

The Clarifier

WISCONSIN WASTEWATER OPERATORS' ASSOCIATION, INC.

Volume 152, September 2003



Wisconsin Dells-Lake Delton WWTF

***37th Annual W.W.O.A. Conference
October 21-24, 2003***

Wisconsin Dells and Kalahari Resort Headquarters

**HOST: Wisconsin Dells/Lake Delton
Wastewater Treatment Plant**



The Clarifier

Visit our Web Site at www.wwoa.org

Volume 152, September 2003, Page 2



President's Message

Greetings Water
Professionals

Well this is it! The last time I will be addressing you as President of WWOA. At least in the Clarifier anyway. I want to express my gratitude to all of you because it has been with

great pleasure that I presided as President this year. The year went way too fast! I also know that when I pass the gavel to my good friend Randy Herwig at the annual conference in October that he will take great pride in becoming the next President of WWOA.

Now on to business. The 37th annual conference is just around the corner. It promises to be a great conference. It is the first time the WWOA will hold the conference at the Kalahari in Wisconsin Dells. It is a magnificent site! It is where you can bring the whole family along and they would not be bored one bit! Your spouse or special friend can go to the water parks, get a massage, shop, gamble or just "hang out" while you are involved in the conference. I encourage you to attend the awards banquet where we get to honor our fellow operators for their contributions to our great industry. You should have already received your conference packets so if you have not give Rich McKee a call at (608) 753-9362 or information is available on our website www.wwoa.org.

The Board and I are meeting in a few days at the Kalahari to go over final preparations for the conference. It is a great feeling to see all of the pieces fall into place. Special thanks go to Kim Wolner of Christmas Mountain and Gil Hantzsch of Mid States & Associates for their time and efforts in putting together the local arrangements and spouse programs. Also, special thanks go to Gary Hanson and Amy Kistner of Earth Tech, for their efforts in assembling and printing the abstracts for the conference. I know I am missing many more who have made contributions so don't be offended.

This year there is going to be a first in the Operator's Competition. Two regions are going to have two teams competing for the right to go to the national convention. Hopefully the other regions can form at least one team. There are so many special happenings at the annual conference. Make sure you don't miss any of them! Let's make this conference a huge success!

This year the board and I put an emphasis on education and operator development. Kay Marshall and Co. really got the ball rolling with different items that were of interest. Kay, Judy Tholen and Todd Fischer of Richland Center went on talk radio recently promoting our organization in efforts to get young people interested in the wastewater industry. We are hoping to have some radio commercials promoting the industry on the air soon. Ron Altmann put together a brochure full of public educational ideas. We were in attendance at a conference in Madison with over 1000 high school guidance counselors in attendance in an effort to provide them with information and job opening projections for the next ten years. Kudos for all the extra effort here to anyone who has helped make this all possible!

In my previous President's message I mentioned that the new web based CMAR *could be* ready for use by 2004. Plans have changed and now it is scheduled to be ready to go in 2005 instead. This will give the operators more time to train and possibly get their first computer! Oh, such fun right!

I want to also pump up one of the new highlights on the website. "Brain Teasers" is a creation of Kay Marshall. She will pose two different problems on the website. One for our apprentice operators and the other for the seasoned veterans. The answers are posted the following month on the web. The website is full of all kinds of information pertaining to our industry. Please use it!

In closing I want to mention one more thank you. It is to my wife Victoria. She is my rock! She helps keep me on the straight and narrow. She will always be my special lady.

Dickeyville Dale



Wisconsin Dells-Lake Delton WWTF

By: Carl Scharfe, PE, MSA Professional Services

Background: The Wisconsin Dells - Lake Delton area provides a unique and rich recreational experience for thousands of visitors each year. The area has been a magnet for over a century, with peak visitation typically occurring in the summer season. The large influx of people on a seasonal basis creates a unique challenge for designing and operating the wastewater infrastructure and treatment facility serving the area. Wastewater flows can increase almost five-fold from the winter to summer season.

In the late 1970s, the City of Wisconsin Dells and the Village of Lake Delton formed a wastewater commission and turned to MSA Professional Services to design a wastewater treatment system to meet the unique needs of their communities. In 1982, MSA completed design of a flexible treatment facility consisting of comminution, grit removal, a three-channel oxidation ditch, effluent clarification and chlorine disinfection.

Treatment Facility: To meet the challenge of treating widely varying flows, an oxidation ditch consisting of three concentric oval channels was constructed to provide extended aeration biological treatment. The channels were designed to allow operation of one to three channels to accommodate seasonal flow variations. One to two channels are typically operated in the off-season while all three channels are operated during the summer tourist season. Three final clarifiers were also provided to operate in tandem with the oxidation ditch. As with the oxidation ditch channels, the number of clarifiers in use can be increased or decreased, depending on the flow rate. Two of the three clarifiers have covers for winter operation, while the third is typically taken off-line for the winter. Two-speed disc aerators were provided to allow variation of oxygen supply to meet varying organic

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loading conditions. The oxidation ditch and clarifiers form the core of the treatment system and allow for the flexibility to meet the varying flows and loadings experienced by the facility. The facility received a Consulting Engineers Council Design Excellence Award in 1984.

To accommodate continuing growth, upgrades to the treatment facility were completed in 1991 to enhance sludge processing, in 1995 to add dechlorination, and in 1999 for chemical phosphorus removal. Currently, separate forcemains deliver wastewater from the City of Wisconsin Dells and the Village of Lake Delton to the headworks of the treatment facility. After separate flow metering, the flows from the two communities are combined and pass through a mechanical bar screen to remove large solids and a grit removal system to remove sand and gravel.

The wastewater flows by gravity for treatment in the oxidation ditch channels and then flows by gravity to one of three circular clarifiers via a gated splitter box. The clarifiers provide for the separation of the solids (sludge) from the wastewater, resulting in a clarified effluent. The clarified effluent is metered, disinfected with chlorine gas, and flows by gravity to the Wisconsin River. The effluent is dechlorinated by the addition of sulfur dioxide near the end of the effluent pipe. Disinfection is currently required between May 1 and September 30 of each year. Chemical phosphorus removal is provided by addition of alum to either the oxidation ditch effluent splitter box or to the return activated sludge (RAS) force main.

Settled sludge from the clarifiers is pumped back to the oxidation ditch as RAS. Excess sludge produced by the system is removed via a waste activated sludge (WAS) pump to one of two aerobic digesters. After digestion, sludge is dewatered by a belt filter press and stored in a biosolids storage area. To take advantage of their nutrient content and soil conditioning value, the treatment facility operators apply the biosolids to area farmland as climate and weather permit.

Operation: For twenty years, the Wisconsin Dells - Lake Delton Wastewater Treatment Facility has stood the test of time in its ability to provide treatment of the wastewater for two communities. The treatment facility's average winter design flow rate is 0.61 mgd, while the average summer design flow rate soars to 2.83 mgd. The peak design flow is 4.87 mgd. Despite the wide variation in wastewater flows, the treatment facility consistently produces an effluent with biochemical oxygen demand (BOD) and total suspended solids concentrations of less than 10 mg/l. Effluent total phosphorus has also been consistently under 1 mg/L providing a margin of safety compared to the effluent discharge limit of 1.5 mg/L.

The biggest challenge for Superintendent Les Grant and his staff is to manage the solids inventory going into and coming out of the summer season. Les must anticipate the increase in flow by building up mixed liquor concentrations before an additional channel can be brought on line. The challenge is more difficult in the fall when the loading drops and a channel is taken off line. The operations staff must waste and process a large volume of WAS to return the system to its winter operating mode. Although the staff is limited to three people, they have been able to meet this challenge while maintaining one of the most immaculate treatment facilities anywhere.

The Future: The Wisconsin Dells-Lake Delton area tourism industry continues to grow. Increasing indoor and outdoor water park development has increased both winter and summer wastewater flows. To accommodate future needs a plant upgrade is currently under design for construction in 2004. The upgrade will include new screening and grit removal, additional aeration tank capacity, replacement of the existing disc aerators with new aeration equipment, the addition of a fourth clarifier, UV disinfection, sludge thickening and additional aerobic digestion, and increased dewatered sludge storage. As in the original design, the new design includes operational flexibility to meet the widely varying conditions.

The new aeration tanks will be designed to function in any of four capacities: additional aeration capacity, enhanced biological phosphorus removal, sludge reaeration, and temporary sludge digestion (during fall channel shutdown). The disc aerators will also be equipped with variable speed drives to allow energy efficient matching of aeration needs to influent loadings. The new improvements will allow the continued enjoyment of generation of visitors to the Wisconsin Dells-Lake Delton area for years to come.

2002 Influent Information:

Winter Average Month Flow	=	0.91 mgd
Peak Summer Month Flow	=	2.38 mgd
Peak Summer Day Flow	=	3.04 mgd
Peak Summer Month BOD	=	5,100 lbs/d

Existing Design Capacity

Peak Month Flow	=	2.83 mgd
Peak Day Flow	=	3.0 mgd
BOD capacity	=	6,400 lbs/d

Future Capacity (after upgrade)

Design Month Flow	=	4.4 mgd
Design Sustained (3 to 4 day) Flow	=	5.0 mgd
Design BOD	=	10,000 lbs/d

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RICHLAND CENTER WWOA MEETING JUNE 19, 2003

The meeting was started with the Mayor of Richland Center, Rita Kidd, welcoming the group. Darrick Marchwick, a Richland Center operator/ lab technician, gave a talk on industrial monitoring and lab procedures. He discussed various industrial plants in town including butter, yogurt, cheese and milk plants. Darrick discussed sampling problems and disagreements and how they were resolved. He also talked about billing rates.

We then had a talk on manhole rehab given by Matt Houston of Infratech. Matt discussed manhole rehab/ inspection program and sanitary sewer maintenance program. Form for manhole inspection/ training to spot defects. Reasons to maintain manholes/ I - I structural failure etc. What to do with information. Categorize and prioritize restoration needs. He then discussed restoration techniques for infiltration reduction such as grout injection, chimney seal or structural enhancement brush on, spray on poured in place. Bench and invert restoration. Matt then gave a Powerpoint presentation on the monoform restoration system which is rated the same as a new precast manhole or about 75 yrs.

Clint Soule gave a presentation on the upgrading of many of the city of Richland Center's lift stations. Rebuilding reasons varied. Old age, capacity problems and population increase. Clint showed different solutions used to solve the various problems. Examples of submersible stations, self priming stations and wet pit dry pit stations.

Business Meeting

Old Business - Operators Competition need volunteers. Board will give \$15.00 gift certificate toward promotional items to volunteers in operators competition. Need operator of the year and alternate nominations by the Monroe meeting on August 13th. Tape recorder purchase-Mike Meyer. Randy Herwid discussed new NR 149 Lab Rules. He says it doesn't look good. He encouraged members to write letters and get involved. Dale Neis talked about new CMAR and CMOM developments. He also encouraged members to attend the annual meeting and solicited tricks of the trade contributors. He mentioned upcoming training events.

Meeting broke for lunch.

Dave Huth, Richland Center operator, discussed the Landspreading Program at Richland Center. He showed the two thickening processes / DAF and Gravity Belt. The sampling program was discussed. Richland Center uses remote storage systems. Site approvals, soil testing and locating of fields was shown. Spreading techniques and farmer acceptance issues were discussed. Dave showed

slides depicting all aspects of in-house contract hauling. Dave stressed education and good relations with farmers.

DNR Update - George Osipoff

DMRs out in fall with instructions. CMRs will change in near future - will be more tailored to type of facility. Mercury rules for large plant > 1 mgd. quarterly sampling.

Pretour of Richland Center WWTP - Todd Fisher, Plant Superintendent. Todd showed a Powerpoint presentation on Richland Center facility and process units. He gave a detailed explanation of each process and the rationale used in specifying each unit. Of special interest was the use of a DAF unit for primary treatment and cofloating waste activated sludge. Problems with grease in sludge line and solutions were explained to the audience. The meeting adjourned at about 2:45 and many of the 70 people in attendance toured the Richland Center WWTP.

Submitted by,

Mike Meyer
Southern District Secretary

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Wastewater Plant Unwanted Visitor

By: Mark Kerkhoff

An *unwanted* visitor at a wastewater treatment plant. How did *they*, or *it*, get in? Was it through the collection system/interceptor or perhaps through the receiving station from a contract hauler. It can happen at any wastewater treatment facility, and it did, at the Freedom Sanitary District plant.

In Freedom's case, initially, we didn't know where or how *it* got in. But, based on sight and smell, we could tell *it* was present. The oily, greasy film on our aeration basins, coupled with a distinct *solvent* smell in our final clarifier building, were obvious signs there was an intruder. Further inspection of our final clarifiers revealed evidence of a slightly cloudy effluent, but nothing that would cause great alarm, or suggest limitation exceedances.

To evaluate plant process control and return the plant to "steady-state" condition, aeration basin dissolved oxygen (DO) and pH levels were checked. DO was at 5.3 mg/l and pH was 7.3 su, but the mixed liquor appeared greasy and darker than normal. During the following days, DO increased a bit more, and appeared to spark a minimal outbreak of foam on the aeration basins. Water sprinklers were arranged to alleviate that problem. With pH levels maintained, and the effluent looking clear, it appeared the treatment system had nicely stabilized. As typical, Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), Ammonia Nitrogen (NH₃-N), Total Phosphorus (P), samples were sent to a commercial lab for analysis.

Unfortunately, because receiving stream flow is minimal during the summer, the unknown toxic intruder passed through the plant, and caused a kill of smaller fish species, downstream from our outfall. Unaware this had happened, we were notified of the condition by a DNR Conservation Warden several days later. It was quite obvious our facility had been the source. With our plant back to normal, we quickly launched an investigation to identify the toxic contributor.

Commercial and other private discharges to the collection system were inspected, and we

interviewed receiving station haulers. Construction site locations at the local school, and nearby church were considered suspects, and were also inspected. Despite these efforts, we couldn't pinpoint the violator of our sewer use ordinance, which prohibits the discharge of toxic substances.

As a future preventative measure, we will closely monitor construction and large remodeling projects in the area, and remind sewer users of the toxic prohibition. From a treatment plant perspective, we monitor all process control parameters, closer than ever. We will more frequently inspect the outfall and receiving stream, particularly during the low flow summer months. We take great pride in our treatment facility and strive never to exceed permit limitations. While this episode caused great stress for plant personnel, it clearly heightened our awareness to the vulnerability of our plant, and forced us to modify operating procedure. It underscores the fact that; *we all need to watch out for unwanted visitors!*

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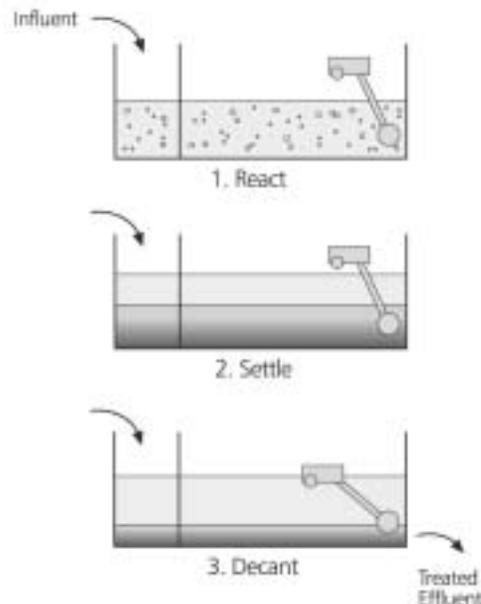
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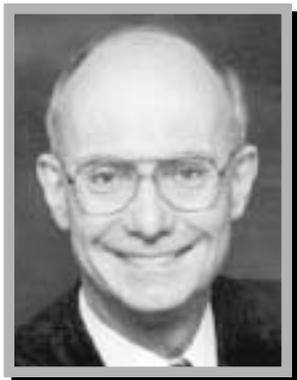
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Conference Keynote Presenter & Awards Banquet Comedian



Conference Keynote Speaker
Mr. Greg Risberg C.S.P, M.S.W.
Wednesday 10-22-03 9:15 am

Greg Risberg is a motivational speaker who has addressed well over a half-million people in the past 20 years. He has brought his "humor with a message" keynote programs to 48 states, as well as Canada, Great Britain and Australia. Risberg is proud to have earned the Certified Speaking Professional designation awarded by

the National Speakers Association. A social worker and educator, Risberg has also lectured frequently at Northwestern University and the Loyola Medical Center. This quiet, unassuming Tom Selleck look-alike will surely leave a lasting impression in your mind, your heart and will certainly tickle your funny bone. The WWOA is proud to present this year's Conference Keynote presenter; Mr. Greg Risberg.



Awards Banquet Comedian
Mr. Brad Upton
Thursday 10-23-03 @ 9:00 pm

Comedian Brad Upton has performed over 3,000 times w/o ever missing a single show. Headlining every major comedy club from Anchorage to Miami, Upton has traveled as much as 35 weeks a year and was logging up to 70,000 air miles a year. It is no wonder that he has solidified himself as Seattle's strongest comedy headliner. Upton has appeared frequently on

A&E's "An Evening at the Improv" and "Comedy on the Road," MTV's "Half Hour Comedy Hour" and Showtime's "Comedy Club Network." He has also opened for such performers as Kenny Rogers, Dolly Parton and Pam Tillis. Upton is a favorite of corporate clients across the nation. The WWOA is proud to present this year's Awards Banquet entertainer; nationally known comedian Mr. Brad Upton.

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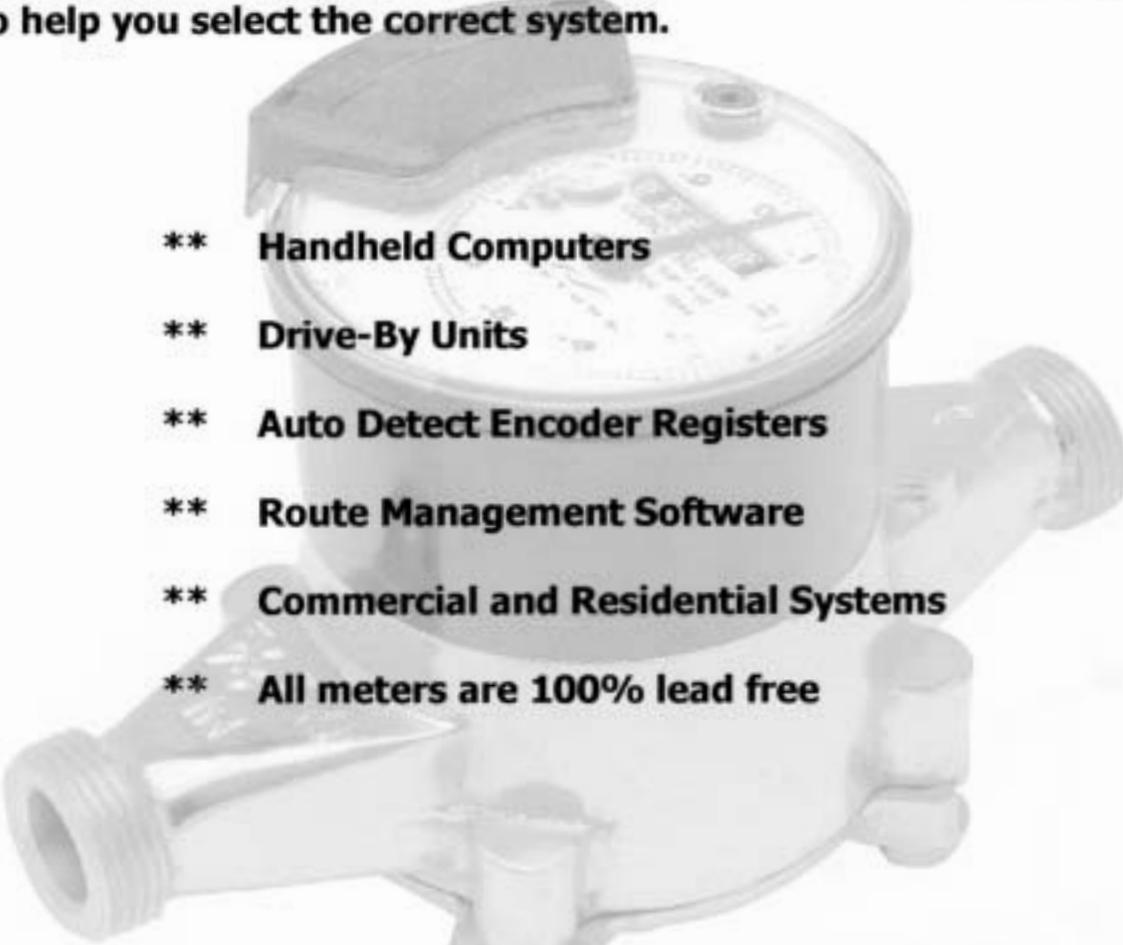


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Wisconsin Dells Here We Come!

The 37th Annual WWOA Conference is now just about a month or so away. Seems like just a few months ago that we had gathered in La Crosse for that great conference that President Elect Randy Herwig and crew assembled for our enjoyment. Almost a year's worth of planning, decision-making and even a few sleepless nights are soon to culminate in one of the finest conferences that the WWOA membership has yet to experience.

Remember that old saying, "Many hands make light work."? Well - that is exactly what putting this conference together is all about. Many, many WWOA members have spent countless hours over the past year volunteering their time and talents in assembling various aspects of the big event. The result of this hard work and dedication is the premiere wastewater conference in the state of Wisconsin year in and year out!

The fabulous Kalahari Resort & Convention Center will be our "home away from home" for the 37th Annual Conference. This will definitely be a new experience for the organization; this is the very first time that the WWOA will be in the WI Dells & Lake Delton area for our week's worth of activities. The Kalahari is truly a great place for this type of large event; the hotel and convention facilities have so many wonderful amenities to offer the WWOA membership.

The WWOA has assembled an outstanding lineup of technical program presentations for this year's conference. There is truly a topic for everyone attending this year's show. From maintenance practices to laboratory procedures, from operational control to management techniques, from facility security to exciting new design principles, this conference has so much to offer. This is a lineup of topics and presentations that the WWOA Board and fellow members of the 2003 Technical Program Committee are very proud to present to the membership.

Come on out early to the Kalahari and participate in your choice of three outstanding Pre-Conference Workshops dealing with the (1) new & improved CMAR, (2) wastewater facility security and (3) laboratory skills improvement. Can't forget the ever-popular Operators Competition and the Tricks of the Trade events that are always crowd pleasers. Friday's Farewell Breakfast will feature the 2003 return of Paul Kent as he presents an enlightening "Regulatory Update: Coming Attractions from Madison" w/ his usual and enjoyable "spin".

Serving as this year's Technical Program Chair, I do have several favors to ask of everyone coming out to the Dells/Lake Delton this year. First of all, please make every effort to take in as many of the technical presentations as possible; again, this is a fantastic lineup of topics. Second, have some good-natured fun! This is a great opportunity to rekindle those old wastewater buddy relationships that have endured the years and even make some new ones.

Third, visit with as many of the vendors as you can and take the time to chat with them about problems you may have encountered and/or solutions you are looking for. They are a great resource and truly fantastic supporters of this annual event. Fourth, in order to put together the type of conference that everyone would like to see, WE HAVE TO KNOW YOUR OPINIONS!!! Please take a few short minutes and complete the 2003 conference survey forms before you depart the Kalahari.

My last favor is this; it is a simple one. Every year we have somewhere around 800 or so conference attendees; yet for whatever reasons, a fair number of attendees chose not to attend the annual Awards Banquet. I sincerely feel that the Awards Banquet is one of the true highlights of the annual conference. This single event provides us a formal setting to acknowledge the outstanding contributions of true wastewater professionals throughout our organization. If you haven't attended the Banquet in year's past, please consider doing so this year! Who knows - you may one day find yourself on the receiving end of one of the many awards presented annually.

On a lighter note - contrary to what WWOA President Dale Neis stated in his May President's Message, I haven't yet lost all my hair! Have lost a few hours sleep no doubt and a few more hours to come that's for sure until the Conference is well under way. Dale - don't need the hair when you got the looks ol' buddy! One more thing Dale & Randy, do us all a favor and leave the Speedos at home guys!

Timothy A. Nennig
WWOA Vice President
Technical Program Committee Chair '03



the
Wisconsin Wastewater Operators' Association

To All Utility Management
State of Wisconsin, USA

Governor Jim Doyle and the State Legislature have proclaimed the year 2003 as the Year of Water in Wisconsin. On behalf of all the residents of this great state, we would like to congratulate those of you who continue to support continued education for wastewater facility operators and employees. As a responsible individual you recognize the need to give operators an opportunity to grow professionally at a time when nationwide demand for skilled operators is rising. You acknowledge that qualified employees are vitally important to community planners as well as local developers. Water utility workers performing their jobs well are key to a community's ability to grow. By actively promoting and supporting the wastewater industry, you demonstrate by example your commitment to the health and environment of your community, and its quality of life.

With the economic conditions throughout the state demanding tough fiscal decisions, take pride in supporting utility workers that are responsible for capital investments that can range from one half to four million dollars per employee. It is your understanding that a wastewater operations staff has to be able to perform a mix of physical and mental work, scientific analysis, and practical know-how in performing maintenance tasks to keep your facilities in compliance with environmental regulations. Wisconsin and the U. S. Environmental Protection Agency modify and change the regulations governing treatment regularly. Technology continues to move the limits of detection for elements to levels never thought achievable. With this improved technology arrives a host of new challenges. Being informed about upcoming regulations and current technologies that are available are critical to avoiding crisis of compliance issues in the future. You have the foresight to see that knowledgeable operators make fewer mistakes and miscalculations. You may have already noted that trained personnel take more pride in their work, and it shows. The investment you continue to make in personnel training is reaped many times over. You are not alone in your efforts to strengthen your utility department.



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The Wisconsin Wastewater Operators Association, (WWOA) is a non-profit, volunteer organization of nearly 2,000 members that work for the advancement of fundamental and practical knowledge of wastewater treatment and wastewater management. This organization is one of the prime sources for training of personnel, and promoting public relations in the pollution control field. The WWOA provides problem-solving solutions through networking and the sharing of information. This organization also provides low cost continuous education credits that your operators need to keep up their state certifications. This organization, made up of utility operators just like the ones working in your community, aids in establishing communication with regulatory agencies. This communication directly affects the outcome of laws and regulations that will influence water quality far into the future.

As Wisconsin celebrates this Year of Water, we invite you to visit one of the regional meetings in your area. Hopefully your community will host a regional meeting, and take the opportunity to draw attention to a well-run facility. Come and see an example of the training seminars that are at the leading edge of issues that affect wastewater treatment technology. Better yet, plan to spend a day at the 37th WWOA Annual Conference. This year's conference October 20th through the 24th is being

held at the Kalahari Convention Center in Wisconsin Dells. This new facility is one of the few that are large enough to host this annual event. More information about the WWOA and our conference is available at www.wwoa.org. You, and those that appreciate the abundance of clean Wisconsin water, will see that the investment being made is paying dividends now, and will continue to pay dividends in Wisconsin's future.

Sincerely,
Dale E. Neis, President WWOA

ANNOUNCEMENT

The WWOA-Lake Michigan District is looking for someone to fill the Secretary/Treasurer position *as soon as possible*.

Anyone interested in the position should contact Bruce Bartel at the Green Bay Metropolitan Sewerage District (GBMSD). His phone number is 920/438-1327, or e-mail bbartel@gbmsd.org.



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the
Wisconsin Wastewater Operators' Association

Dear WWOA Member, Associates, and Guests:

The WWOA Board of Directors cordially invites you to the 37th Annual WWOA Conference to be held October 21-24, 2003. The Conference will be held for the very first time at the exciting Kalahari Resort & Convention Center in Wisconsin Dells, WI.

WWOA activities kick-off Tuesday afternoon with the ever-popular Pre-Conference Workshops scheduled from 1:00 p.m. to 4:00 p.m. There will be three interesting and timely workshops to choose from this year: Workshop #1 "The CMAR: New & Improved"; Workshop #2 "Security at WWTPs" and Workshop #3 "Getting Back to the Basics (In the WWTP Lab)". Separate registration is required for attendance at all Pre-Conference Workshops.

At 6:00 p.m. Tuesday evening, please join us for the traditional "Meet and Greet"; an informal gathering of friends featuring an open buffet of brats, hot dogs, munchies and refreshments in the Kalahari Food Court area. We will also be occupying Ingraffia's restaurant and the outdoor sun deck area adjacent to the Food Court. Come rekindle old friendships and make new friends.

Wednesday morning activities will begin at 9:00 a.m. with an Opening Address by WWOA President Dale Neis followed by our Keynote Address from nationally known motivational speaker and humorist Greg Risberg. Vendor exhibits will open at 10:00 a.m. and run through 5:00 p.m.; in addition, the vendor exhibits will be open Thursday morning from 8:00 a.m. until 12:00 noon.

Concurrent Technical Sessions are scheduled for the mornings and afternoons on Wednesday, Thursday and on Friday morning of the Conference. Training opportunities for large and small system operators will be the primary focus throughout the Conference. The Annual Operators Competition will be a featured event of Wednesday's program beginning at 12:30 p.m. in the Convention Center.

The WWOA Operators Luncheon and Annual Business Meeting is scheduled for 12:00 p.m. Thursday; the Social Hour & Awards Banquet is scheduled for Thursday evening beginning at 6:00 p.m. We invite you to get involved in the organization and honor your fellow

operators at the Awards Banquet. The Awards Banquet will close with nationally known comedian Brad Upton from Seattle, WA. Upton has made numerous appearances on A&E, MTV & SHOWTIME and has headlined every major comedy club from Anchorage to Miami.

Plant tours will feature the WI Dells/Lake Delton WWTP and the Christmas Mountain Resort WWTP on Thursday morning beginning at 8:45 a.m. Space for both tours will be limited, so be sure to sign-up in advance. This year's Spouse/Guest Program will offer a mix of planned excursions and available free time to enjoy the many opportunities that the Kalahari and the WI Dells area has to offer. Please review the Spouse's Program handout for a complete list of activities and offerings.

Enclosed is Conference information and Registration Forms. **PRE-REGISTRATION IS STRONGLY ENCOURAGED!** Lodging information and a map are also enclosed for your convenience. On behalf of the Board of Directors, Technical and Local Arrangements Committee, we hope to see you this fall.

Sincerely,

Timothy A. Nennig
Technical Program
Committee Chair

Gil Hantzsch
Local Arrangements
Committee Chair

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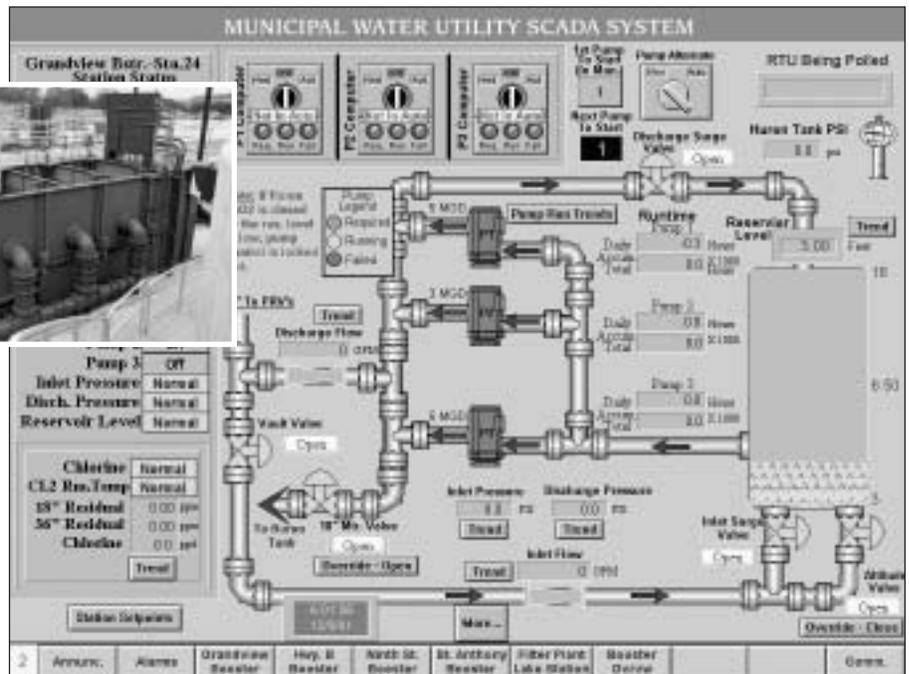
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The CMAR (Compliance Maintenance Annual Report) New & Improved

The compliance maintenance annual report (CMAR) is undergoing substantive changes that include it becoming a web-based reporting form with a new comprehensive collection system section, a new conventional letter grading system (A,B,C,D,F) for each section and numerous other section revisions. The new & improved CMAR; expected to be ready in 2004, will be a significant change for WWTP operators who complete the form. This workshop will introduce the new CMAR; section by section, to WWTP operators. Actual hands-on completion of the sections by workshop attendees will aid operators in understanding how to complete & submit the new web-based CMAR.

Getting Back to the Basics (In the WWTP Lab)

Preparing standards, verifying analytical balance performance and pipetting are a few fundamental lab techniques that are often assumed or simply overlooked. However, successful performance of wastewater tests hinge on these simple but crucial operations. The step-by-step processes for these fundamental techniques will be demonstrated at the workshop. Wastewater operators and laboratory technicians responsible for performing solids, BOD and phosphorus testing will find this presentation invaluable.

Security at WWTPs

This presentation will provide a summary of the current laws, funding and other activities by the government in the area of WWTP security. The workshop will include WI DNR perspectives on this issue as well as the experiences of both a municipality and an industry that have taken steps to better protect their facilities against security breaches. The intent of this session is not to turn each of our WWTPs into a Fort Knox. Rather, this workshop is intended to demonstrate how communities can take reasonable, common sense steps at protecting their investments against damage or misuse.

WWOA Pre-Conference Workshops

Tuesday, October 21, 2003

1:00 p.m. - 4:00 p.m.

Registration Form

Name: _____

Address: _____

C/S/Z: _____

Phone: _____

Employer: _____

Cost: \$10.00 Pre-Registration
 \$15.00 On-site

Includes refreshments between Workshops

3.0 DNR credit hours available for full 1:00 p.m. - 4:00 p.m. workshop attendance (wastewater only).

Mail with Conference Registration to:

Richard D. McKee
WWOA Executive Secretary
416 Herman St., Arena, WI 53503

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PRE-CONFERENCE WORKSHOP AGENDAS

Tuesday, October 21, 2003 ¥ 1:00 - 4:00 p.m.

1:00 - 2:20 p.m. **Workshop #1**
 The CMAR (Compliance Maintenance
 Annual Report) New & Improved
Jack Saltes
 WI Dept. of Natural Resources

Moderator: Ron Dickrell
 Room: Cypress

2:20 - 2:35 p.m. Break

2:35 - 4:00 p.m. **Workshop #2**
 Security at WWTPs
Russ Martin, P.E.
 US EPA Region 5
Dale Doerr
 City of Sheboygan WWTP
Roger Larson
 WI Dept. of Natural Resources
Alto Dairy

Moderator: Craig Walkey
 Room: Cypress

Workshop #3-A
 Getting Back to the Basics
 (In the WWTP Lab) - Part A
Rick Mealy
 WI Dept. of Natural Resources
George Bowman & Graham Anderson
 WI State Lab of Hygiene

Moderator: Kay Marshall
 Room: Banyan

Break

Workshop #3-B
 Getting Back to the Basics
 (In the WWTP Lab) - Part B
Rick Mealy
 WI Dept. of Natural Resources
George Bowman & Graham Anderson
 WI State Lab of Hygiene

Moderator: Tim Nennig
 Room: Banyan

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37TH ANNUAL CONFERENCE WISCONSIN WASTEWATER OPERATORS ASSOCIATION

Tuesday, October 21, 2003

A.M.	Board of Directors Meeting: Ironwood Golf Outing: Christmas Mountain Resort	10:00 a.m. (shotgun start)	
P.M.	Registration Opens: Convention Center Lobby Pre-Conference Workshops: Cypress & Banyan Rooms Regional Officers Meeting: Ironwood Meet and Greet: Kalahari Food Court, Ingraffias & Outdoor Deck	1:00 p.m. - 4:00 p.m. 1:00 p.m. - 4:00 p.m. 4:00 p.m. - 6:00 p.m. 6:00 p.m. - 7:00 p.m. 7:00 p.m. - 9:00 p.m.	Open Buffet w/Brats, Hot dogs & Snacks Social, Refreshments, Beer, Wine, Soda

Wednesday, October 22, 2003

A.M.	Registration Opens: Convention Center Lobby Welcome Address: Convention Center D & E Keynote Address: Convention Center D & E Vendor Exhibits: Convention Center A-C & F-H Technical Sessions: Cypress, Banyan & Bamboo	8:00 a.m. 9:00 a.m. 9:15 a.m. 10:00 a.m. - 5:00 p.m. 10:45 a.m. - 11:55 a.m.	WWOA President Dale Neis Greg Risberg, CSP, MSW See Program Schedule
P.M.	Walk Around Lunch: In Exhibits Area Operators Competition: Convention Center E Technical Sessions: Cypress, Banyan & Bamboo Exhibits Social Hour: In Exhibits Area	12:00 p.m. - 1:30 p.m. 12:30 p.m. - 4:30 p.m. 1:30 p.m. - 4:00 p.m. 4:00 p.m. - 5:00 p.m.	See Program Schedule

Thursday, October 23, 2003

A.M.	Registration Opens: Convention Center Lobby Vendor Exhibits: Convention Center A-C & F-H Plant Tour Departures: Convention Center Lobby Tricks of the Trade: Convention Center D Technical Sessions: Cypress, Banyan & Bamboo	8:00 a.m. 8:00 a.m. - 12:00 p.m. 8:45 a.m. - 11:45 a.m. 9:00 a.m. - 12:00 p.m. 8:00 a.m. - 11:45 a.m.	See Program Schedule
P.M.	Operator Luncheon: Convention Center D & E Business Meeting: Convention Center D & E Technical Sessions: Cypress, Banyan & Bamboo Social Hour: Convention Center C, D, E & F Awards Banquet: Convention Center A, B, G & H Entertainment: Convention Center A, B, G & H	12:00 p.m. - 1:20 p.m. 12:30 p.m. - 1:20 p.m. 1:30 p.m. - 4:00 p.m. 6:00 p.m. 7:00 p.m. 9:30 p.m. - 10:30 p.m.	See Program Schedule Comedian Brad Upton

Friday, October 24, 2003

A.M.	Farewell Breakfast: Regulatory Update w/Paul Kent Convention Center A & H	8:30 a.m. - 10:30 a.m.	See Program Schedule
------	------------------------------------------------------------------------------	------------------------	----------------------

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Aqua Diffusers

High efficiency tube or disc diffusers are offered in portable or fixed configurations. Complete systems including blowers are available.

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Direct drive mixers provide exceptional mixing and are ideal for aeration applications. Units available in 3-75 HP with optional Endura™ Series, 5-year no-maintenance motors for select sizes.

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Utilizes the AquaDDM® mixer in combination with any of several aeration sources, including diffusers, or Aqua-Jet® surface aerators. This system provides a full range of aeration control without compromising mixing. Complete systems including blowers and controls available.

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WISCONSIN WASTEWATER OPERATORS' ASSOCIATION, INC.
37th Annual Meeting † October 21-24, 2003
Kalahari Resort, Wisconsin Dells, WI

Instructions

1. Complete all the applicable entries on the front and reverse of this registration card.
2. Pre-registration saves you money and more importantly time. Register before October 8, 2003, and SAVE TIME & MONEY!
3. Non-Members take advantage of New Registration/ Membership Package.
4. Add Total Due for Technical Program, Spouse Program, Additional Activities and Membership Dues. Make Check Payable to WWOA.
5. Admittance to all events is by badge only including Exhibit Hall, Walk Around Lunch, etc.

Total Enclosed \$ _____ (Please note only cash and checks will be accepted as payment.)

Mail registration form and payment to:
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416 Herman St., Arena, WI 53503

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**NEW REGISTRATION OPTION
Registration/Membership Package**

This package is available to non-members only and is available thru Pre-registration only.

Package provides for conference registration and a two year membership in WWOA for \$85.00. You must fill out the short membership application attached to this registration form. Take advantage of this opportunity to add a WWOA membership, save \$5.00 when compared to non-membership registration and save on registration cost next year. Also complete the Registration Form.

APPLICATION FOR MEMBERSHIP

YES! I want to take advantage of the 2003 registration/membership package

I hereby apply for active membership in the Wisconsin Wastewater Operators Association, Inc.

Name _____
Mailing Address _____
City _____
State _____ Zip _____
Work Phone (____) _____
Home Phone (____) _____
E-Mail Address _____

Affiliation:

___ Sanitary Operator ___ Town
___ Govt. ___ Treatment Plant
___ Business ___ Industrial

Membership Classification:

___ Operator ___ Certified Operator ___ Student
___ Educator ___ Regulatory ___ Retired
___ Consultant ___ Other _____

This applicant is recommended by:

Member _____
City _____ State _____

**Send Membership Application Along with
Conference Registration**

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(In addition to Registration & Sponsorship)

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 After August 15, 2003 \$335.00*

Please note only cash and checks will be accepted as payment for on-site registration.

No Credit Cards

CONFERENCE REGISTRATION

Please check all choices

PRE-REGISTRATION

(Prior To October 8, 2003)

___ WWOA Member \$45.00
 ___ Non-Member \$90.00
 ___ Non-Member plus WWOA Membership
Pre-Registration Only \$85.00
 ___ Student/Retiree \$25.00

ON-SITE REGISTRATION

(After October 8, 2003)

___ WWOA Member \$75.00
 ___ Non-Member \$120.00
 ___ Student/Retiree \$30.00
 ___ Substitution (Re-Print Charge) \$15.00

Please note only cash and checks will be accepted as payment.

No Credit Cards

No refunds of conference fees after October 8, 2003

CONFERENCE REGISTRATION

ADDITIONAL FUNCTIONS

OPERATOR S BUSINESS LUNCH

No. Of Tickets _____ @ \$14.00

AWARDS BANQUET

No. Of Tickets _____ @ \$25.00

Check Choice _____ Prime Rib
 _____ Chicken Marsala
 _____ Macadamia Encrusted Salmon

FAREWELL BREAKFAST

(All Registered Spouse/Guest are welcome)

No. Of Tickets _____ @ No Charge

SOCIAL HOUR

(Courtesy of Manufacturers & Consultant Sponsors)

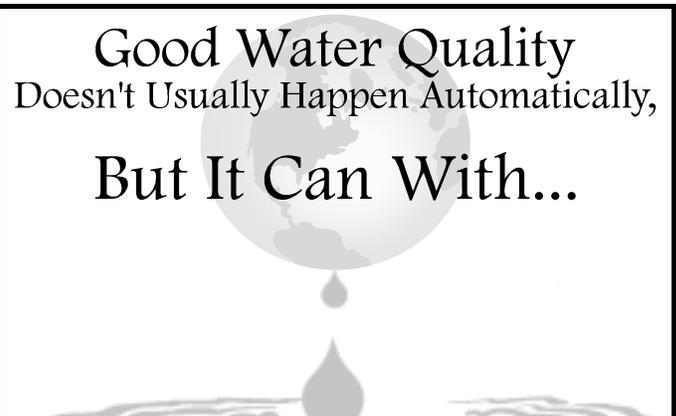
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Spouse/Guest Program:

Chair: Kim Wollner - Christmas Mountain Resort

Technical Program:

Chair: Timothy A. Nennig

Ken Sedmak	Gil Hantzsch
Dale Neis	Dave Sasada
Tom Renner	Jeff Haack
Dr. Aga Razvi	Peter Conine
Randy Herwig	Kay Marshall
Troy Larsen	Ron Dickrell
Tom Kruzick	James Thalke
Judy Tholen	John Bond
Richard McKee	Mal Gross
Harlan Mueller	

Exhibit Committee:

Chair: Carol Strackbein - Sanitaire

Dave Dorner - The Dorner Company
 Tom Mulcahy - The Mulcahy/Shaw Water, Inc.
 Dave Dodge - Adaptor, Inc.

WWOA Officers:

President	Dale Neis
President Elect	Randy Herwig
Vice President	Timothy Nennig
Past President	Judy Tholen
Director (2003)	Thomas Kruzick
Director (2003)	Peter Conine
Director (2003)	Kay Marshall
Director (2004)	James Thalke
Director (2004)	John Bond
Executive Secretary	Richard McKee

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Chair: Jim Shaw - Sanitaire

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 TO ALL CONFERENCE FUNCTIONS.***

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WWOA Spouse and Guest Program

As the guest of someone attending the 37th Annual Wisconsin Wastewater Operators Association (WWOA) Conference to be held at the Kalahari Resort and Convention Center in the scenic Wisconsin Dells area on October 21-24, 2003, we are pleased to invite you to take part in this year's Spouse and Guest Program. The Lake Delton-Wisconsin Dells area offers the scenic beauty of the famed Dells of the Wisconsin River. In addition to natural beauty, the Dells have developed into the Midwest's premier family tourist attraction. The Dells is home to activities ranging from museums to bungy-jumping, indoor waterslides to outdoor go-cart tracks, and golf courses for kids of all sizes.

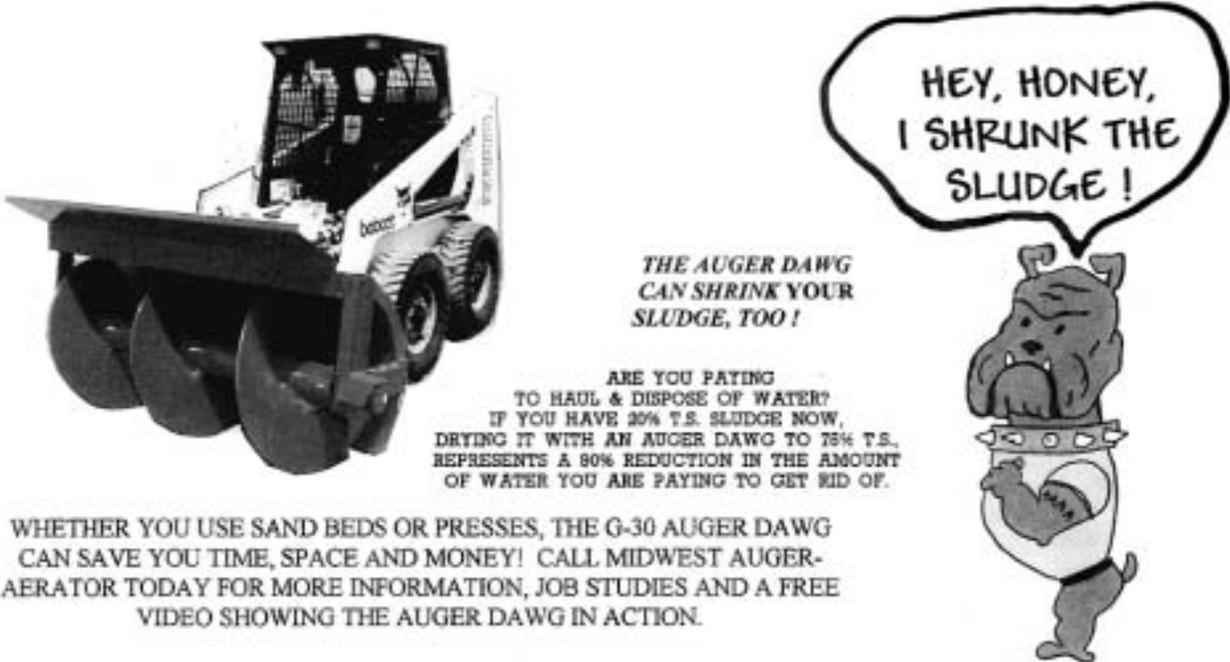
The Spouse and guest Program that we have designed for you this year includes access to all Conference activities, including the Meet and Greet, Spouse Hospitality Room, gift bag, Keynote Address, the Walk-around Lunch, and the Farewell Breakfast. In addition, registration for the full Spouse and Guest Program entitles you to take part in a variety of exciting and interesting activities.

On Wednesday, your program starts with a continental

breakfast in the guest Hospitality Room located in the Acacia Room. You will receive your hospitality gift bag, and then be invited to attend the Keynote Address. After the Keynote, you have the morning free to explore the Kalahari Resort, home to America's largest indoor water park. If you're looking for the ultimate in relaxation, make an appointment at the Oasis Experience Day Spa for a massage, facial, or body treatment.

After the Walk-around Lunch, get ready for an exciting ride on land and water as the Original Wisconsin Ducks will pick you up from the Kalahari for a whimsical and scenic ride through lush woodlands before plunging into the Wisconsin River. A shuttle bus will take you to and from the Duck dock, returning to the Kalahari by 4:00 p.m.

Thursday offers you a tour of the scenic Baraboo area. After beginning your day with a continental breakfast, a tour bus will pick you up at 9:00 a.m. for a guided driving tour of scenic Devil's Lake State Park. The gem of the Wisconsin State Park system, Devil's Lake features towering cliffs surrounding a crystal clear lake. Fall colors should be near their peak, making this an ideal time to visit the park.



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Following lunch, you will have the opportunity to explore historic downtown Baraboo and visit many of the quaint shops located around the courthouse square. Those interested in planning their shopping excursion can visit www.baraboodowntown.com on the internet. Buses will depart the downtown at 2:30 p.m., and drop you off at the Kalahari by 3:00 p.m., leaving you with some time to relax before the Awards Banquet on Thursday night.

We hope you will join us for a great time in the Dells area!

Sincerely,

Gil Hantzsch
Local Arrangements

Kim Wollner
Guest Program

**WWOA Spouse and Guest Program
October 21-24, 2003
Kalahari Resort and Convention Center
Lake Delton, WI**

Tuesday, October 21, 2003

6:00 p.m.
Meet and Greet - Food court and sundeck

Wednesday, October 22, 2003

8:00-9:00 a.m.
Spouse Hospitality Room - Acacia Room

9:00-10:00 a.m.
Conference Opening and Keynote Speaker

12:00-1:30 p.m.
Walk Around Lunch in Exhibit Area

1:30 - 4:00 p.m.
Original Wisconsin Duck Tour

4:00 - 5:00 p.m.
Social Hour in Exhibit Area

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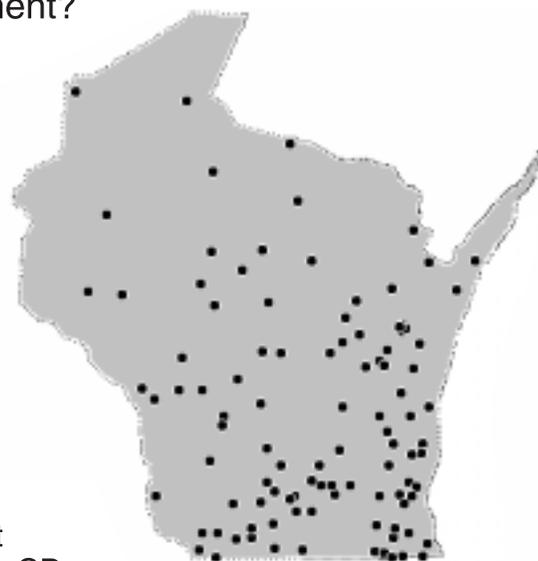
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- John Zatopa, Rhinelander WWTP

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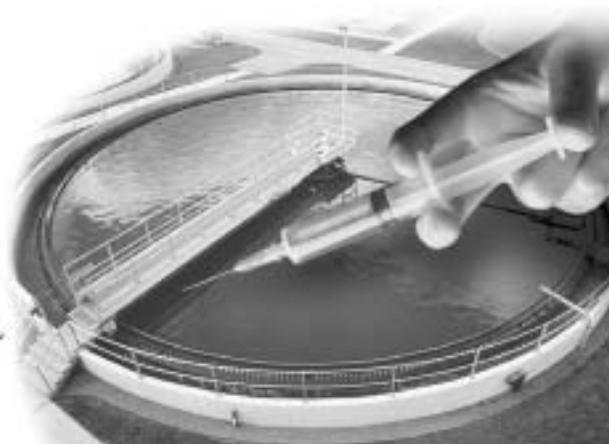
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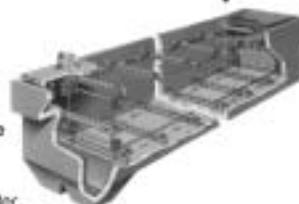
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Thursday, October 23, 2003

8:00-9:00 a.m.

Spouse Hospitality Room - Acacia Room

9:30 a.m. - 3:00 p.m.

Tour of Devils Lake, Al Ringling Theatre, lunch and Downtown Baraboo Shopping

SPOUSE GUEST PROGRAM DETAILS

The Spouse and Guest Program offers two levels of registration. The **Conference Only Spouse and Guest Package** includes the following activities and amenities:

- ¥ Tuesday Meet and Greet
- ¥ Spouse and Guest Hospitality Room
- ¥ Spouse and Guest Gift Bag
- ¥ Wednesday Walk Around Lunch
- ¥ Wednesday Social Hour

Advance Registration for the Conference Only Package is \$45.

The **Full Spouse and Guest Package** includes all of the items included in the Conference Only Package, and adds the following activities and amenities:

- ¥ Original Wisconsin Duck Tour
- ¥ Guided Bus Tour of Baraboo, including
- ¥ Devil's Lake State Park
- ¥ Al Ringling Theatre tour
- ¥ Lunch at Garden Party Cafe
- ¥ Downtown Shopping

Advance Registration for the Full Spouse and Guest package is \$70.

Spouses and Guests are encouraged to register in advance. On-site registration will be available for the Conference Only Package for \$50, but on-site registration for the Full Package will be available at a cost of \$75 subject to availability.

Admittance to all Spouse and Guest Program functions will be by badge only. Please note that the Spouse and Guest Packages are designed for adults.

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SPOUSE/GUEST PROGRAM

General Program \$45.00

Includes:

1. Meet & Greet
2. Admission to the exhibits and Wednesday lunch in Exhibit Hall
3. Gift Bag
4. Hospitality Room
5. Farewell Breakfast

Full Program \$70.00

Includes:

1. All the General Programs Events
2. Keynote Speaker-Greg Risberg
3. Wednesday Oct. 22, Wisconsin Duck ride
4. 10:00 a.m. Thursday, Oct. 23, Narrated Tour of Devils Lake State Park.
5. 11:00 a.m. Thursday, Oct. 23, Tour of Al Ringling Theatre.
6. 12:00 p.m. Thursday, Oct. 23, Lunch-Garden Party/Opera House
7. 1:00 p.m. to 2:30 p.m. Thursday, Oct. 23, Shopping Historic Downtown Baraboo. Return to Kalahari at 3:00 p.m.

SPOUSE/GUEST PROGRAM

(Please Type or Print Clearly)

Last Name First M.I.

Nick Name (For Name Tag)

1. Admittance to all events is by badge only including Exhibit Hall, Walk Around Lunch, etc.

PRE-REGISTRATION (Check One)
(Prior to October 8, 2003)

_____ General Program \$45.00
_____ Full Program \$70.00

ON-SITE REGISTRATION
(After October 8, 2003)

_____ General Program \$50.00
_____ Full Program \$75.00

Persistence Pays

When the funding agencies told the Johnsburg Sanitary District they were ineligible for assistance, Foth & Van Dyke knew something was up. Real-life and the data were out of sync. With Foth & Van Dyke's help and persistence, accurate financial data was developed and the District obtained funding assistance for a much-needed wastewater system. Call Foth & Van Dyke when you need a partner who knows that persistence pays.



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Johnsburg Sanitary District President Franz Schmitz (right) with Foth & Van Dyke Project Manager Steve Marman



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2003 Operators Golf Outing

The 2003 operators golf outing was held on a beautiful sunny day, Monday, June 16, at the Riverdale Country Club and Golf Course in Sheboygan, Wisconsin. 91 golfers attended the annual event and two of the golfers won the coveted traveling trophies. Rich Czerwinski from Milwaukee won "Old Dad's" operator trophy with a raw score of 83 and a Calloway score of 72. Jeff McBain from Crispell-Snyder won the manufacturers/consultant trophy with a raw score of 85 and a Calloway score of 71. Our congratulations are given to two great golfers Rich and Jeff.

We had an excellent lunch and dinner and enjoyed the golf day. Lunch was prepared by our two cooks, Jim Deppiesse and LaMont Russo. Jim and LaMont fry the burgers and brats every year and do an excellent job, Thank you.

Our thanks to the golf committee including Leo Templeton, Pete Albers, Dick Neterval, Carol Strackbein and Ken Sedmak for organizing the outing.

Plans are being made to continue the outing at Riverdale Country Club in 2004. Your comments and suggestions are welcomed as well as participation as a committee member. Just contact Ken Sedmak at 920-208-0296 for suggestions and other comments.

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1980 vintage Carter Sludge Pumps: Model No. 800 Simplex, 80 GPM, 60 ft. TDH, Used < 3 hours. Best Offer. For more information, contact Kris Gauger, Town of Lyons Sanitary District No. 2 at (262) 763-4627 or lyonsdt2@execpc.com

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**WWOA CONFERENCE GOLF OUTING
Christmas Mountain Village Golf Course**

Date: Tuesday, October 21, 2003

Time: 10:00 A.M. Sharp Shot Gun Start
18 Hole Scramble Format

Cost: WWOA Members, Manufactures, Engineers,
Suppliers and Conference Attendees - \$35.00

Cost Includes: Cart, bag tags, bag of tees for each
player, hole events and any scoring
needed and bowl of chili.

Payment must be received no later then October 5,
2003 with names of foursome or individual s.
(Committee will assign if not in foursome).

Please RSVP early as we are limited to 100
participants.

No refunds after October 5, 2003 unless course is
closed by decision of Club Management.

**WWOA PRE-CONFERENCE GOLF
REGISTRATION FORM**

Name _____

Address _____

Phone _____

Part of a Foursome? ____Yes ____No

Others in my foursome:

Make check payable to WWOA. Mail registration
card and fee to:

Richard D. McKee
WWOA Executive Secretary
416 Herman Street, Arena, WI 53503

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**Northwest District Wastewater Operators
Park Falls - July 18, 2003 ¥ Prime Time Supper Club**

Introduction and welcome was presented by District chair, Kurt Damrow, of Park Falls. Following that was a welcome to the City of Park Falls by Dennis Wartgow, head of the DPW and President of Wisconsin Rural Water Association.

The first presentation was on Manhole rehabilitation presented by Matt Houston (Infratech). Matt discussed sanitary sewer system design of communities for best maintenance opportunities as well as capacity considerations. Matt showed a video of a manhole rebuild and restoration techniques, which includes sealing compounds. The presentation also emphasized the need for periodic inspection of the sanitary system. And lets not forget about the safety of confined space entry. The manhole rehab through the mono-form concept not only is considerably less expensive by not digging up an entire street, the traffic can flow and repair is much quicker.

Next presentation was on sewer televising presented by Ron McGill (Northern Sewer Service). Ron went into detail as to the advantages of televising; they include:

1. Sewer service locations of laterals
2. Identification of root infiltration
3. Structural defects of pipe
4. Joint misalignment
5. Solids build up
6. Great planning tool for sewer maintenance program

Ron also played a CD of a sewer-televising program, which showed a sewer being televised as well as a documentation of footages and general information of that sewer section, and how you could advance to any section of pipe by a click of a button due to the CD format. Ron also had a televising demo set up out side.

The next presentation was on PVC pipe used in sanitary sewers presented by Jim Keltner (First Supply Group). Jim discussed the four most common types of PVC pipe used in sanitary sewer installation. Schedule 40 pipe vary in size from inch to 18 inch. - STR 35/3034 pipe vary in size from 4 inch to 24 inch. -DR 18/C900 vary in size from 4



inch to 16 inch. - SDR 26 heavy wall sewer pipe OD varies in size from 4 inch to 24 inch. All these pipes have a recommended use, following the manufactures recommendations will assure long life and be guaranteed. Jim sent samples around the room of pipe sections.

After lunch the next presenter was Abraham Salamzadeh (Tech Sales). Abraham first discussed Automatic samplers. Sampling manholes can

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**2003 WISCONSIN WASTEWATER OPERATORS ASSOCIATION
BOARD OF DIRECTORS OFFICER NOMINATION**

There are three Director positions that will be up for re-election this year. Nominations are also being sought for Vice President and President-Elect.

Please use the form below to indicate your desire to be nominated.

Position Applied for: _____

Name: _____

Home Address: _____

Employer: _____

Occupation: _____

What would you like to see for the future of WWOA?: _____

How do you feel this can be accomplished?: _____

Regional Offices Held & When _____

Comments _____

Send Nominations to: Judy Tholen
 N7597 Rock Lake Road
 Lake Mills WI 53551

- LAKE GENEVA WWTP
- MEDFORD WWTP
- NORTHERN MORAINES UTILITY
- PLOVER WWTP
- SILVER LAKE SANITARY DISTRICT

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determine WPDES industrial permit violations, where non-point flows are coming from, and storm water issues. Advantages of using auto samplers are:

1. Doesn't need to be attended
2. Consistent sample
4. Representative
5. Can be preserved on site
6. Can use AC, DC or solar power options

Maintenance issues that need to be addressed periodically are calibration, tubing replacement, electronic circuit testing, and bottle cleaning. Smart samplers can also test PH, DO, Temperature, velocity, and depth through a pressure transducer as well as take a water sample. Abraham next went into portable flow devices. There are closed pipe (usually under pressure), open channel, (weirs, flumes). Secondary measuring devices consist of Bubblers, ultra sonic, Doppler, pressure transducers, and area velocity sensors. Abraham had several devices to pass around. Abraham also recommended that when using batteries in equipment, that energizer have the best battery life.

The following presentation was by Jim Hanson (DNR Park Falls) and Susan Watson (DNR Rhineland). Jim went over the Ammonia and how it will greatly affect the ponds and lagoons that discharge to surface water. 29% of all wastewater systems in Wisconsin are lagoons/ponds. Susan discussed the industrial and municipal general discharge permits. Explained what a general permit is and what it covers. Susan also reminded operators that a WPDES permit is also required for the water utilities that discharge water to state waters.

Final presentation was by Hank Zwarts (Minnesota Pipe) and Dwight Wiedrich (Ladtech). Hank and Dwight discussed the 100% recycled manhole riser rings. The design and construction was based on dead load, impact, H₂S exposure, and freeze thaw conditions. Also manufacturing catch basin risers now.

Business meeting followed and credit slips were handed out.

Respectfully submitted,

Wally H. Thom
Secretary, Northwest District

WWTF SUPERINTENDENT

South Milwaukee (pop. 21,256). This is an executive level position with responsibilities to plan, organize, and manage all aspects of sewer utility operations with the possibility of future water utility responsibilities. **QUALIFICATIONS:** Bachelor's degree in civil or sanitary engineering, five years engineering design and supervisory/managerial experience related to wastewater systems, or any combination of education and experience that provides equivalent knowledge, skills, and abilities. Wisconsin Wastewater Grade 4 Operator Certification and Water Grade S-D-1 Wisconsin DNR Certification required. Salary DOQ plus excellent benefits. Residency required within one year of appointment. Job description available at the address below or request via the email address listed. **DEADLINE:** Resumes must be received by 5:00 p.m., September 30, 2003. Interested candidates should send resumes to the City of South Milwaukee, 2424 15th Avenue, South Milwaukee, WI 53172 or email to mayzik@ci.south-milwaukee.wi.us.

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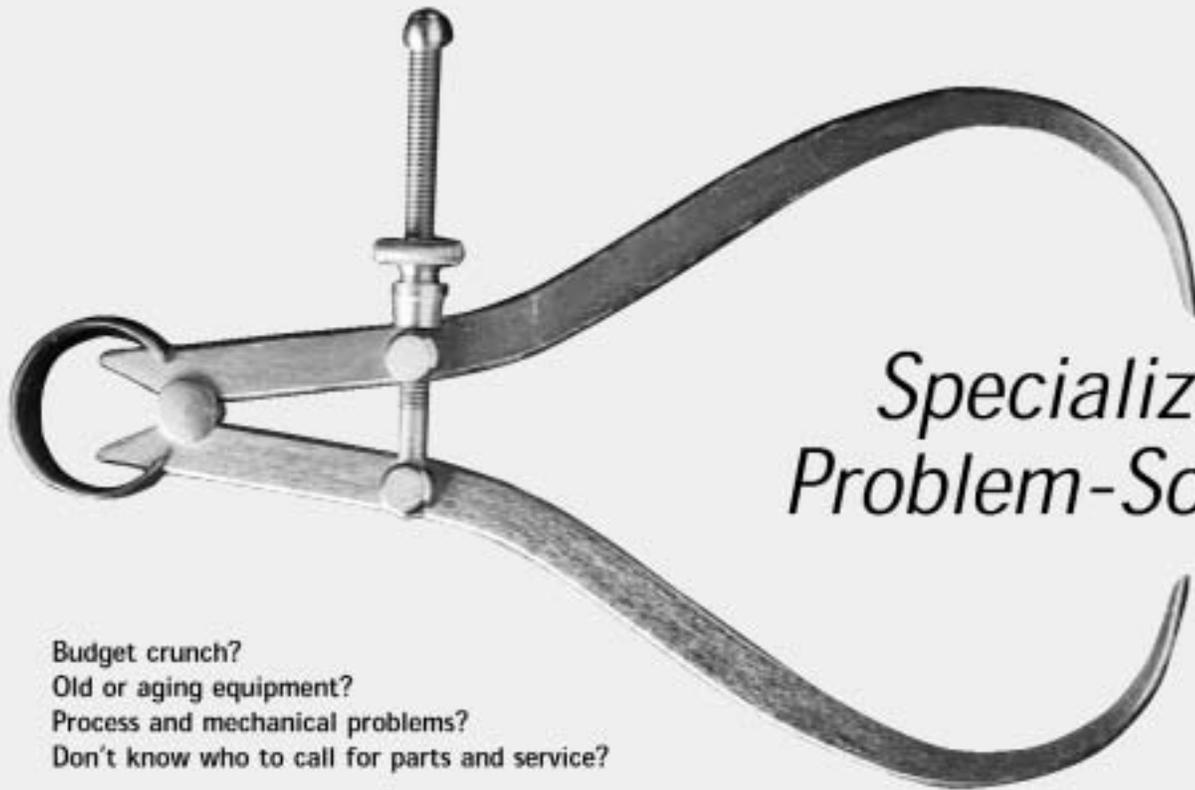
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Best Management Practice (BMP) for Facility Information

By: Ray Grosch

rgrosch@intellisys-is.com

Information Management Technology has evolved significantly with computer technology over the past thirty years.

I recall visiting and touring a number of facilities when I first got started in the water and wastewater business. Many facilities had evolved large spreadsheet type forms, some up to 48 inches wide, where daily data readings from instruments, laboratory and operator measurements were transcribed. Usually this information had been manually collected on a clipboard or bench sheet. A vision of a medieval scribe comes to mind when I think about recopying numbers from one form to another.

Over the years many wastewater facilities have simply replaced their old manual spreadsheets with computer based spreadsheets. During this same period of time information management requirements have grown in scope. Today a facility manager must manage detailed operational process records, laboratory data and quality control records, regulatory reports, asset maintenance records along with management and engineering reports. A spreadsheet is an excellent reporting and data analysis tools however it is a

NOT considered a good tool for data storage. A database management system is considered the best method for managing facility data today.

Best Management Practice (BMP) for information management today dictates that database technology is used for storage of data. Database technology is preferable for a number of reasons including single point entry and multi-user capabilities. Database technology has been identified as Best Management Practice for many years by industry leading organizations such as AWWA and WEF.

The purpose of an information system is to provide accurate information to the appropriate personnel in a timely manner.

Collecting data automatically saves time and reduces data transcription errors.

Data is not always information and information is not always knowledge, however, data properly manipulated by machines or man can become valuable information. Information in the

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—Jerry Butts, Belleville Director of Public Works

GIS can be an effective tool for managing public infrastructure. MSA has helped communities like Belleville use GIS to map their sewer system data, analyze system conditions, project future needs, and control costs. If your community wants to maximize your mapping investments, turn to MSA—Your Trusted Partner!

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presence of skilled humans can become knowledge. Knowledge used properly can result in wisdom. This process has been described as the knowledge staircase.

Are you still working with scribes, or is your facility equipped with an information system that empowers employees with information and knowledge tools for continuous improvement of operations and maintenance?

Additional information about BMP for facility information management is available from IntelliSys Information Systems. Contact info: (800 347-9977) or www.intellisys-is.com

EASY PUMP STATION WET WELL GREASE CONTROL METHOD

Procedure:

First Week: Add 5 gallons of activated sludge mixed liquor 3 times weekly to the wet well (She did M-W-F).

Second Week on: Add 5 gallons of activated sludge mixed liquor once per week to the wet well.

Results:

Eliminates floating grease.

Experience:

I first heard of this during a Water Environment

Federation control of fats, oils & grease advanced training course in December 2002, when Ms. Barbara Smith Superintendent of the Muncie, Indiana Wastewater Treatment Plant related her experiences to the attendees of the course. They use this method on the worst 5 of their 24 wet well pumping stations. Not only have they reduced vactor truck use to once per year but they have restored float controls which were not possible before, due to grease fouling. Ms. Smith has stressed that this is not a substitute for an effective grease removal program but it is an inexpensive method to more effectively utilize maintenance personnel.

This technique is also being utilized in Goshen, Indiana and by the Oak Park Conservatory. Goshen significantly reduced their costs by using activated sludge MLSS in place of a more costly additive.

The operators for Muncie originally got the idea for the method from a 2001 Issue of Water Environment Federation.

Contacts:

Ms. Barbara Smith, Superintendent, Muncie WWTP, 765-747-4864 Ext. 223

Russ Martin P.E., USEPA Region 5, O&M Specialist, 312-886-0268

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NEWS RELEASE

IntelliSys Information Systems is pleased to announce the addition of Judy Tholen as Marketing Director. Judy joined IntelliSys in mid-June.

Judy received a BS degree in Biology from University of Wisconsin Whitewater. She has over 19 years experience in the water and wastewater profession and maintains a Wisconsin Grade IV certification. In her career Judy has served in various roles, laboratory technician, bio-solids technician, and plant foreman at three Southern Wisconsin wastewater treatment plants.

She is a member of:

- ¥ WEF and CSWEF
- ¥ Wisconsin Wastewater Operators Association
- ¥ Illinois Association of Water Pollution Control Operators
- ¥ Minnesota Wastewater Operators Association

Judy has served in a number of offices for these organizations and is currently serving as the Past President of the WWOA.

Prior to joining IntelliSys, Judy was involved in sales and marketing at Environmental Resources, Inc. Judy's new email address at IntelliSys is jtholen@intellisys-is.com.

CHIPPEWA FALLS RECEIVES NATIONAL AWARD

The City of Chippewa Falls Water Utility was recognized at the AWWA National Conference this past June in Anaheim, California. The Utility's Wellhead Protection (WHP) plan earned the prestigious AWWA National Source Water Protection Award. Chippewa Falls was nominated for the national AWWA award after receiving the WWA Achievement Award for Source Water Protection at the WWA Annual Meeting in September 2002.

Chippewa Falls Wellhead Protection Plan protects the drinking water supply by identifying the groundwater sources that supply the City wells, inventorying potential contaminant sources, and developing management strategies to deal with existing and potential future contaminants.

John Allen, Chippewa Falls Public Utilities Manager, noted "We have had an active Groundwater Guardian Team that has been working on public education since 1996. This team helped to develop and distribute educational materials to all City residents, with a special focus on persons within the 5-year zone of contribution residing inside and outside the City's corporate limit."



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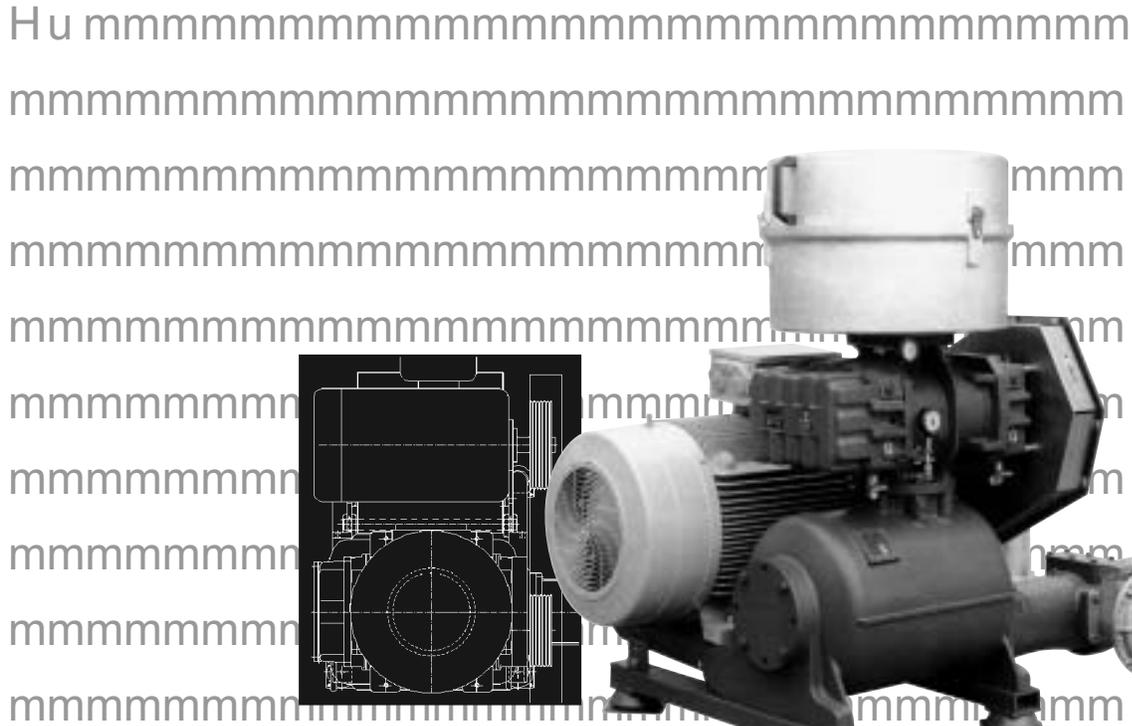
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IN CONTROL

Successful Operations through Process Control

Sludge Age, F/M & Microorganisms

By: Toni Glymph - DNR

How does Sludge Age impact bacteria in Activated Sludge? Bacteria in sewerage multiply when one cell divides into two. As long as bacteria is dividing they are not getting old. Without cell multiplication the cells eventually become old and die. If you recall, bacteria essentially undergo four growth phases. The first phase is the lag phase where bacteria are not growing numerically but are adjusting to the environment. In the second phase, called the logarithmic phase, the bacteria multiply at a logarithmic rate (i.e. 2, 4, 8, 16, 32). The multiplication of bacteria ends as soon as one or more of the essential nutrients (nitrogen, phosphorus, carbon, and sulfur) are depleted, even if you have an excess of the other nutrients. However, as they become "older", some bacteria will accumulate reserved foods and can continue to multiply for a few more generations. The fourth phase is called the stationary phase. Here the number of bacteria remains relatively constant because some are multiplying and some are dying. Eventually, the bacteria enter into the death phase.

What happens when sludge gets too old? Bacteria are a lot like us (my own self, being the exception) in that the older they are the less efficient they are at BOD removal. In older sludges most of the bacteria has entered into the death phase. The bacteria in this phase are subject to a harsh environment. The bacteria are surrounded by an accumulation of waste products, much of which is toxic. There are also changes in pH and a depletion of oxygen and nutrients.

What's F/M got to do with it? The amount of available food compared to the total microbial mass in the aeration tank is known as the F/M ratio. The F/M ratio is a good indicator of bacteria growth and cell condition. High F/M ratios indicate that there is an abundance of food available for the amount of solids in your system. When the F/M ratio is too high, the bacteria will multiply rapidly and will be dispersed throughout the fluid. Low F/M indicate that limited food is available. When the F/M is too low, the majority of the bacteria are dead or dying or that you have way too many solids for the amount of food available. Under these conditions, floc will begin to break up, not settle well, the effluent will become turbid and conditions are created that favor higher life forms such as worms, water flies and mites, and certain

filamentous bacteria types.

Activated sludge has served its purpose once all the food and nutrients are gone. Being a former operator, I do understand the attachment we have to our activated sludge. I promise that if you let it go (WASTE them out), new sludge will return (grow).

So in order to maintain a healthy biomass (bugs) in your system, it is important that you waste often and regularly in order to maintain the proper sludge age and F/M ratio in your biological system. A happy bug is a hard working bug. Use your microscope to "see" if you have happy bugs or not. Having too much "deadwood in the workplace" (dead bugs in your activated sludge) is unproductive and inefficient! You know that! The next few IN CONTROL articles will be about sludge ages and F/M ratios you need for happy bugs. Until next time.

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