumping stations. Four mission-critical categories were considered for each facility, and each category was evaluated by MMSD staff using a five-point scale:

- a) Condition of mechanical systems, including pumps, motors, screens and valves

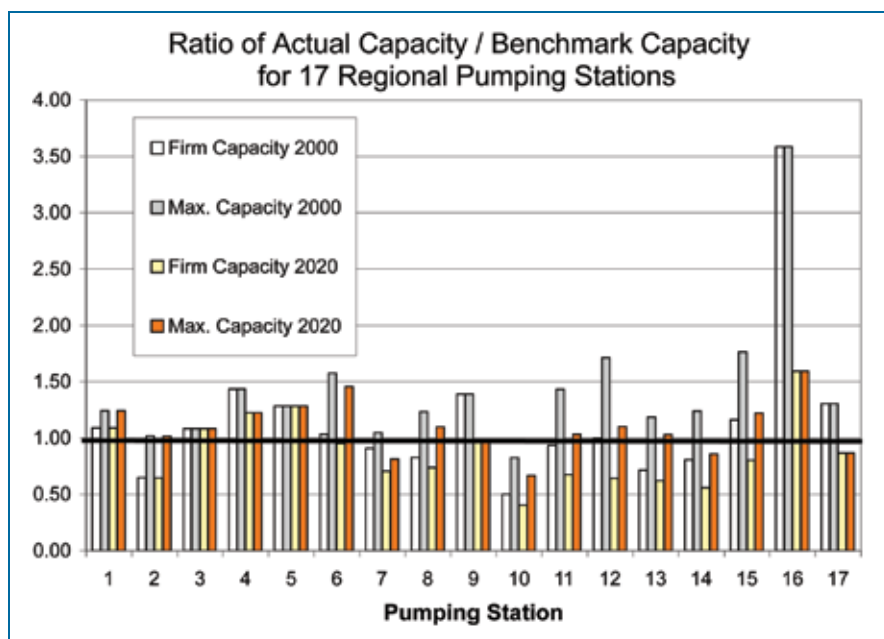


Table 1: Evaluating peak and firm pumping capacities.

Capacity and Condition Evaluations							Station Criticality Factor (1.0 - 2.0)	Overall Score	Drainage Ranking by Unmet Needs (1-17)	Pumping Station
Pumping Station	Max. Flow Capacity (3 points)	Firm Flow Capacity (3 points)	Power System Resilience (3 points)	Woods Condition (3 points)	Slag & Stack (Condition) (3 points)	Elec. Condition (3 points)				
PS 1	2	2	3	3	3	3	20	115	25.36	PS 1
PS 2	2	2	3	3	2	3	20	115	25.36	PS 2
PS 3	2	2	2	2	4	3	19	100	22.86	PS 3
PS 4	2	2	4	2.5	2	2	14.5	75	12.86	PS 4
PS 5	1	2	3	3	3	1	9	50	7.27	PS 5
PS 6	1	2	3	2	3	3	15.5	80	14.86	PS 6
PS 7	2	2	2	2	1	1	11	60	12.86	PS 7
PS 8	2	2	3	2.5	2	4	15.5	80	14.86	PS 8
PS 9	2	2	4	2.5	2	2	14.5	75	12.86	PS 9
PS 10	4	2	3	2	2	4	20	120	25.36	PS 10
PS 11	1	2	2	2	2	2	14	70	12.86	PS 11
PS 12	1	2	4	2	2	3	16	80	14.86	PS 12
PS 13	2	4	4	2.5	3	4	19.5	110	21.43	PS 13
PS 14	2	4	4	2.5	3	2	15.5	80	14.86	PS 14
PS 15	1	2	2	2	4	2	16	80	14.86	PS 15
PS 16	2	2	2	2	2	2	10	50	7.27	PS 16
PS 17	2	2	1	2	2	1	8	40	5.45	PS 17

Table 2: Assessing the stations by capacity, condition and criticality.

- b) Condition of electrical systems, including power supply, controls and instrumentation
- c) Condition of building and structural components, including sump, dry-well, and access

- d) Redundancy of power supplies, including the relative independence of dual electric feeds and/or on-site generation.

A criticality factor was also applied to each of the pumping stations. The criticality factor (a numeric value ranging from one to two) represented the overall importance of the facility and the severity of impacts associated with a possible failure. Elements of station criticality included flow volume, number of tributary stations, available length of down-time before occurrence of backups, and availability of alternative flow routes.

The results of the capacity, condition and criticality assessments (see Table 2) provided a useful comparison of the MMSD pumping stations, and set the stage for identifying specific alternatives for future improvements.

### RECOMMENDED PROJECTS

The evaluations of capacity, condition and criticality helped MMSD to quantify the strengths and weaknesses of each station, and to rank the 17 stations based on their improvement needs. The system-wide interactions between the different stations, interceptors and force-mains were also considered, to identify where and how specific improvement projects should be combined.

Ultimately, 62 projects were identified and prioritized throughout the collection system, representing a total estimated investment of \$84 million (in year 2000 dollars) over 20 years. These recommended projects were organized into five-year windows, and tracked by timing, cost, driving force (i.e. capacity, condition, or both), and drainage basin.

One of the largest initial projects focused on three of MMSD's large central pumping stations. Pumping

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“Considering the desirability of adding greater flexibility and redundancy into the collection system, a new, enlarged cross-town forcemain was recommended to work in tandem with the upgraded pumping stations.”

Stations No. 1 and No. 2, located on opposite ends of the central isthmus, and Pumping Station No. 10 on the east side, were rated as facilities with the highest overall needs for improve-

ment. With high criticalities, aging electrical equipment, and limited peak pumping capacities, the three stations were targeted for major rehabilitations, including expanded pumping capaci-

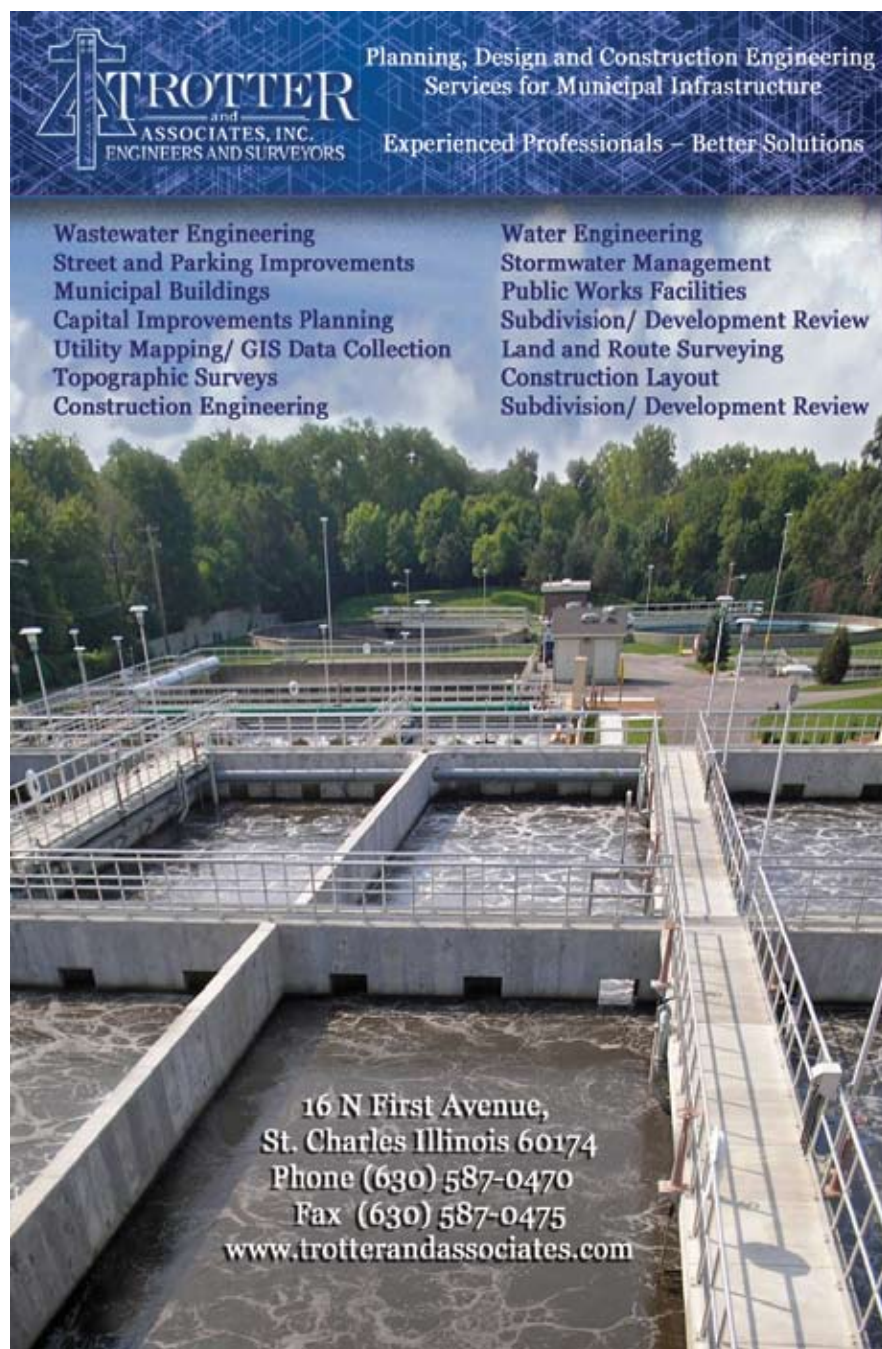
ties and complete replacement of their mechanical and electrical systems.

A related issue was an 87-year-old, semi-retired 3.5-mile cross-town forcemain, in poor condition and used only intermittently for limited flow diversions between the east and west sides of the collection system. Considering the desirability of adding greater flexibility and redundancy into the collection system, a new, enlarged cross-town forcemain was recommended to work in tandem with the upgraded pumping stations. By coordinating the design of the pumping stations with the new cross-town forcemain, the new system allows for central Madison wastewater flows to be diverted in either direction to reach the treatment plant during high flow events or emergencies.

### LOOKING BACK ON THE FIRST FIVE YEARS

As of 2007, construction has been completed for nearly all the projects recommended for the first five-year period. This phase included the successful completion of the highest priority projects across the collection system, including the rehabilitation of the three large pumping stations, construction of the new cross-town force main, installation of redundant power feeds and larger firm capacity equipment at specific stations, multiple interceptor relief and replacement projects, system-wide telemetry improvements and creation of a system-wide dynamic flow model.

The collection system facilities plan created a strategic source of information for MMSD to help prioritize needed improvements. It also provides an ongoing framework for regular planning updates as improvements are completed and as new challenges arise. MMSD continues to use the outcome of the facilities plan as a guide to drive its capital budget process, and is updating the plan for the next five-year period. CS



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Ned W. Paschke, P.E. is program director for the University of Wisconsin-Madison Department of Engineering Professional Development.

Michael E. Simon, P.E., MBA is Assistant Chief Engineer and Director of Planning for the Madison Metropolitan Sewerage District.



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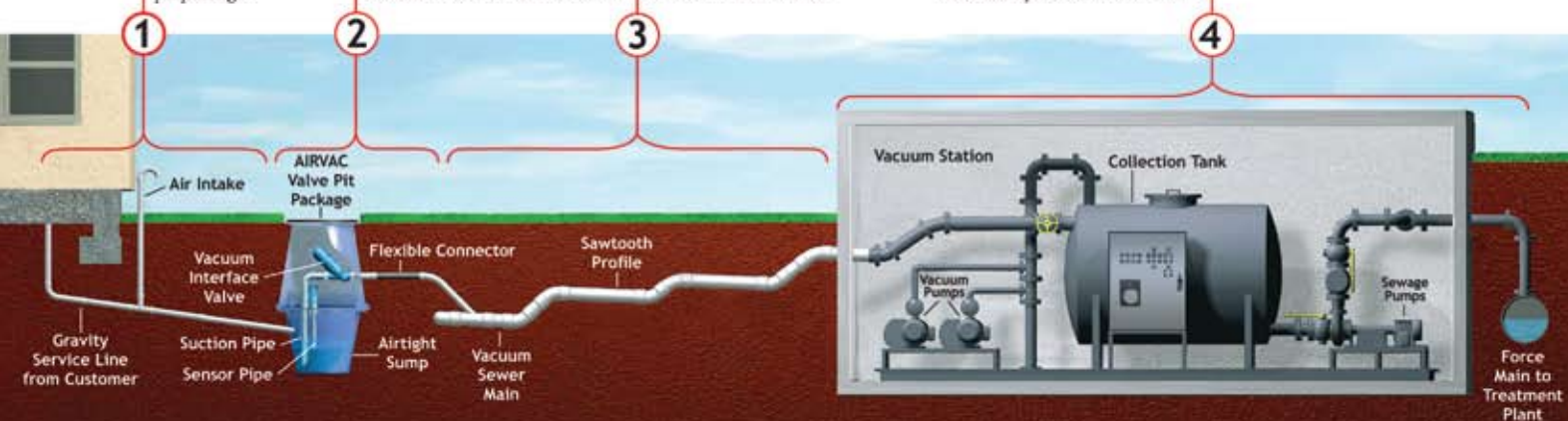
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# Professor Bill Boyle Honored by WEF & CSWEA

Longtime CSWEA and WEF member Bill Boyle was awarded an Honorary Membership by WEF at WEFTEC '07 in San Diego. WEF bestows very few honorary memberships and recognizes individuals who have proven their preeminence in the fields of activity encompassed by Water Environment Federation objectives\*. The recipient of this honor shall: be elected for life, be awarded a plaque by the federation, pay no federation dues, and receive, without cost, those publications of the federation that the house designates. Bill's career has spanned over 45 years of dedicated service. While most of us are familiar with Bill's involvement within CSWEA, he has also been a dedicated contributor and leader in WEF, WERF, ASCE and AAEE, in addition to educating thousands of undergraduate and graduate students in environmental engineering.



To further honor Bill Boyle for his many years of service to the profession and as a leading educator in the civil and environmental engineering fields, the Central States Water Environment Association has created a new award category, the **Bill Boyle Outstanding Educator Award**. This award will be bestowed each year at the Annual Meeting to the member who best exemplifies the commitment to education and the advancement of technical knowledge in the field of water and wastewater engineering. The **Bill Boyle Outstanding Educator Award** recognizes accomplishments in the education and development of future water environment professionals by educators at all levels, from primary grades through graduate students. This award honors Professor William C. Boyle, a professor emeritus of environment engineering at the University of Wisconsin, Madison where he served as mentor to many CSWEA members. Beyond his role as educator, researcher and mentor, Bill Boyle has served the Central States Water Environment Association throughout his career as a tireless promoter of ongoing education and training and a facilitator of many successful technical programs and events. CS

## WEF Objectives:

- Advance the fundamental knowledge of the water environment, its basic qualities, and physical laws governing its interaction with other aspects of the environment and with the aesthetic, economic, and biological needs of the Earth's inhabitants.
- Advance the knowledge and technology in the design, construction, operation and management of water quality systems and facilities.
- Increase the knowledge and understanding of the Earth's water environment, and encourage and promote action necessary for its enhancement.
- Develop and implement effective delivery mechanisms to rapidly disseminate knowledge concerning the water environment to members and to other interested parties.
- Promote sound policy in matters relating to the water environment.
- Improve the professional status of all personnel engaged in any aspect of protecting and improving the Earth's water environment.
- Strengthen and build alliances with organizations throughout the world incorporating members of all professions dedicated to the preservation and enhancement of water quality and water resources.
- Stimulate public awareness of the relationship of water resources to the public welfare and the need for pollution prevention, resource recovery, preservation, conservation, and reuse of water resources.
- Serve the international community of water environment professionals.



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# The City of Willmar, Minnesota Wastewater Treatment Facility

The Willmar is the Kandiyohi County Seat, and is located approximately 100 miles west of the Twin Cities.

The wastewater treatment facility serves the City of Willmar (population 18,488) and the Eagle Lake Sanitary District (population 961). Developed areas surrounding Eagle Lake, Willmar Lake, and Foot Lake lie inside the service area. The wastewater treatment facility also treats discharges from Jennie-O Turkey Store, approximately 40%, 60% and 30% of the average annual flow, BOD5 loading, TSS loading, respectively originate at the two JOTS locations.

The original plant, constructed in the 1930s, has had many upgrades with the first being in 1960 then 1980, 1988 and 1996.

The existing treatment facility consists of a mechanical bar screen, aerated grit chamber, fine rotary screens, four primary sedimentation clarifiers, roughing/trickling filter followed by 32 rotating biological contactors, two secondary clarifiers and the chlorination unit. Biosolids treatment includes a gravity thickener, two anaerobic primary digesters, two secondary digesters and a 1.9 mg biosolids storage facility.

The system also includes three odor control units. An Earthen Biofilter treats odors from the roughing/trickling filter. As of 2005, the existing collection system included 1,709 manholes and 93.5 miles of ranging in diameter from eight to 38 inches. The city also maintains 16 lift stations within the city service area and nine county-owned stations around Eagle Lake. The wastewater treatment facility discharges its effluent to County Ditch 46, which eventually discharges to the Minnesota River.

The existing plant design summary is as follows:

Design Flow: 5.04 MGD  
Peak Design Flow: 8.64 MGD  
Average BOD5 Loading: 10,800 ppd  
Average TSS Loading: 13,500 ppd



Design Population: 15,900  
Design Equivalent Population: 63,500  
(with industrial load)  
Effluent BOD5 Standard: 25 mg/L  
Effluent TSS Standard: 30 mg/L  
Effluent Fecal Coliform Limit:  
200 per 100 ml

The city has agreed to construct a new treatment facility that will be designed and constructed to be operational in the fall of 2010. The estimated project cost is \$80,000,000.

## THE PROJECT:

The relocation of the 70-year-old WWTP, because of the existing WWTP's

- Inability of the existing treatment process to meet the city's regulatory requirements.
- Continued aging of the outdated (failed) treatment technology.
- Continued city growth resulting in increase flows and loadings.
- Upcoming regulatory changes in

water quality associated with the Minnesota River.

The new plant proposed plant design summary is as follows:

Designed Flow: 5.24 mgd  
Peak Design Flow: 27.36 mgd  
Average BOD5 Loading: 14,679 ppd  
Average TSS Loading: 9621 ppd  
Average TKN Loading: 2548 ppd  
Average TP Loading: 567 ppd  
Effluent BOD5 Standard: 15 mg/L  
Effluent TSS Standard: 30 mg/L  
Effluent NH3 (Dec-Mar): 5 mg/L  
Average TP Standard: 1 mg/L  
Effluent Fecal Coliform Limit:  
200 per 100 ml

The new wastewater treatment facility will have water quality benefits of less phosphorus, less nitrogen, less ammonia, less oxygen demand and no chlorine. The new design is anticipated to be serviced by the end of the facilities planning period (year 2030). CS



## CSWEA's 13th Annual Education Seminar

April 1, 2008, Monona Terrace Convention Center, Madison, WI

# Optimize Activated Sludge: A Focus on Efficiency and Technology

**B**e sure to attend CSWEA's 13th Annual Education seminar, April 1, 2008 (no fooling!) at the beautiful Monona Terrace in Madison Wisconsin. This year's program explores efficiency and optimization of the activated sludge process. Wastewater operators, plant managers, process control specialists, engineers, plant designers, equipment suppliers, regulators, educators and students are encouraged to attend as this program will provide the very latest information on process optimization, energy efficiency and other factors related to the activated sludge process. (Regulatory agency and P.E. continuing education contact hours will be awarded.) Registration and lodging information is available at [www.CSWEA.org](http://www.CSWEA.org). Below is the tentative program:

Monday, March 31, 2008: All attendees are invited to meet the seminar speakers at a pre-conference reception at the Monona Terrace, from 5:30-7:00 p.m.

**Tuesday, April 1, 2008:**

### **Optimize Activated Sludge: A Focus on Efficiency and Technology**

**8:00-8:10 a.m.**

#### **Introduction and Welcome**

*Dennis Lindeke, President CSWEA*

**8:10-8:50 a.m.**

#### **1. History and Applications of Activated Sludge**

*Dr. Wes Eckenfelder, AquAeTer, Inc., Brentwood, TN*

The activated sludge process was developed in England in 1915. During the early period, process design was empirical (lbs BOD/1,000 ft<sup>3</sup>/day and ft<sup>3</sup> of air/gallon). These criteria did not distinguish between the types of wastewater. In the late 1950s and '60s, several kinetic models were developed such as, Eckenfelder, McKinney, McCarty, Busch, and Grau. This

provided lively discussion at the annual Purdue conferences.

The causes of filamentous bulking were defined in the 1970s and early 1980s (Grau and Jenkins). With the passage of the water quality act in 1972, data was developed on specific industrial wastewaters. Several specific applications are presented in this paper including design and operation for a multi-stage high energy treatment of a bleached kraft pulp and paper mill wastewater, including mixed liquor reflocculation; the effect of high TDS on sludge quality and organic removal for organic chemical wastewater; effluent suspended solids controlled in a multi-product organic chemicals plant wastewater; and the design of an aerobic selector for a high-strength pulp and paper mill wastewater.

**8:50-9:35 a.m.**

#### **2. Aeration Systems – Past, Present and Future and What to Expect from Aeration System Upgrades**

*Dr. Michael K. Stenstrom, UCLA,*

*Los Angeles, CA*

Aeration usually consumes about 50% of a treatment plant's energy budget. Rapidly increasing energy costs and the interest in the reduction of greenhouse gas emissions is forcing treatment agencies to reconsider their aeration methods. Fine pore diffusers, which are now available in third-generation models are attractive alternatives to conserve energy. The energy savings of upgrading will depend on site specific conditions and involve trade offs among capital costs, savings and increased maintenance costs. This presentation will provide a brief overview of diffuser types, their efficiencies and operating considerations. Additionally, the terminology and methods for accessing efficiency and savings will be presented. Finally, the maintenance requirements of fine pore diffusers will be described in order to allow plant managers to anticipate maintenance expenses.

9:35-10:20 a.m.

**3. Activated Sludge Clarifier Optimization and Design***Dr. David J. Kinnear, HDR Engineering, Inc.*

A variety of techniques exist to design and operate secondary clarifiers, from conservative to aggressive and from empirical to rigorous mathematical modeling based approaches. This presentation compares techniques presently applied to design and operate activated sludge secondary clarifiers. Engineers and operators attending this presentation will benefit from a better understanding of the benefits and detriments of applying these approaches to their facilities.

10:20-10:45 a.m. **Break**

10:45-11:20 a.m.

**4. Aeration Efficiency Studies at the MCES Metropolitan Wastewater Treatment Plants.***Larry Rogacki, Manager, Process Engineering, Metropolitan Council of Environmental Services, St. Paul, MN*

In the spring of 2007, MCES launched an energy initiative with a goal of reducing energy costs 15% by 2010. This presentation will outline several investigations and evaluations that have been undertaken at the Metro Plant to better understand aeration performance and identify areas with the greatest potential for energy reduction.

11:20-12:00 p.m.

**5. Morning panel***(Morning speakers answer questions collected from the audience)*12:00-1:00 p.m. **Lunch**

1:00-1:40 p.m.

**6. Dissolved Oxygen Control – What to Expect and How to Avoid Pitfalls***Dr. Michael K. Stenstrom, UCLA, Los Angeles, CA*

Dissolved oxygen (DO) control in aeration tanks is an excellent way of minimizing energy consumption and is generally considered to be a well developed technology. In spite of these expectations, DO control systems often perform poorly. A typical scenario is for a DO control system to continually "hunt" for the appropriate flow rate to adjust the DO concentration to the desired set-point. Frustrated operators then turn off the control system to avoid blower and valve wear, but set the flow to a value that will always provide adequate DO. This results in considerable energy wastage. This presentation will review the reasons for failing DO control systems, discuss the latest DO probes and describe how blower alternatives impact DO controllability.

1:40-2:25 p.m.

**7. The Latest Blower Technologies: Are they worth it or are they just a lot of hot air?***Steve Arant, EarthTech Inc., Sheboygan, WI*

Aeration power requirements represent 50 to 75% of the total energy cost at wastewater treatment facilities. Energy costs will continue to increase and represent a larger share of a utility's total operating costs. Newer blower technologies are available that increase operating efficiency across their operating range. This presentation will explore currently available blower technology, and provide guidance for comparing different blower technologies. Performance data will be presented from two existing facilities utilizing newer high-efficiency blower technology.

2:30-2:50 p.m. **Break**

2:50-3:30 p.m.

**8. Advancements in Control Systems for WWTs***Manuel de los Santos, M.S.,**Aqua Aerobic Systems, Inc., Rockford, IL*

With pressure from financial limitations and stringent effluent limits, reliance on plant control systems is increasing. The best example of advanced controls can be found in SBR systems. This presentation includes a brief of technologies available in the market for monitoring and control of equipment and process. The main levels of control systems will be explained in the form of PLC based control systems, SCADA systems and Process Management Controls systems. Process Management Control systems incorporate an on-line intelligence-based control system to provide immediate information, assessment, diagnosis and response to equipment and process issues.

3:30-4:05 p.m.

**9. Why Settle for Settling? A Case Study on Membrane Treatment at Traverse City, MI WWTP***Scott Blair, Regional Wastewater Treatment Plant Manager, CH2M HILL OMI, Traverse City, MI*

The Traverse City Plant Manager will present the case study of conversion from secondary clarification to a membrane bioreactor (MBR) including a description of the technology and its performance. He will also describe the impact of the conversion to MBR on operations and maintenance. CS

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# WEF's Schroepfer Medal Winning Project

By Tom Sigmund, PE

**T**om Sigmund, Stan Christopher, and John Reece led the planning and design of the \$72 million improvements to the Little Blue Valley Sewer District's Atherton wastewater treatment plant to cost-effectively increase wet and dry weather capacity and treatment efficiency. The original master plan called for investment in facilities that would be used to improve water quality during peak wet weather periods (less than five percent of the time) but would not be available during other periods. The team developed innovative ways using established technologies to improve water quality under all operating conditions and still stay within the overall budget.

The Little Blue Valley Sewer District's Atherton Wastewater Treatment Plant is located in Jackson County, Missouri, in the Little Blue River watershed. Built in the 1980s for average flows of 40 million gallons per day (mgd) and peak flows of 170 mgd, the plant needed additional capability to consistently meet environmental regulations for odor emissions and plant effluent quality and significantly more capacity to treat up to 400 mgd of peak wet-weather flows. The district, which serves 300,000 residents in 10 communities, was challenged with making needed improvements while keeping rate increases low in the face of the largest capital improvement project in its history. Success depended on the community's early acceptance of the district's approach in order to meet a tight schedule. A consent decree issued by the Missouri attorney general containing stringent milestones for project construction made success a financial imperative and added to the project's complexity.



WEF Past President Michael Read presents Tom Sigmund with the Schroepfer Award.

*"Success depended on the community's early acceptance of the district's approach in order to meet a tight schedule."*

To meet tight time constraints, the project team prepared a facility plan for submittal to the Missouri DNR within 90 days, and prepared construction contract documents in time to capture critical Missouri State Revolving Fund low-interest loans. The facility plan was finished in such a short time because of the highly interactive working relationship of the consultant, district staff, and stakeholders. An innovative financing strategy was implemented that allowed the District to save \$64 million over the life of the loan. The result was a reduction in annual rate increases for the first five years of the program from 9.7 percent as estimated in the master plan to 3.5 percent under the alternative financing strategy.

Because the district experiences extreme wet weather events, the team developed an innovative, cost-effective approach to treat dry- and wet-

weather flows by adding chemicals to the primary clarifiers during peak flows to improve pollutant removal and a flow routing scheme to maximize treatment capacity of all unit processes while meeting effluent discharge limits under all flow conditions. The district adopted this innovative approach to maximize the capacity of primary and secondary treatment facilities at the lowest overall capital and operating costs. Demonstrating performance while doubling the capacity of the primary clarifiers during peak flows saved about \$12 million by reducing the number of primary clarifiers needed.

A new headworks facility also incorporated an innovative, cost-savings approach for handling the peak wet-weather flows. Rather than providing five 80-mgd mechanically cleaned influent screens inside a large building, most of which would be idle 95 percent of the time, an alternative approach was developed that uses a combination of three 80-mgd conventional screens and two 80-mgd stormwater screens. The stormwater screens are activated only during high flows and allow the treated water to pass through but keeps the screenings in the channel to be conveyed to the mechanically cleaned screens for removal. Since the stormwater screens did not need to be installed in the building, savings of about \$2 million were realized.

The new headworks and primary clarifiers were operational in August 2005, which led to immediate improvement in performance of the WWTP. The new secondary clarifiers were operational in March 2006 and the improvement in effluent quality was dramatic: effluent TSS decreased to below 10 mg/L, well below the permit limits of 30 mg/L. CS

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## Municipal Utility Legislative Lobby

By Dan Lynch, PE, DEE, Director of Utilities, City of Janesville



Over the years, many professional associations have designated one day out of the year when they encourage their members to go to the state capitol and lobby their legislators on issues which are important to their industry (lobby is not a bad word in this case). The 2008 Municipal Utility Lobbying Rally is such an event for municipal water, wastewater and electric utilities. It is scheduled for Thursday, January 31, 2008. It was started four years ago by Scott Meske of the Municipal Electric Utilities of Wisconsin (MEUW) and included water utilities from its inception. In addition to MEUW, other sponsors include WWA, WRWA, and both Divisions of MEG. The boards of WWOA and Wisconsin Section, Central States will be discussing this event at their next meeting.

This event can be very valuable, not just for electric and drinking water, but also for wastewater treatment. If more utilities participate, the impact on the legislature will be even greater. With the support of Paul Kent of the Municipal Environmental Group-Wastewater Division, last year's rally did include wastewater issues for the first time. But that was only half the battle. We lacked representatives of wastewater treatment plants or collection systems to promote those wastewater concerns. What we need now are more voices to reach the legislators. This is where water and wastewater operators and managers can help.

The rally is very professionally done, starting in the morning with presentations from several legislative and regulatory leaders in state government. These are the people who directly impact the issues important to utilities. This year the following people have been invited:

- Representative Phil Montgomery, Chair of the Assembly Energies and Utilities Committee
- Secretary Matthew J. Frank, Department of Natural Resources
- Commissioner Lauren L. Azar, Public Service Commission
- Jeffery J. Ripp, Water Conversation Coordinator, Public Service Commission.

“What we need now are more voices to reach the legislators. This is where water and wastewater operators and managers can help.”



*“You do not have to explain an issue that is not a concern to you or not related to your particular situation or utility.”*

In the afternoon participants visit the capitol, armed with information packets to leave with their legislators. These packets contain carefully prepared position papers on each of the issues that have been identified. Participants will be briefed on these position papers before they leave the Concourse. The position papers are pre-sorted in each packet by utility type (i.e. electric, water, wastewater) for easy reference. They are left with the legislator for his/her future reference when that particular issue comes up in the legislature. You do not have to explain an issue that is not a concern to you or not related to your particular situation or utility. You only discuss the two or three that are important to you.

I suggest that this is a very effective arrangement because:

- The event is very well organized. It is coordinated by MEUW, an organization with similar interests and outlooks as your own. It is already set up and your initial involvement can be as much as you are comfortable with.
- Wastewater issue papers will be prepared on specific issues of concern, but if you do not agree with the position, you do not have to advocate for it. You (or your participating members) decide what is important and what you want to take to your legislator.

- I was surprised the first time I took part in this rally. The legislators, who I thought would know us, really did not know who we were and consequently did not have a clue as to what our concerns were. They knew I was the Utility Director in Janesville, but they were not aware that I might have positions which differed from the WDNR.
- My first meeting was very informative to the legislator (who now had a trusted, local resource), but also to me. I realized that we have a very long way to go to educate our elected representatives.
- This event lets you meet you legislator face to face and builds mutual trust and confidence.
- The legislators react to their constituents who contact them, especially when they are knowledgeable professionals presenting a clear unified position in an understandable way. They appreciate these contacts and the information we present. I have even changed the minds – and possibly the votes – of a few of them. If I can do this, anyone can.

I believe that the value of this rally will become apparent to everyone and I encourage you to get involved. If we do not tell the legislature who we are and what our concerns are, we can't really blame them when they do something we do not like.

The opportunity for many professional associations to present a single unified voice to the legislature on issues important to our industry does not happen very often. We should value this opportunity and grow it into a tool we can use to very effectively communicate our needs to our elected representatives. CS

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# 2008

## Municipal Utility Legislative Rally

The leadership of the municipal utility organizations aims to make the 4th Annual Municipal Utility Legislative Rally better than ever! Don't miss a chance to meet your legislators!

### WHO:

All municipal electric, water, wastewater and telecom utilities

### WHAT:

Legislative Lobby Day

### WHERE:

Concourse Hotel, Madison, Wisconsin



### WHEN:

Thursday, January 31, 2008; Sessions and speakers in the morning; legislative visits in the afternoon

### WHY:

The time is short for the 2007-08 Legislature as the official session ends in early March. It is imperative municipal utility voices be heard in the Capitol. Together we can help shape local legislation to make it better for our ratepayers, our residents, and ultimately, our communities.

Questions or more information:  
MEUW  
Scott Meske, Associate Director  
725 Lois Drive  
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More information, including registration materials and agenda will be available in mid-December, 2007.  
Lunch will be served prior to legislative visits.



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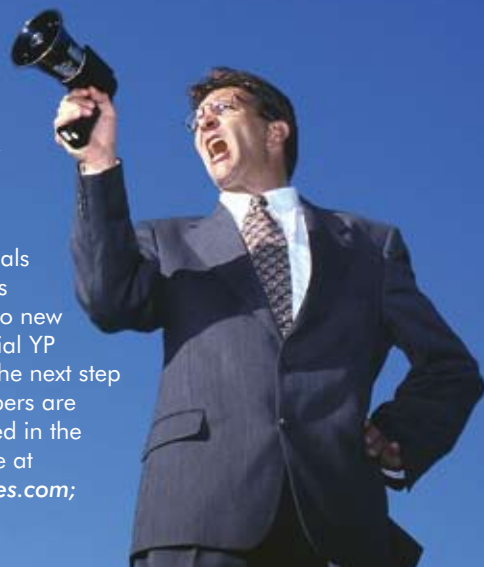


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# CALLING ALL Young Professionals

Young professionals, identify yourselves. We need to know who you are so we can better serve your specific needs. CSWEA is working to establish a database of young professionals. Young professionals (YPs) are 35 years of age or younger and new to the profession with less than 10 years of work experience. CSWEA is participating in WEF's new YP discount program for water quality professionals with five years' or less work experience in the industry and under 35 years old. New YP or student members are eligible to join WEF as active members while participating in the WEF Young Professionals Program which provides for a 50 percent reduction in WEF and CSWEA dues for the first three years of WEF membership. This program is available only to new member applicants and WEF student members. Please encourage all potential YP members in your organization to take advantage of this program and take the next step in advancing their careers in the water and wastewater profession. YP members are encouraged to contact their State Section YP Committee Chairs to be included in the YP database and join the fun. Wisconsin members should contact Rachel Lee at [rachel.lee@strand.com](mailto:rachel.lee@strand.com); for Illinois contact Rich Hussey at [rich@leyassociates.com](mailto:rich@leyassociates.com); and for Minnesota Kris Evans at [kevans@city.ames.ia.us](mailto:kevans@city.ames.ia.us). CS



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# Young Professionals Recognition

The CSWEA executive committee introduced two new initiatives to recognize the contribution and importance of young professionals to our profession and association. First and foremost, the membership will be requested to approve a constitution and bylaws amendment at the Annual Business Meeting at the annual meeting in May 2008 to approve the addition of the position of YP representative to the executive committee as a full voting member. The addition of this position to the executive committee will ensure that the needs and concerns of our YPs are addressed and will help to elevate YPs to positions of leadership early in their careers. Thanks to our highly active YP committees and equally effective students committee, CSWEA has benefited from many new enthusiastic members who are helped energize the association. CSWEA supports young professionals in many ways and the addition of a YP to the executive committee is a natural progression. We urge your support of this important initiative. Details and the actual amendments to the constitution and bylaws will be distributed to all members in advance of the annual meeting, as required in the amendment process.

The second initiative is a new award category for Young Professionals: the **Outstanding YP of the Year Award** recognizes the contributions of young water environment professionals for significant contributions to CSWEA and to the wastewater collection and treatment industry. The criteria for this award



CSWEA's University of Illinois Student Design Team.

include: member of CSWEA, 35 years old or younger at the time of nomination. The award will go to a YP who best demonstrates contributions to enhancing the activities CSWEA and to CSWEA committees and improvement in the fundamental knowledge of performance of wastewater collection and treatment systems, water resource protection and research on issues important to the water environment. The award shall consist of a suitably inscribed plaque indicating the recipient's name and year of award. The CSWEA Outstanding YP of the Year Award winner shall be advanced by the 1st Vice President to WEF as the association's nominee to for the WEF award. CS

## Aeration and Process Theory Workshop

**Who:**  
Young Professionals




**Where:**  
Sanitaire/ABJ  
9333 N. 49 Street  
Brown Deer, WI  
Phone: (414) 365-2200

**When:**  
January 31, 2008  
6:00-8:00 p.m.

**Cost:**  
\$5 per person

Come learn about aeration technology and process theory with your peers and take advantage of this networking opportunity. Dinner is included with the workshop.

Please RSVP to Rachel Lee by January 28 at [Rachel.Lee@strand.com](mailto:Rachel.Lee@strand.com)



# WEFMAX '08

hosted by Central States WEA

March 13-15, 2008

Minneapolis, Minnesota



**WEFMAX** is unlike any other meeting providing the members of the House of Delegates, MA Leaders, and WEF staff an opportunity to meet, discuss challenges, and share successes. All CSWEA and state section leaders, including committee chairs and members, are highly encouraged to attend this outstanding WEF event hosted by CSWEA.

Meet WEF Vice President Paul Freedman at this meeting. Please take a moment to get to know your WEF leadership prior to attending.

Registration is complimentary for all attendees. The meeting schedule and information on hotel accommodations, airport transfers and points of interest are provided below.

## Meeting Registration Options:

Register now online

Print/Fax registration form to WEF  
fill form and fax to Liz Schulz  
(703) 684-2475

Should you have any questions or comments, please contact:  
WEF Staff, Dianne Crilley,  
(703) 684-2445, [dcrilley@wef.org](mailto:dcrilley@wef.org)  
Central States WEA Host Coordinator,  
Eric Lecuyer, [erlec@prodigy.net](mailto:erlec@prodigy.net)

## MEETING SCHEDULE

Thursday, March 13, 2008	
2:00 p.m.-5:00 p.m.	WEF House of Delegates' Meeting
6:00 p.m.-7:30 p.m.	Welcome Reception (cash bar w/light Hors d' Oeuvres)
Friday, March 14, 2008	
8:00 a.m.-5:00 p.m.	WEFMAX Day 1 (continental breakfast and lunch provided)
6:30 p.m.-9:00 p.m.	Dinner (Attendees may bring a guest at a nominal fee of \$25.00 per guest)
Saturday, March 15, 2008	
8:00 a.m.-12:00 p.m.	WEFMAX Day 2 (continental breakfast provided)
12:00 p.m.	Meeting Adjourned

\* Additional information, including details on special events and meeting agendas will be sent to each attendee three weeks prior to the meeting.

## HOTEL RESERVATIONS:

(866) 837- 4278

The CSWEA has blocked a limited number of hotel rooms at the Sheraton Bloomington Hotel with a special rate per night of \$99 single/double.

This rate is only available until 5:00 p.m. local time on Tuesday, February 12, 2008. Attendees are responsible for making their own reservations by contacting the hotel directly. When making a reservation, please advise the hotel you are attending the "WEFMAX Meeting" hosted by the Central States Water Environment Association.

### Hotel Contact Information

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Minneapolis South

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Bloomington, MN 55439

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F: (952) 893-8431


Web: [www.starwoodhotels.com/sheraton/property/overview/index.html?propertyID=1493](http://www.starwoodhotels.com/sheraton/property/overview/index.html?propertyID=1493)

## POINTS OF INTEREST

- Minneapolis Bridge Tours: On January 23, 2005, Minneapolis celebrated the 150th anniversary of the opening of a wood-tower suspension bridge from Nicollet Island to what is now the downtown side of the Mississippi River at Hennepin Avenue. Combined with an 1853 bridge from Nicollet Island to the other side of the river, this suspension bridge completed the first permanent span across the Mississippi River anywhere along its entire length.
- Minnehaha Park: The 193-acre park features a 53-foot waterfall, limestone bluffs and river overlooks. The park contains oak, elm, silver maple, basswood, hackberry and cottonwood trees, as well as native and prairie woodland wild flowers.
- St. Anthony Falls: The only falls on the Mississippi River.
- Mall of America: One of the largest malls in the U.S.

- Minneapolis Institute of Art: The Minneapolis Institute of Arts houses more than 80,000 objects from diverse cultural traditions spanning 5,000 years of world history.
- Weisman Art Museum: The museum's collection features early 20th century American artists

such as Georgia O'Keeffe and Marsden Hartley, as well as a diverse selection of contemporary art. A teaching museum for the University of Minneapolis and the community, the Weisman provides a fresh, engaging arts experience through an array of programs and a changing schedule of exhibitions. CS




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# WINTER SAFETY

## The battle is on

By Gary B. Scott, CPMM

Illinois Section Safety Chair, WEF Safety & Occupational Health Committee Liaison

**W**inter is upon us here in the Central States region and with it comes the beauty of freshly fallen snow, icicles glistening in the sun and outdoor scenes that rival the imagination. As pleasant as these thoughts are, reality forces us to deal with the not-so-pleasant aspects of winter. Many of us in the water and wastewater field work in inclement weather, have been stranded in a snowdrift, or have had a family at home with no heat during winter storms. Winter weather can produce life-threatening situations catching the unprepared worker, traveler, or family off guard. Here is a brief summary of a few winter safety concerns and what you can do to protect yourselves:

**Frostbite and hypothermia** are caused from overexposure to extreme cold temperatures. Obviously, the best way to avoid these conditions is to stay out of the cold, but this is not always possible in our line of work. Many of us kids love to get outside and play when

the temperature plunges, the snow falls and the clarifiers freeze over (sorry). Good ways to avoid frostbite and hypothermia include:

- Eat a well-balanced diet and drink plenty of warm, non-alcoholic beverages.
- Wear several layers of clothing that includes water- (both good and bad) and wind-resistant outerwear. Remember that the head and face lose heat fast, so be sure to cover your head, neck and face.
- Keep clothing dry to maintain effective heat retention.
- Take a break to warm up when you need to. You can go back to that outdoor task in a few minutes, and be more productive.

**Shoveling snow** may be fun for some, but for others it is a chore you can do without. This type of outdoor work can be invigorating, but it can also present serious health and safety hazards. Here are some tips to help make shoveling snow safer:

- Begin by dressing warm and covering all exposed skin to prevent frostbite.
- Do not eat a large meal, drink alcohol or smoke just prior to shoveling snow.
- Know your limitations; if you are middle-aged (like a lot of us), and out of shape (like me), be careful.
- Don't over do it, pay attention to what your body tells you; breathing, heart rate, and blood pressure all increase with work.
- Pace yourself (you're hourly, right!), take it slow and keep it light, use a small shovel (don't fill a large one), or better yet; a snow blower.
- Watch your step; slips and falls are all too common on ice and can cause serious injury in the blink of an eye.
- Push snow out of the path with the shovel instead of lifting it. If you have to lift the snow, do it right – lift with your legs.
- Stop immediately and get help if you feel yourself becoming ill.





**Fire risk** is increased during winter weather. Consider all the things we do at home to keep warm and comfortable. Most of these use fire or electricity to produce heat. Fireplaces, space heaters, wood burners, heat lamps, electric blankets, and even candles are used to increase the temperature of our homes. All of these items increase the chances of an unexpected house fire if not used properly. In addition, the holidays include extra lighting and combustible materials from tree trimmings to wrapping paper. Some tips for winter fire safety are:

- Use fuel heaters and electric heating appliances **ONLY** according to the manufacturer's safety recommendations.
- Make sure chimneys, flues and heating equipment are working properly. Get them inspected by a qualified technician.
- Do not leave children unattended around open flames and electrical devices.
- Make sure smoke detectors are working. If you use flame gas furnaces, fireplaces, etc., in the home, have a carbon monoxide detector installed (it's the law now).
- Have an emergency evacuation plan in place and practice it with everyone in your household. **Know where to go.**
- Keep a fire extinguisher handy and know how to use it.

Fire can be a killer that will sneak up on the unprepared family with life changing devastating effects. Don't be a victim. Know how to protect yourself and your family. Check with your local Fire Department for more information.

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“Winter weather can produce life-threatening situations catching the unprepared worker, traveler, or family off guard.”

**Winter driving** can become extremely hazardous when storms produce snow and icy conditions. Extreme caution on the road will help reduce the risks (slow down). However, if you do get into trouble, there are things you can do to avoid being stranded without help. Here are some tips on being prepared:

- **Before** you go, **KNOW**. Especially if starting out on a long trip. Listen to weather reports and forecasts.
- Make sure your car is in good mechanical condition. Keep the fuel tank full to avoid being stuck and out of gas.
- Keep a blanket and some supplies for winter emergencies if stranded in your car.
- Know what to do if you become stranded. Is there cell service? Battery charged?

So, during this wintry time in Central States be prepared to win the battle of the winter safety war. Have a safe and fun winter season. By just using common sense practices and following safe operating instructions we can reduce our risks of injury and illness when dealing with the cold weather of winter. Eat healthy, exercise, and get plenty of rest. Use your God-given smarts. The enemy is out there, be prepared. CS



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# CSWEA's 81st Annual Meeting

Sheraton South Hotel, Bloomington, MN

May 19-22, 2008

**B**e sure to mark your calendars and save the date for CSWEA's 81st Annual Meeting, May 19-22, 2008. This year's Annual Meeting will begin on Monday, May 19 with a golf outing at the Braemer Golf Club and for non-golfers a bicycle trip on one of the nice trails in the area, followed by a meet-and-greet back at the hotel in the Garden Court. Tuesday opens with the keynote address by Dr. James Barnard, one of the foremost experts and developer of the Bio-P process. Morning technical sessions will be followed by the exhibitors luncheon with the exhibition being the featured exclusive event of Tuesday afternoon. Following the exhibitors reception, there will be an evening social event at the Bush Lake Park Reserve, with a picnic and evening of music.

Wednesday will feature technical sessions with a special plant operations track for operators and a second special afternoon track on collection systems. The Annual Awards Banquet will be Wednesday evening providing recognition to our members for excellence in the profession and service to the industry, followed by fun and entertainment. Thursday's Farewell Breakfast will feature local TV meteorologist Paul Douglas who will present an entertaining and informative program on weather and the evolving climate.

Registration and Annual Meeting information will be sent out in early January. You will not want to miss the 81st Annual Meeting. Be sure to register early and bring along some colleagues and friends to join in the fun too. CS



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# The Most Important Resource

Bill Marten

We just held our annual business meeting during which we elect new section officers and set our budget for the coming year. A few highlights from that meeting include:

- Unanimous election of Dave Arnott (Ruekert-Mielke) for another two-year term as our secretary-treasurer. This position is really the key to the section's functions, it takes a lot of time and hard work and Dave has been doing a stellar job in his first two years. We are very happy he has agreed to another two-year term as the "glue" of our section.
- Unanimous election of Jim Beier (Crane Engineering) as our next vice-chair. Jim has been very active for a number of years, and most recently chaired our Collections Systems Committee. Jim brings a lot of enthusiasm and energy to everything he does, and we are looking forward to his help in leading the section over the next few years.
- With our financial reserves continuing to increase, we developed an aggressive deficit budget for the next business year which should help shrink our reserves a bit while supporting key section and association activities and initiatives. Noteworthy items include significant boosts in support for the WEFTEC Operations Challenge teams and for students and young professionals activities, as well as support for active section members who attend the CSX meetings held every summer.

One final thought before closing. It is about water, and how lucky we are to live in a region blessed with this all-important resource, and to work in a profession aimed at maintaining and preserving its quality. I recently watched a



History Channel program ("Modern Marvels") that really hit home how water is a "marvel", and our efforts to preserve and protect it brings the "modern" to it.

At the same time, we are all aware of the increasing attention water is getting, whether locally (Great Lakes nearing record low levels), or on a national/international scale (droughts, pollution, hypoxia). I think the coming years and decades will produce increasing challenges to our region and to the world, as water continues to become a limited resource. Among those challenges will likely be efforts to transfer water from our region to more populous parts of the country, many of which are situated in natural deserts. We need to be ever vigilant in

continuing to protect our water environment, not only in our daily work but also in helping make sure policy and politics do not overrule sound environmental science. As part of these efforts, we're going to need to educate and inform our lawmakers. In Wisconsin, you will have a chance in that regard on January 31, 2008, which is Wisconsin Municipal Utilities Legislative Day at the Concourse Hotel in Madison, WI. A morning of presentations on subjects important to municipal utilities (including wastewater) is planned, followed by an open afternoon where everyone is encouraged to visit their elected representatives to talk about our work and the challenges and issues we face in protecting our water environment. For more information on this event, visit [meuw.org](http://meuw.org).

In closing, I hope you all have a blessed and joyful holiday season. See you in 2008! Protecting our water environment, amongst friends, what a great way to help people and our planet. CS



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# New Events in 2008

Sue Baert

I arrived safely home after a very busy trip to San Diego for WEFTEC '07. I volunteered to work for the Welcome to Chicago booth for WEFTEC '08.

I met a lot of people from all over the United States and hope they truly will be able to attend next year's event in Chicago at the McCormick Center. I also volunteered to judge the lab event for the Operations Challenge competition. My hat goes off to the participants and all they have to learn and do in a short amount of time. I coerced my sister Jane in helping clean and set up the judging tables between teams. I judged 11 teams and Jane helped clean and set up about 41 tables. Thanks, Jane.

I went on a tour of the San Diego zoo sponsored by Baxter and Woodman. It is absolutely amazing how many animals the zoo has that I have never heard of or seen before. It was a great tour. Thanks.

Back to Illinois, on November 15, Naperville hosted a well-attended maintenance and safety seminar at their state of the art training and safety center. Maintenance presentations focused on blowers, clarifiers, submersible pumps, and the WEF/ABC plant maintenance technologist certification program. Safety presentations included: gas, equipment, and electrical safety. Gary Scott, IL Section Safety Chair and Joe Slevnik, City of Naperville, put together a great program. Thank you.

The annual Government Affairs in Water Pollution Control Conference is scheduled for January 16, 2008 at the Holiday Inn in Willowbrook, IL. The conference is



co-sponsored with the Illinois Water Environment Association. This year's conference will feature topics such as: alternative energy sources, update on the development of nutrient standards, MS4-illicit discharge elimination plan, and regulations and post-construction BMPs. I have been going to this conference for 17 years and every year I come away with a greater knowledge of what is happening and developing in the way of regulations and in water pollution control. It is an excellent conference to attend and learn from. I hope to see you there.

The Illinois section chairs discussed having a tentative schedule of events/seminars. This is an unofficial look at what we would like to accomplish.

January	Government Affairs Conference, co-hosted with IWEA.
March/April	Collection systems seminar
May	Annual Central States conference (rotating MN, IL, WI)
June/July	Lab seminar
August/September	Operations seminar
October	WEFTEC
November	Safety and Maintenance

As always watch the Central States website ([cswea.org](http://cswea.org)) for upcoming events. CS

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# Minnesota Bound

John Glatzmaier

**T**ime sure flies when you are having fun! I can't believe it is already time to find the snow shovel. Here is what is happening in the Minnesota Section.

The Minnesota Section 2006 Stockholm Junior Water Prize (SJWP) winner was Gregory Thompson, representing John Marshall High School, Rochester, MN. The title of his project was "The Impact of Beaver Dams on South-eastern Minnesota Streams". Gregory participated in the WEF SJWP competition in Phoenix. First runner-up was Kevin Robertson and Sara Gleason for their project, "The Use of a Rain Garden to Diminish the Impact of Urban Road Runoff on Scanlon Creek – Phase II". Second runner-up was Devin Ninneman, for "The Effects of Industrial Metal Slag Piles and Mineral Sediments on Stream Water Quality – Phase II". Thanks to all for making this a very successful event.

The Conference on the Environment was held Thursday, November 8 in Brooklyn Park, MN. Thanks to all on the planning committee, especially the co-chairs, Marion Graham/MN-CSWEA and Paul Gerbec/A&WMA-UMS. Close to 200 environmental professionals attended the one-day event and made it a great success. It should be noted that some 20 students attended the conference. It was great to see students and young professionals taking time out of their busy schedules to learn more about the current local wastewater and environmental issues. We had a full day of exhibits and presentations, and our keynote speaker, Mark Seeley from the University of Minnesota, talked about historic climate changes in Minnesota and the Western Great Lakes. He provided both science and citizen perspectives on the topic. We had a superb selection of speakers giving presentations on climate change, sustainability, energy, air quality regulations, and wastewater treatment. Thanks go out to all of our speakers and exhibitors for their willingness to share their experience and expertise with us.



There are several positions open in the Minnesota Section, but one I would like to highlight is the Minnesota Section representative to the Central States Water is Life, and Infrastructure Makes it Happen committee. Learn more at <http://waterislife.net>.

Upcoming events in the Minnesota Section and Central States include:

The Co-sponsored CSWEA/MWOWA 25th Innovative Approaches to Wastewater Operational Problems Seminar to be held at the Holiday Inn in St. Cloud, MN on February 26, 2008.

WEFMAX '08 will be hosted by Central States next March 13-15, 2008 at the Sheraton South in Bloomington, MN. This is a great opportunity to meet with leaders from WEF and many other MAs from around North America along

with Central States leaders from the Wisconsin and Illinois sections and exchange information and ideas. MN Section officers and committee chairs, along with anyone interested in getting involved and learning more about Central States, are encouraged to attend.

The Education Seminar will be held in Madison, WI on April 1, 2008.

The CSWEA 81st Annual Meeting will be held in Bloomington, MN in 2008. The MN Section is hosting this event and the Local Arrangements Committee and is looking for good people and great ideas. If you would like to get involved, please contact Doug Henrichsen ([Douglas.Henrichsen@hdrinc.com](mailto:Douglas.Henrichsen@hdrinc.com)). The call for papers is out and abstracts for presentations should be submitted to the Technical Program Committee by December 17, 2007. Please contact Jason Benson/AE2S ([Jason.Benson@ae2s.com](mailto:Jason.Benson@ae2s.com)) if you wish to submit a paper.

If you want to grow professionally and give back to the community, please consider joining one of the many committees or activities of Central States. For further information, contact any of the MN Section Committee chairs found on the website: [www.cswea.org](http://www.cswea.org). CS

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# Members on the Move



**Kris Evans, Ph.D., PE** moved from engineering consulting to the public sector when she joined the City of Ames Water and Pollution Control Department as an environmental engineer. She is one of three engineers responsible for all projects. Activities include project management, consultant management, design, public outreach, construction observation, and research. She has also given tours to elementary school classes. Current

projects include upgrading the wastewater treatment plant SCADA, observing construction of a new one-million-gallon composite water tower, a new raw water main from new wells to the water plant, and security upgrades to the water plant and administration buildings.

Why Ames? "Eric and I lived here for 10 years while attending Iowa State University. Even though I grew up in a suburb of Minneapolis, Ames was always home to me." We'll miss Kris and Eric (he has transferred to the De Moines office of HDR), but Kris says, "Eric and I will continue to be members of CSWEA and stay involved; we won't let a few hundred miles get in our way." Kris can be reached at [kevans@city.ames.ia.us](mailto:kevans@city.ames.ia.us).

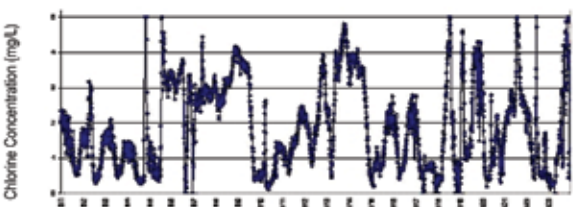


**Bob Clavel, PE**, announced his retirement at the end of January, 2008 as manager of the Wheaton Sanitary District. He just completed his term as one of our WEF delegates, where he was actively involved in the updated governance of WEF, in particular in re-design of House of Delegates. Bob received a B.Sc. in civil engineering from Gonzaga University in Spokane, Washington in 1957, and has done graduate work at the Illinois Institute of Technology in Environmental Engineering.

Bob has been active in CSWEA since 1978. He chaired the Illinois Section in 84/85 and served on the local arrangement committee in 87/88 and 90/91 and chaired in 93/94. He was selected for membership in the 7 S's in 1987. He served as president in 96/97. While president, he initiated the development of the Central States website. He has received the Central States Operations Award for Illinois in 1984, and the Hatfield Award in 2000.

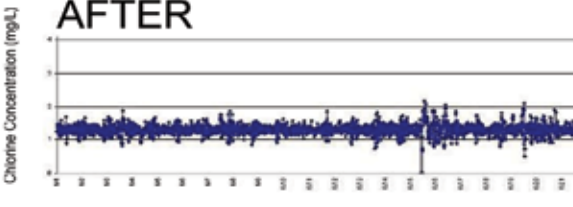
Bob and his wife Ramona plan to travel and make the most of their retirement, but expect to keep in touch with frequent trips to our Annual Meetings. The CSWEA executive committee thanked Bob for his many years of service with a standing ovation at his final executive committee meeting and we wish Bob all the best.

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## CALENDAR OF EVENTS 2008

### JANUARY

- 16** IL Section CSWEA/IWEA Affairs Seminar  
Holiday Inn, Willowbrook, IL
- 23-24** 3rd Annual Midwest Water Industry Expo  
Chula Vista Resort and Convention Center,  
Wisconsin Dells, WI
- 31** CSWEA/AWWA YP Aeration &  
Process Theory Workshop, Brown Deer, WI

### FEBRUARY

- 26** MN Section CSWEA/MWOA 25th Innovative  
Approaches to Wastewater Operational  
Problems Seminar, Holiday Inn, St. Cloud, MN
- 27** WI Section CSWEA Winter Board Meeting  
Madison, WI
- 28** WI Section CSWEA Government Affairs Seminar  
Madison, WI

### MARCH

- 13-15** CSWEA hosts WEFMAX '08 – Twin Cities  
Sheraton Bloomington Hotel, Bloomington, MN
- 18** WI Section CSWEA Spring Biosolids Symposium  
Stevens Point, WI
- TBA** IL Section CSWEA Collection System Seminar  
Location TBA

### APRIL

- 1** CSWEA 13th Annual Education Seminar Activated  
Sludge – It's About Efficiency and Optimization  
Speaker Reception March 31  
Seminar April 1, 2008, Madison, WI
- 8** MN Section CSWEA/MWOA  
Collection System Seminar, Location TBA

### MAY

- 19-22** 81st CSWEA Annual Meeting  
Sheraton Bloomington Hotel, Minneapolis, MN

### JUNE

- 5** WI Section CSWEA Collection System Seminar  
Watertown, WI
- 10-11** WEF/CSWEA NPDES Permit Workshop, Milwaukee,  
WI
- TBA** IL Section CSWEA Lab Workshop, Location TBA
- 18** WI Section Industrial Waste/Pretreatment Seminar  
Oshkosh, WI
- 18&19** MN Section CSWEA Laboratory Seminar, Location  
TBA

### JULY

- 17-18** CSWEA Committee and Section Exchange, CSX'08  
Kalahari Resort and Conference Center,  
Wisconsin Dells, WI

- 18** CSWEA's 1st Annual Young Professionals Exchange,  
YPX '08, Kalahari Resort and Conference Center,  
Wisconsin Dells, WI

### AUGUST

- TBA** WI Section CSWEA Management Seminar, Richfield, WI
- 14** WI Section CSWEA Northern Wisconsin Collection  
System Seminar, Marshfield, WI
- TBA** IL Section CSWEA Operations Seminar, Location TBA

### SEPTEMBER

- TBA** MN Section CSWEA/MWOA Collection  
System Workshop, Location TBA

### OCTOBER

- 18-22** WEFTEC '08, Chicago, IL

### NOVEMBER

- TBA** IL Section CSWEA Maintenance & Safety Seminar,  
Location TBA
- 6** MN Section CSWEA 23rd  
Annual Conference on the Environment,  
Earl Brown Heritage Center, Brooklyn Center, MN



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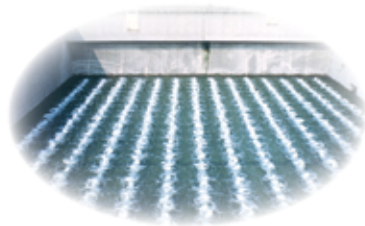


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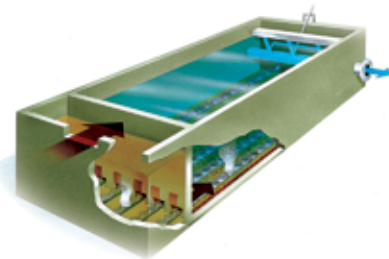


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