Iola Wastewater Treatment Facility

39th Annual W.W.O.A. Conference
October 4-7, 2005
KI Conference Center, Green Bay

HOST:
Green Bay Metropolitan Sewerage District
President’s Message

The 38th Annual Conference at the Kalahari Resort in Wisconsin Dells will go down in the WWOA history archives as an astonishing success. For the second year in a row, the Conference established a new attendance mark with 992 attendees and including almost 130 exhibitors. A spectacular new convention center, wonderful hotel accommodations and outstanding technical program had all the ingredients for another successful event.

My sincere appreciation and gratitude to Technical Program Chair Tom Kruzick for all of his truly remarkable efforts at assembling a top-notch technical program line-up this past October. Unless you have survived the Tech Chair experience yourself, one can only imagine the tremendous amount of time and energy that goes into planning such an event. It is indeed a grueling, exhausting 12-month project. Tom my friend you did good!

Special thanks to everyone who gave freely of their time and talents serving on one of the many Conference related committees. Without each of your individual efforts, the Conference could never have achieved such remarkable success. Best of luck to WWOA Vice President Kay Marshall as she begins to lay the groundwork for next year's 39th Annual Conference in Green Bay. I am certain Kay will do a wonderful job as well!

Congratulations to the following individuals elected by the membership to fill new Board of Director positions: Tom Kruzick (President-Elect), Kay Marshall (Vice President), Jim Thalke, Dave Carlson, John Bond and Bruce Bartel (Directors). It will be an honor for me to continue serving this great organization with the tremendous talents and abilities we have assembled on the Board of Directors. Congratulations to Past President Randy Herwig for an exemplary term as WWOA President the previous 12 months.

For those of you in attendance at the Awards Banquet, you will recall that my President's acceptance speech revolved around the theme of being a WWOA "Utility Player". I truly believe that each and every one of us, serving as our own version of "Utility Player", can improve and enhance this organization when called upon. Just imagine the remarkable things that could take place if each and every one of us contributed just one more effort, just one more idea, just one more improvement to benefit the membership.

The beauty of it is that no one has to be a specialist, an expert or even outstanding in their area of contribution to the organization. Each and every one of us, just an average Joe or Jane, has much to offer this organization and the over 2000 members it serves. Whether it is serving as a regional officer, serving on one of the many WWOA committees, being an active participant in the WWOA Mail List exchange, or offering your community to host a regional meeting. That's what I mean by being a WWOA "Utility Player"!!! Remember those words of Bruce Springsteen's hit song Dancin' in the Dark; part of the lyrics go "Can't start a fire without a spark". If each one of us can serve the WWOA as a "Utility Player", just dare to imagine the remarkable things this growing organization can accomplish?

In Your Service -

President Timothy A. Nennig
You know how you just associate some places with a local product or event. Mention Green Bay and the Packers come to mind. If it's Milwaukee it might be beer, or it might be the Brewers (the baseball team, or maybe the makers of that beer). If it's Iola, the Iola Old Car Show springs to mind.

Every year in mid-July, somewhere around 150,000 automobile enthusiasts of all sorts converge on this Village of approximately 1300 people in Waupaca County. Some showing off their "Pride and Joy." Some buying, selling or swapping everything from those hard-to-get last pieces of trim for a 40 - 70 year old car, to bolt-on accessories for new cars. Some just enjoying the carnival atmosphere and the company. You can find beautifully restored cars for sale, along with rusted heaps, and everything in between.

Hold on! This is supposed to be about wastewater treatment, isn't it? Well just consider what a wastewater treatment facility needs to deal with when the population increases by a factor of 100 for one weekend each year.

The Village enlisted the services of Davy Engineering to plan and design a wastewater treatment system that would meet these special needs well into the future. An entirely new facility was developed to replace an old plant that had more than reached the end of its useful life. Improved technology to allow more efficient operation and maintenance and the ability to treat wastewater to meet current, more stringent discharge standards were the primary incentives. The planning process started in 1998 and continued to 2001 with the preparation of a report evaluating the options available to the Village for meeting these requirements. The design step followed and the project was bid in April 2002. Construction started a month later and was completed before the end of the year.
All wastewater from the Village is conveyed to the new main lift station on Oak Street, from which it is pumped to the new treatment facility. Raw or untreated wastewater enters the influent screen structure where larger solids are removed, washed and compacted. The solids are augered into a bag and disposed of as common trash waste.

From this point wastewater flows to a process control tank, where anoxic and anaerobic microorganisms begin the biological treatment process. This tank is also designed to provide equalization storage during the peak Car Show demand period. Then the wastewater enters the oxidation ditch aeration tank where aerobic microorganisms continue treatment, using the waste as a food supply. Next the wastewater flows into a final clarifier for solids separation. Clarified, highly treated effluent passes through an ultraviolet disinfection basin before discharge to the South Branch of the Little Wolf River. The oxidation ditch, the final clarifier and the UV disinfection basin are all enclosed in a pole barn to protect the processes and equipment from the elements.

Solids with a large population of "activated" microorganisms removed in the final clarifier are returned to the aeration basin to maintain the process. Anoxic mixed liquor from the Oxidation Ditch is returned to the Process Control Tank to maintain the solids concentration. Excess solids are pumped to a sludge holding tank, and stored before ultimately recycling the nutrients and organic matter by landspreading on nearby agricultural lands.

The Iola WWTF was designed to provide treatment for an annual average flow of 0.17 MGD, with a peak monthly flow of 0.215 MGD. It was designed to comply with monthly average BOD5 and TSS limits of 30 mg/L, and a weekly average NH3-N limit of 7.7 mg/L from May through October. The upgrading project was financed with a $1.6 million loan and a $2.0 million grant from USDA Rural Development.

Since this new WWTF began operation, it has achieved consistent compliance with effluent limits, generally by a large margin of safety. The car show and its crowd have come and gone twice without a problem at the WWTF. So go enjoy the car show. The Iola WWTF can handle it!

---

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Two Wisconsin communities have been selected by EPA Region V to receive Operation and Maintenance Awards in 2004. The Green Bay Metropolitan Sewerage District was selected for a first place award in the "Large - Advanced Treatment" category, and the City of Markesan was selected for a second place award in the "Small - Advanced Treatment" category.

The Green Bay Metropolitan Sewerage District (GBMSD) serves the City of Green Bay and 16 nearby communities, with a combined population of 176,000. The plant receives a relatively heavy industrial load from a large number of industries, including 54 significant industrial users, which contribute about one-third of the total flow received. With a design flow of 49 MGD (30 MGD average daily flow), major treatment processes include preliminary treatment, primary clarification, activated sludge biological treatment with single-stage nitrification, biological phosphorus removal, final clarification, seasonal chlorination, and seasonal dechlorination prior to discharge to the Fox River near its mouth on Green Bay. Primary and secondary sludges are thickened, combined, conditioned with polymer, dewatered in belt filter presses, and incinerated in two multiple hearth incinerators. Heat from the incinerator exhaust gas is recovered for plant use in a waste heat recovery boiler, and incinerator ash is hauled to landfill.

This award is based primarily on the following achievements (in addition to excellent pollutant removal):

1. GBMSD has an excellent septage management program, receiving over 30,000,000 gal. of wastes per year, and generating $200,000 per year in revenue;
2. Optimizing the wastewater monitoring program has allowed increased reliance on automation, and has saved $250,000 in 3 years;
3. Since 1987, GBMSD has participated in a cooperative bacteriological monitoring program (with the Brown County Health Department) on the Fox River and Green Bay;
4. GBMSD has a strong industrial pretreatment program, required to control 54 significant industrial and limited discharge users which contribute one-third of the total flow reaching the treatment plant; this program has won Regional awards from EPA, and was nominated for a National award; and
5. GBMSD has an outstanding public education/outreach program, featuring plant tours, talks, presentations, and an award-winning website; GBMSD operates the Jack Day Environmental Education Center, built in cooperation with the City of Green Bay adjacent to the public boat landing.

The Green Bay Metropolitan Sewerage District is managed by Paul Thormodsgard, Executive Director. The GBMSD Commission President is Daniel Alesch, who presides over a five-member Commission. Others recognized include Rita Arwine, Administrative Services Director; Daniel...
Busch, Operations Director; Peter McCarthy, Technical Services Director; and 74 other employees. The design engineering firm for the latest plant upgrade was CH2M-Hill Engineers of Milwaukee.

The City of Markesan plant is designed to treat a flow of 0.362 MGD (receiving an average of 0.192 MGD), while serving a population of nearly 1,400. Approximately 22% of the flow received comes from industrial sources. The plant does an outstanding job of pollutant removal, consistently removing more than 97% of the biochemical oxygen demand and suspended solids, and 99% of the ammonia from the incoming wastewater. Major treatment processes include preliminary treatment, a grease trap, biological treatment in an oxidation ditch, final clarification, chlorination, dechlorination, and cascade aeration prior to discharge to the Grand River, a tributary of the Fox River. Stabilized sludge is held in a storage tank and seasonally applied to agricultural land.

This award is based primarily on the following achievements (in addition to excellent pollutant removal):

1. An aggressive preventive maintenance program, which has helped extend the life of plant equipment, and in 20 years has required only 2 bearings and one motor to be replaced on the oxidation ditch;
2. Several sewer rehabilitation projects in the past 15 years have replaced old clay sewers with plastic sewers, and utility staff have contributed to the design and construction;
3. Two certified employees operate both the city water and wastewater treatment plants;
4. By utilizing facility staff for equipment maintenance and upgrades, the equipment replacement fund has not been used, and now stands at nearly $254,000; and
5. The City owns its sludge land-application equipment and applies its liquid sludge to farmland, thus saving money that would be needed for a contractor to do this work.

The Markesan facility is managed by Tony Doro, Water & Wastewater Superintendent, along with Martin Hansen, Operator/Lab Technician. Others to be recognized include Richard Slate, Mayor; James Clark, Council President; Stephen Bieszki, Streets & Utilities Chairman; four other Council Members; Pat Prill, Clerk-Treasurer; Nancy Zastrow, Deputy Clerk-Treasurer; and Ron Flagel, Public Works Director. The design engineering firm for the latest plant upgrade was General Engineering Co. of Portage, WI.

Awards were presented at ceremonies in both communities on September 1, 2004. At Markesan the ceremony took place at 10:00 AM at City Hall, and at Green Bay the ceremony was at 2:00 PM at the GBMSD wastewater treatment facility.

As a recipient of the Region V First Place Award, the GBMSD is eligible for a national EPA award.

GBMSD was not selected for the National EPA O & M award which was awarded at WEFTEC in New Orleans. GBMSD has plans to reapply for the national award in the future.
North Central District
Fall Meeting
September 22, 2004

The North Central District held its fall meeting at the Taj Restaurant in Rhinelander, WI, on September 25. The Rhinelander Wastewater Utility hosted the meeting. There were approximately 40 people in attendance.

John Zatopa, City of Rhinelander Wastewater Utility, welcomed attendees and introduced the first speaker of the morning, Mark Eversman, of Wisconsin Public Service Corporation (WPS). Mark presented topics on electric power generation, transmission, and power grid operation. He touched on areas of regulated utility monopolies, separated billings to the customer with deregulation, viewing your bill online, the need for more power generation to Wisconsin, and stricter environmental regulations. Mark explained that Wisconsin has only four transmission lines and imports 15% of its electricity. A new proposed Weston 4 Power plant is in the works, which will produce 500 megawatts of electricity compared to the 365 megawatts of electricity that Weston 3 Power Plant produces currently, with only 10% of the air emissions.

Brian Akason, of Energenecs, gave a presentation on Energy Saving Ideas. Brian reminded us that Joe
Cantwell of Focus on Energy is available to help find ways to conserve energy where feasible. Brian encouraged attendees to look at their energy bills and trend their energy use, even install energy meters on-site to identify peak energy demand periods. He also discussed ways to conserve energy by installing variable frequency drives (VFD) on aeration blowers, fine bubble aeration diffusers vs. coarse bubble aeration diffusers, luminescent DO probes vs. membrane probes, and installing high efficiency motors and pumps.

Rich Boden, Superintendent of the Plover Wastewater Utility, followed the break with a presentation on Bacteria Water Quality Criteria / Disinfection Rulemaking Update and E.coli Testing Procedures. Rich explained the health problems due to contaminated water and a brief history of waterborne diseases. He discussed the differences in ambient water quality criteria "to prevent illness in people using waters for recreational purposes" versus disinfection criteria, which are "limits on point source discharges". Rich reviewed the history of ambient and disinfection rulemaking explaining both the EPA's recommendations and the state's Technical Advisory Committee's recommendations. He also discussed current disinfection issues currently under discussion, such as using E.coli rather than fecal coliform as an indicator organism and the limits, variances, and test methods associated with the transition. Currently none of the three E.coli test methods (M-TEC, MFC/MUG, & Colilert) are approved for wastewater substrates. Rich finished by explaining each of the three proposed test method procedures for E.coli currently seeking approval and E.coli test method comparisons.

The morning session concluded with Steve Ohm, Wisconsin DNR, presenting an update on SSO's and Biosolids Management. He explained the importance for operators to report all sanitary sewer overflows to the DNR to prevent disciplinary action. Steve also discussed the EPA's position of "neutrality" on the use and disposal of biosolids and how Greg Kester, State Residuals Coordinator, and many other states are trying to convince the EPA to clearly state its strong support for sustainable environmental recycling solutions such
as land application and public distribution as a preferred management approach. Steve also touched on areas of nutrient management, incorporation requirements, and non-compliant applications to frozen ground, with regards to biosolids.

Ken Bloom, NCD Chairman, led the business meeting. The minutes of the business meeting follow this write up. The business meeting was adjourned, and the group broke for lunch.

Following lunch, John Piotrowski of Packaging Corporation of America, gave a presentation on Biogas Recovery and Reuse at an Integrated Pulp and Paper Mill. John explained to the group that the Tomahawk Pulp and Paper Mill remove most of the BOD and TSS anaerobically rather than aerobically to produce biogas. They partially covered the first 1/3 section of one anaerobic basin and found it was producing approximately 190 cfm of biogas. All four anaerobic basins had the potential to produce 600-700 cfm of biogas. There is approximately 720 Btu's for every cubic foot of biogas produced. The mill decided to combust the gas in a gas package boiler. Biogas is collected from the anaerobic basins and then sent through a condensate trap, a compressor, a hydrogen sulfide packed tower scrubber, a chiller, and finally to the boiler. It was found that iron was most deficient in the anaerobic basins, so ferric chloride was added, which resulted in a 30% increase in biogas production. John explained that the economics to the mill have been very beneficial including green energy credits, reduction of coal consumption by 6000 tons per year (TPY), the elimination of 87,000 TPY of green house gas as carbon dioxide, and more than $700,000 in energy savings to the mill in less than one year.

The day concluded with a tour of the City of Rhinelander Wastewater Treatment Facility.

Many thanks to John Zatopa and all the employees of the Rhinelander Wastewater Utility for all their work that went into hosting and making this meeting successful.

**Business Meeting Minutes**

1) Ken Bloom, NCD Chairman, called the meeting to order.
2) Ken read the last treasurer's report. As of September 1, 2004, $2,718.44 was in our escrow account.
3) Ken thanked John Zatopa and the City of Rhinelander Wastewater Utility for hosting and setting up the meeting. He also thanked the speakers for preparing and presenting the days presentations.
4) Bloom informed the group of the need of one more volunteer for the Operators Competition Team.
5) The 38th Annual WWOA Conference was discussed and attendees were reminded to register before the October 12th deadline to avoid having to pay higher registration fees.

6) Ken reminded the group that two new steering committee officers are elected each fall. Anyone interested in running for a steering committee officer should contact the steering committee, so they can be included on the ballot. Tom Zager presented the results of the fall 2004 steering committee election. Ballots were sent out by mail with the fall meeting notice. Gus Strehlo, Wausau Wastewater Utility, and Ken Bloom, Marathon Wastewater Utility, were elected to 3-year terms.

7) The NCD is still looking for communities to host upcoming regional meetings. If you are interested, contact any steering committee officer. As of now the regional meeting hosts are as follows: Abbotsford-Winter 2005, Almond-Spring 2005, Lakeland Sanitary District-Fall 2005, Stevens Point-Winter 2006, and Antigo-Spring 2006.

8) The floor was open for any other business or concerns. Kay Marshall, WWOA Board of Directors, was in attendance and talked briefly about the Annual Conference and encouraged attendees to get involved in the WWOA. She informed the group that three positions on the board of directors will be opening this fall and anyone interested could contact her or Dale Neis, WWOA Past President.

9) The business meeting was adjourned at approximately 12:00 pm.

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### WWOA Conference Schedule

<table>
<thead>
<tr>
<th>Year</th>
<th>Conference</th>
<th>Dates</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>Conference</td>
<td>October 4-7</td>
<td>Regency Suites &amp; KI Conference Center, Green Bay, WI</td>
</tr>
<tr>
<td>2006</td>
<td>Conference</td>
<td>October 3-6</td>
<td>Kalahari Resort, Wisconsin Dells, WI</td>
</tr>
<tr>
<td>2007</td>
<td>Conference</td>
<td>October 22-25</td>
<td>La Crosse Civic Center &amp; Radisson Hotel, La Crosse, WI</td>
</tr>
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**Keeping Challenges at Bay**

High bedrock. High groundwater. High-density, small residential lots. The challenges posed by installing sanitary sewers in Dykesville were great. But local residents’ commitment to protecting the waters of Green Bay from failing septic systems was greater. Foth & Van Dyke worked closely with the Dykesville Sanitary District to overcome difficult site conditions during sewer construction, and continues to be a valuable partner in protecting water quality in the Door County region. If you need a partner who can find a way to keep challenges at bay, contact Foth & Van Dyke.

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*Dykesville Sanitary District President Dick Charles (left) with Foth & Van Dyke’s Dennis Steigenberger*
Calculating Biosolids Application Rates
By Ron Altmann

The nitrogen required for the crop planted in the next growing season limits the rate at which biosolids can be applied. In Wisconsin, Form 3400-54 (Form 54) is provided by the DNR to determine nitrogen based application rates. This worksheet simplifies its calculations by grouping conversion factors together and using whole percent figures (vs. decimal percent). Form 54 calculates application rates from the total pounds of available nitrogen in one ton of dry solids.

Another method of calculating biosolids application rates would be to use the percent available nitrogen in the dry solids. Both methods provide the same results, but for those used to the percent method, Form 54 can be difficult to follow.

This article will explore both the percent available nitrogen and the pounds nitrogen per dry ton method of calculating biosolids application rates. It will begin with a simple nitrogen based fertilizer rate using percent nitrogen. This method will then be compared to Form 54’s calculations.

Calculating Fertilizer Application Rates
Calculating fertilizer rates are rather straightforward. Needed are:

1. The recommended application rate. The recommended nitrogen per acre is based on the growing seasons expected crop, crop yield, and soil conditions.
2. The fertilizer analysis. A fertilizer with an N-P-K of 10-10-10 means that 10% of the fertilizer by weight is nitrogen, 10% phosphorus, and 10% potassium.

To apply a recommended rate of 100 lbs/acre nitrogen with a fertilizer that is 10% by weight nitrogen, divide the percent nitrogen into the recommended rate.

Nitrogen based application rate =

\[
\text{Recommended N/acre} = \frac{100 \text{ lbs/acre}}{0.1} = 1000 \text{ lbs/acre}
\]
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If a farmer also spreads manure on this field, the manure's nitrogen is accounted for by "crediting" or subtracting the amount from the recommended value. In this case, 20 lbs of nitrogen will be credited due to manure application.

Nitrogen based application rate =

\[
\frac{\text{Recommended N/acre} - \text{N credited/acre}}{\text{Percent N in fertilizer}} = \frac{100 \text{ lbs/acre} - 20 \text{ lbs/acre}}{0.1} = \frac{800 \text{ lbs/acre}}{0.1}
\]

Form 54 calculates nitrogen loading from the pounds nitrogen in one ton of fertilizer. Using the same 10% nitrogen fertilizer...

\[
0.1 \times 2,000 \text{ lbs/ton} = 200 \text{ lbs nitrogen/ton of fertilizer}
\]

Nitrogen based application rate =

\[
\frac{\text{Recommended N/acre} - \text{N credited/acre}}{\text{Lbs N per ton of fertilizer}} = \frac{100 \text{ lbs/acre} - 20 \text{ lbs/acre}}{200 \text{ lbs N/ton}} = \frac{800 \text{ lbs/acre}}{0.4 \text{ tons/acre}}
\]

Though the application rate is expressed in different units, it is the same quantity.

Unfortunately, calculating biosolid application rates are not this simple. The nitrogen it contains is in two forms that must be converted into an equivalent value. Nitrogen credits must also be calculated if biosolids have been applied in the past two growing seasons.

Types of Nitrogen in Biosolids

When inorganic fertilizers are used, the calculation uses the analysis numbers directly. However, biosolids contain nitrogen in two forms and corrections are needed to combine data into one equivalent value.

1. Ammonium nitrogen - Sludge lab analysis values are used directly. Surface application requires a correction.
2. Organic nitrogen - Sludge lab analysis values are first converted to an equivalent value crops can utilize. If additional biosolids are applied a residual value must be credited for two more years.

When biosolids are tested, the nitrogen lab values are given in percent (dry weight), which is the correct form for the percent available nitrogen method. In Form 54, the percent nitrogen must be converted into pounds nitrogen per dry ton of solids.

CONGRATULATIONS!!
Robert W. Young
Lake Tomahawk Sanitary District

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Ammonium Nitrogen

The ammonium nitrogen is utilized directly by the crop and can be easily accounted for. If the biosolids are surface applied, it is estimated that one-half of the ammonium is lost through volatilization.

As stated previously, ammonium nitrogen lab values are given in percent, which is used directly in the percent available nitrogen method. Ammonium is accounted for in Form 54 when the percent ammonium is converted to available nitrogen in pounds per dry ton. If one ton equals 2,000 lbs and the concentration is 1% ammonium nitrogen, then:

\[
2,000 \text{ lbs/ton} \times 0.01 = 20 \text{ lbs ammonium N per ton dry solids}
\]

Form 54 makes this calculation with whole percent and canceling two zeros from 2,000:

\[
20 \times 1 = 20 \text{ lbs ammonium nitrogen per ton of dry solids}
\]
For surface application, Form 54 halves the amount of nitrogen (due to volatilization) by taking the whole percent nitrogen value times 10 (ten is half of 2,000 with two zeros canceled).

10 x 1 = 10 lbs ammonium nitrogen per ton of dry solids

**Organic Nitrogen**

In a biosolids lab analysis, organic nitrogen is not tested directly. It is calculated by subtracting ammonium nitrogen (NH4) from total kjeldahl nitrogen (TKN).

\[
\text{TKN} - \text{NH4} = \text{Organic Nitrogen}
\]

To be utilized by the crop, organic nitrogen must be mineralized into the inorganic form with only a portion of the original organic nitrogen becoming available to the crop each year. The mineralization rates given below are estimated amounts for municipal biosolids based on Wisconsin's climate and soil conditions. (The mineralization values below are from Form 54.)

- Application year: 25%
- 1 year ago: 12%
- 2 years ago: 6%

For the year of application, the calculation is simple: 25% of the organic nitrogen is converted to an available form crops can utilize in the growing season. Suppose this year's organic N is 5%.

\[
0.05 \times 0.25 = 0.0125 \text{ or } 1.25\% \text{ nitrogen in dry biosolids}
\]

Form 54 converts percent nitrogen into pounds of mineralized nitrogen per dry ton of solids...

\[
0.05 \times 2,000 \times 0.25 = 25 \text{ lbs N per ton dry solids}
\]

The calculation above is shortened in Form 54 by using whole percent and multiplying by 5 (five = 2000 lbs per ton x 0.25 with two zeros canceled to compensate for whole percent). The answer is in pounds nitrogen per dry ton of solids.

\[
5 \times 5 = 25 \text{ lbs nitrogen per ton of dry solids}
\]

**Organic Nitrogen Credits**

Credits for past years' application are more complex.

The "1st year ago" 12% mineralization rate is on the past year's unmineralized 75% portion. (See Figure 1.)

**Figure 1.**

![Mineralization Rates](image)

To calculate past credits, both the concentration in percent and amount applied are needed. In the percent example below--5,000 lbs of 5% organic nitrogen biosolids were applied per acre in the past two years.

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The formulas above can be simplified by using an equivalent mineralization factor that is based on the first year's organic nitrogen (the product of "Unmineralized Portion" and "Mineralization Rate" given in the table above). See calculations below.

1 year ago \( (1 - 0.25) \times 0.12 = 0.09 \text{ or } 9\% \)

2 years ago \( (1 - 0.25) \times (1 - 0.12) \times 0.06 = 0.04 \text{ or } 4\% \)

Form 54 also calculates the pounds nitrogen to credit. It does so a little differently by using whole percent numbers and the application rate in tons (5,000 lbs = 2.5 tons). The mineralization factor given in Form 54 performs double duty. Not only does it take into account mineralization, it also converts the answer from tons to pounds and allows use of whole percent organic nitrogen content by moving the decimal point over two places:

1 year ago
\[
\frac{(1 - 0.25) \times 0.12 \times 2,000 \text{ lbs/ton}}{100} = 1.8
\]

2 years ago
\[
\frac{(1 - 0.25) \times (1 - 0.12) \times 0.06 \times 2,000 \text{ lbs/ton}}{100} = 0.8
\]
Comparison of Biosolid Application Calculations

Table 2. provides a detailed side-by-side analysis of application rate computations. (See Table 1. for raw data used in the form.)

Credits for mineralized organic nitrogen were discussed previously. Note: The biosolids are assumed incorporated, thus the ammonium nitrogen is not halved in Table 2. (i.e., in the "percent available nitrogen" method, NH4 is not multiplied by 0.5, and in the "pounds available nitrogen" method, NH4 is multiplied by 20.)

Credits for "Other Sources" include fertilizers or manures that were also applied. Fertilizer credits are simply the amount applied. Manures are more difficult to estimate due to the various concentrations of nitrogen in different manures. (Farm services are available to estimate this value.) All credits are totaled and subtracted from the recommended pounds nitrogen per acre. Note: Both methods provide the same total recommended loading rate.

The difference between the two methods is how the available nitrogen is calculated. In the percent method, available nitrogen is in decimal percent and in Form 54’s method, nitrogen is given as pounds per dry ton of solids. Then both methods calculate the recommended dry weight of nitrogen per acre, with the percent method in lbs/acre and the dry ton method in tons/acre.

Application rates for both methods must convert the "dry" figure to "wet" by dividing the percent solids into dry weight. Next, the wet weight is multiplied by conversion factors giving an application rate in gallons or cubic yards per acre.

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### Table 2. Comparison of Biosolids Application Calculations

#### Using Percent Available Nitrogen Method

<table>
<thead>
<tr>
<th>Loading Rate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended lbs nitrogen per acre</strong></td>
<td>133</td>
</tr>
<tr>
<td>(Based on crop and expected yield)</td>
<td></td>
</tr>
</tbody>
</table>

**Less...**

<table>
<thead>
<tr>
<th>Residual Nitrogen</th>
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<tr>
<td>2 yrs. ago</td>
<td>0.05</td>
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</table>

| Other Sources (manure, fertilizer) | 10 |

**Less... Total Residual Nitrogen** | 43 |

**Total Recommended Loading Rate** | 90 |

#### Percent Available Nitrogen in Dry Solids

|  |
|------------------|--|
| **TKN** | 0.06 |
| Less | |
| **NH₄⁻** | 0.01 x 0.5 if surface applied | 0.01 |
| **Organic Nitrogen** | 0.05 x 0.25 mineralization | 0.0125 |

**Total Percent Available Nitrogen** | 0.0225 |

#### Recommended Nitrogen Loading in Dry lbs Per Acre

|  |
|------------------|--|
| **Dry lbs/acre** | 90 |
| **Total recommended lbs N/acre** | 90 |
| 4,000 dry lbs/acre |  |

**Percent total N in biosolids** | 0.0225 |

#### Application Rate

|  |
|------------------|--|
| **Gallons/acre** |  |
| **Observation** | |
| **Tons/acre** |  |

|  |
|------------------|--|
| **Gallons/acre** | 2,398 |
| **% Solids x 8.34 lbs/gal** | 0.2 x 8.34 |
| **Cubic yards/acre** | 2,398 |
| **% Solids x 8.34 lbs/gal x 7.48 gal/yd³ x 27** | 0.2 x 1,684 |
| **11.9 yd³/acre** |  |

|  |
|------------------|--|
| **Lbs Nitrogen Available Per Dry Ton** |  |
| **TKN** | 6% |
| Less | |
| **NH₄⁻** | 1% x | 20 |
| **Organic Nitrogen** | 5% x 5 for mineralization | 25 |

**Total lbs Nitrogen Available Per Dry Ton** | 45 |

#### Recommended Nitrogen Loading in Dry Tons Per Acre

|  |
|------------------|--|
| **Dry tons/acre** | 2 |
| **Total recommended lbs N/acre** | 90 |
| **Lbs nitrogen/dry ton** | 45 |

#### Application Rate

|  |
|------------------|--|
| **Gallons/acre** | 2,398 |
| **% Solids** | 20 |
| **Cubic yards/acre** | 2,398 |
| **% Solids** | 20 |
Conclusion

Both methods calculate the same biosolids application rates and both methods would be simple if not for the following variables...

1. A credit must be calculated for the amount of organic nitrogen applied in the past two years.
2. The biosolids organic value must be calculated.
3. The available biosolids nitrogen must be totaled from the ammonium and organic portion.
4. The nitrogen lost if surface applied must be accounted for.

In addition, the application rate must be converted to a form that can be land applied.

The percent method shows the math more completely, making it easier to follow the units. While Form 54's use of whole percent and grouping conversion factors into one figure will make calculations easier and should reduce errors.

Follow the units when performing calculations in Form 54. Below are a few suggestions to keep in mind:

1. Recommended application rates and credits are in pounds per acre.
2. For any fertilizer, biosolids, or manure source; note whether the nitrogen content is expressed as "percent available nitrogen" or "pounds available nitrogen per dry ton."
3. Form 54 needs dry weight numbers. Are your lab results and the farmer's "other nitrogen sources" figured in "wet" or "dry" weight? Any wet weights need to be converted to dry weight by dividing by the decimal form of percent solids.
4. Form 54 uses whole percent figures; thus any constant will need to have its decimal point moved over to the left in order to compensate.

Hopefully, this discussion will provide a better understanding of Form 54's calculations and possibly a means of double-checking calculated values.

Photos taken by Tim Young.

Thanks to the following individuals for reviewing this article--DNR Residuals Coordinator, Greg Kester, P.E.; DNR Permits, Judy Gottlieb; and Waukesha Pretreatment Technician, Tim Young. Your time and suggestions were greatly appreciated.

2004 Operators Golf Outing

The 2004 operators golf outing was held on a beautiful sunny day, Monday, June 28, at the Riverdale Country Club and Golf Course in Sheboygan, Wisconsin. 96 golfers attended the annual event and two of the golfers won the coveted traveling trophies. John Reiss from Kiel won "Old Dad's" operator trophy with a raw score of 76 and a Calloway score of 72. Bill Drager from USEMCO won the manufacturers/consultant trophy with a raw score of 71 and a Calloway score of 70. Our congratulations are given to two great golfers John and Bill.

We had an excellent lunch and dinner and enjoyed the golf day. Lunch was prepared by cook, Jim Deppiesse. Jim fried the burgers and brats and did 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 2005 unless an alternate golf course is selected by others. There was discussion about moving the Outing to a more central location in the State to attract more golfers. 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.
## WWOA Committee Chairs
### 2004/2005

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<tr>
<th>Committee</th>
<th>Chairperson</th>
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<tr>
<td>Executive Committee</td>
<td>Tim Nennig</td>
<td>(262) 375-5330</td>
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<tr>
<td>Technical Program</td>
<td>Kay Marshall</td>
<td>(715) 236-4018</td>
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<td>Local Arrangements</td>
<td>Bruce Bartel</td>
<td>(920) 438-1327</td>
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<td>Jean Van Sistine</td>
<td>(920) 438-1057</td>
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<td>Nominations</td>
<td>Randy Herwig</td>
<td>(608) 592-3247</td>
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<td>Tim Nennig &amp;</td>
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<td>Tom Kruzick</td>
<td>(920) 232-5365</td>
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<td>Promotional Items</td>
<td>Dave Carlson</td>
<td>(920) 906-4693</td>
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<td>Clarifier</td>
<td>Dan Busch</td>
<td>(920) 438-1101</td>
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<td>Web Site</td>
<td>Bruce Bartel</td>
<td>(920) 438-1327</td>
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<td>Exhibits</td>
<td>Carol Strackbein</td>
<td>(414) 365-2231</td>
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<td>Manufacturers &amp; Consultants</td>
<td>Jim Shaw</td>
<td>(414) 365-2200</td>
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<td>Publicity</td>
<td>John Bond</td>
<td>(715) 749-3175</td>
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<td>Membership</td>
<td>Richard McKee</td>
<td>(608) 795-0024</td>
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<td>Annual Awards</td>
<td>Tom Kruzick</td>
<td>(920) 232-5365</td>
</tr>
<tr>
<td>Operator Training</td>
<td>Dave Carlson</td>
<td>(920) 906-4693</td>
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<td>Tom Asmus</td>
<td>(920) 908-0296</td>
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<td>(715) 749-3175</td>
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<td>(262) 246-5184</td>
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<td>Regional Coordinator</td>
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<td>(262) 524-3626</td>
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<td>(715) 845-8000</td>
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<td>Jim Thalke</td>
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<td>(920) 929-2956</td>
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<tr>
<td>Directory</td>
<td>Richard McKee</td>
<td>(608) 795-0024</td>
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</tbody>
</table>
LIFETIME MEMBERS


2004 LIFETIME MEMBERS

Thomas W. Bast
Thomas J. Bunker
Jerry Butts
Joseph S. Cannestra
David R. Carlson
Jerry R. Carroll
Lee R. Copeland
Ronald Eifler
Kerry M. Gloss
Jeffrey J. Haack
Ronald E. Hoffman

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Paul A. Lange
Roy R. Laviolette
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Larry R. Marcks
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Dale E. Neis
William Ohm

Kim Putz
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Richard A. Smith
Leslie Steffeck
Gary Stephan
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Alden Pool & Municipal Supply Co.
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BERNAUER AWARD

Wally Thom (R) City of Rice Lake
Presented by Tim Nennig

KOBY CRABTREE AWARD

Glenn Smeaton (R) City of Madison MSD
Presented By Tim Nennig

WWOA MEMBERSHIP AWARD

Gilbert Hantzsch (R) MSA Professional Services
Presented by Pete Conine

2005 WWOA BOARD OF DIRECTORS

(L - R) Tim Nennig, Dave Carlson, Tom Kruzick, Pete Conine, Kay Marshall, Randy Herwig, Jim Thalke, John Bond, Bruce Bartel
2004 REGIONAL OPERATOR AWARDS

Lake Michigan Region

Larry Lambries (R) City of Two Rivers
Presented By Kevin Skogman

North Central Region

James Riege (R) City of Wausau
Presented By Ken Bloom

South East Region

Gary Buntrock (R) Village of Fredonia
Presented By Kris Gauger

Southern Region

Les Grant (R) City of WI Dells/
Village of Lake Delton
Presented By Skip Poster

West Central Region

Mark Flock (R) City of Sparta
Presented By John Bond

Northwest Region

Bruce Degerman (R) City of Barron
Presented By Craig Walkey
Now I have the words.

Thursday evening at the annual WWOA awards banquet I was the recipient of the prestigious George F. Bernauer award. When I went up to receive the award from Tim Nenning I was almost speechless. I could not find the words to say what this meant to me, so now that the dust has settled and I have time to digest the full meaning, I am ready to put in to words, my feelings. As I was listening to the introduction of the 2004 Bernauer award winner I was thinking how accomplished this person was. As the introduction went on things started to sound a lot like my life and before I know it my name was called. I was totally dumbfounded and deeply humbled. I got up and approached Tim Nenning, he handed me the award and I turned around to address the group. Seeing the entire room stranding up and applauding me for my contribution to this great profession made me choke. I should have said many things but couldn't, so bare with me now.

I joined the organization 25 years ago, mostly because my boss Ron Perkovich prompted me to do so. Also 25 years ago was the first time I set foot at a wastewater plant. Not knowing anything about the wastewater field I set my sights on getting certified. Getting certified meant getting a pay raise so my drive was money motivated. Funny how when you learn about something that is interesting, your drive changes. Realizing there was more to wastewater than what was behind the fences at Rice Lake I took a new direction. I studied, attended training sessions, received an associated degree, mentored school kids, promoted the Northwest district, promoted the State organization, worked with the DNR and I continue to be involved in any effort that will make the waters of the state better.

Why did I do and continue to do all this? Because I have a passion for the industry. Once it is in your blood you continue to push forward and never turn back. Those of you who share the same passion know that we do not do what we do for the awards.

Although it is nice to be recognized by your peers, it by no means signifies an end to a successful career, but clearly gives a boost to continue to do our best, unconditionally.

I was truly humbled to receive the George F. Bernauer award and will cherish the experience forever. I am in good company with the past award winners who names read like a list of who's who. I know there will be others in the future who will feel the passion and join us in protecting the waters of our beautiful state and promoting the wastewater industry.

Probably a good thing I did not find the words that night, we would probable still be there.

THANK YOU,

Wally H. Thom
Everywhere You Are

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The 2004 Operator's Ride was held on the weekend of July 22-24. Bill and "Weezy" Schroeder of Waubeno were the hosts for the ride and the traditional Thursday night cookout. The cookout got off to a slow start at the Schroeder's house, due to their large & fierce-looking dog, which could scare a medium-sized buffalo. Offers of friendship to this creature were fruitless until Bill revealed its name - Daisy. Peace being achieved with the canine contingency, everyone settled in to enjoy the evening which included a bonfire, good food, good friends, and good "refreshments".

All met Friday morning in front of the Wabeno Police/Fire Station blocking every entry and exit from the place. The police chief showed up and proceeded to escort the group out of town - out of kindness or frustration - no one knows! He did have a big grin on his face as he stopped traffic on Highway 32 and directed the group off into the woods!

Bill, the intrepid (or is it insipid?) leader located a series of long-forgotten logging/covered wagon roads and led us to Athelstane, then somehow found his way to Highway 141. On to Pembine and into Dunbar where Richard's Supper Club proved to be a nice place for lunch with friendly service and good food.

Heading North after lunch, we had almost made it to Florence when a bike lost its voltage regulator. Not to pick on any brand... but hum "If You Knew Suzie" and you won't be far off. A group of the guys got it going by giving it a good shove, but 10 miles later it stopped for good. From there, the group split up, some staying to help and the rest heading for the Gateway Motel in Land-O-Lakes. The evening was spent at leisure, with some ambitious souls finding time to decorate Reid's bike with an improvised Bike "Bra" and matching mudflaps. (Ask Reid to see the photos!)

A slow & challenging breakfast was eaten at the Gateway, afterwards the ride headed out with Reid proudly leading the way with his new & unusual bike accessories. The second mechanical mishap occurred 10 miles out when a bike lost its alternator (hum "Silver Wings" while thinking Gold). A small group split off to make repairs and rejoined the group later.

Saturday's route was through scenic backroads through Presque-Isle, Winchester, Mercer and on to Beaver Lodge on beautiful Rice Lake. Lunch, rest, relaxation were all enjoyed along with the gorgeous view off the deck.

After a gas stop in Boulder Junction, Gary P. of Rockford, IL drifted off the pavement on a curve, got into some sugar sand, and dumped his bike. Three others pulled off to help him but the shoulder was so soft that two of them also tipped over! Luckily, the damage limited to cuts, bruises, a sore knee and Gary's damaged pride. He managed to drive his bike back to the motel after being checked out by the EMT's and filling out a report for the police.

The banquet was a little subdued due to the afternoon's events, but things livened up considerably after everyone realized that Gary & passenger had escaped serious injury. Reid presented his "REIDDY" awards and another biker presented door prizes to three lucky people, including a pint of something guaranteed to cure infertility, sterility, frigidity, and virginity.

After the traditional story/joke-telling session, the group split up to relax in their preferred venues: the pool, bar, or their rooms. On Sunday, everyone headed home - looking forward to making next year's ride a safe one!
SALES ◇ SERVICE ◇ REPAIR ◇ INSTALLATION

ENGINEERED PRODUCTS HAS EXPERIENCE WITH THE FOLLOWING MANUFACTURED EQUIPMENT

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Please mark your calendars now and plan on attending the 23rd Annual Spring Biosolids Symposium, which will be held on March 15, 2005 at the Holiday Inn - Holidome in Stevens Point, Wisconsin.

A full day event, with 6 Wisconsin DNR approved continuing education credit hours, is planned. Topics will include presentations on a number of current issues, including:

- Bob Bastian from U.S. EPA will discuss the Agency's current policy and stance related to beneficial reuse of biosolids and defense of its biosolids regulations.

- Pat Murphy from the Madison Office of the U.S. Department of Agriculture's Natural Resources Conservation Service will discuss the interactions and potential conflicts between nutrient management planning and biosolids reuse in Wisconsin.

- Chip Elliott from Penn State University will present results from a study comparing the availability and fate of phosphorus from the land application of biosolids, manure and commercial fertilizers.

- Mark Patronsky, Senior Staff Attorney for the Wisconsin Legislative Council, will present recommendations from the Legislative Council's attempts to coordinate the growth of septicage and holding tank systems in non-sewered areas with the capacity and ability to receive such wastes at local wastewater treatment plants.

- How GIS systems can be used in site approvals and management of land application programs.

- Greg Kester will provide an update from the Wisconsin DNR and Dick Wolkowski will provide an update from the University of Wisconsin-Extension.

- Greg Kester will present a "Heads Up" look into the future regarding biosolids issues on the horizon.

Please see the WWOA website (www.wwoa.org/training_calendar/index.htm) for additional information and a seminar registration brochure.
Southern District Meeting  
August 26, 2004  
Sun Prairie, WI

The Southern District WWOA held their summer meeting on August 26 at Sun Prairie, Wisconsin. The City of Sun Prairie hosted the gathering at the American Legion Post 333 in Sun Prairie.

Sun Prairie Mayor Dave Hanneman welcomed everyone who was in attendance.

The days first speaker was Gil Hantzsch of MSA Professional Services, Inc. Gil tackled the topic of treatment facility upgrades. He gave members a number of things to be aware of as they proceed through facility planning, design, and construction. Gil explained how population growth, plant age, and changing effluent limits brought about the need for a plant upgrade at Sun Prairie.

After a break and a visit with vendors Mr. Rich Knoelke of Mulcahy Shaw spoke to members about screens. He overviewed the various types of screens available including severe duty, fine, and stair screens. Rich also explained elongated bar screens and spiral screens. Options for screen controls were discussed which included timer, upstream float, and differential level controls. He briefly described the stair screen which was in use at the Sun Prairie WWTP.

The morning’s next speaker was Miguel Vera of Eimco...
Water Technologies who explained how you can use ultrasound to improve digestion at a treatment facility. He noted that the technology has been used in Europe for some time. With 40-60% of plants total expenditure used on sludge disposal it has been critical to attempt to minimize the amount of sludge produced. Ultrasound treatment disintegrates sludge through a process known as ultrasonic cavitation. Treated anaerobic sludge will have an increased digestion rate, increased VSS reduction, increased gas production, and an overall decrease in sludge volume according to Miguel.

The morning session ended with the Southern District business meeting. Skip Poster presided over the meeting. He mentioned that the Southern District operator competition team was still in need of a couple more members. He let everyone know that a collection systems event will be added to the competition agenda this year. Awards will be given to the top three teams this year. Also, Skip asked for host facilities for the upcoming regional meetings for 2005. The Board received a number of nominations for Southern District Operator of the Year and has chosen the best candidate. Members approved the motion to appoint Harry Mathos to the chairperson position for 2005. Our past chairperson, Bonnie Pundsack, has been inactive on the Board for more than a year.

The afternoon's first speaker was Jan Scott of Unison Solutions. Jan spoke about micro turbines. With their small size they can be installed almost anywhere. The typical size for biogas is 30 KW. Jan pointed out that micro turbines have clean emissions and high efficiencies.

Duane Schuettpelz of the WDNR spoke next about CMOM. He explained the purpose of the CMOM was to reduce sanitary sewer overflows, promote maintenance of treatment systems, and allow for community growth and expansion. A main emphasize will be to look at the reasons that lead up to a SSO as well as their frequency. Duane said by doing this it can be determined whether the SSO could have been avoided. He said that Notices of Violation (NOV) will be issued to at least 80 permittees.

Lastly, Larry Benson of WDNR covered regulatory updates.

Following the formal meeting the Sun Prairie Wastewater Treatment Plant hosted a tour of their facility.
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The meeting was called to order by district chairman Craig Walkey. Craig then introduced the Village President, Bill Bell. Bill welcomed the group to Turtle Lake and commented that the group as a whole probable knew more about the community of Turtle Lake since he was new to the area. He did make reference to the new wastewater plant and the importance the wastewater facility has in any community.

Craig then introduced Jack Saltes- Dept. of Natl. Resources Bureau of water shed management. Jack's only focus was to talk about the eCMAR. Jack went through the road map on how to get registered to be able to use the electronic filing process. First and foremost you will need access to a computer. You will need to establish an e-mail address and a password for the WAMS (Web Access Management System) Jack handed out a form to fill out that identifies the person entering the data and the person submitting the form. This form will need to be in the hands of Gail Mills before you can proceed. Jack went over the web screens you will see when using your ID and password. Jack also mentioned that as you enter data, "SAVE OFTEN". This is a reality so all wastewater plants will need to register and get on board.

The next presenter introduced by chairman Walkey was Julia Riley- Dept. of Natl. Resources bureau of

I want a laboratory that causes me no anxiety, saves me money, has superior client service and has a great reputation based on continuous performance.

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watershed management. Julia spoke on homeland security issues at the federal level concerning water/wastewater security. VA's for water supply was required by June 30, 2004 for systems serving populations greater than 3301 with an emergency response plan to be submitted 6 months from completing the VA's. VA's for wastewater plants are not required but recommended. Julia went over why it would be a good idea to do a VA for the wastewater plant. There are funding sources for plants who have done VA's and are in need of funding. One such source would be the Office of Justice. Julia pointed out that security concerns are not just international terrorists, but also include domestic terrorist, vandals/criminals, eco-terrorist, disgruntled employees, computer hackers, and natural disasters/spills. Julia discussed the potential health issues and property damage issues. Julia went over a number of simple security measures that will help as well as some more in-depth security measures.

The next presenter introduced by chairman Walkey was Larry Damman-DNR Fisheries Biologist. Larry correlated the partnership between Wisconsin waters and wastewater from multiple sources. Larry discussed the pollution issues in the early 70's with industry being the bigger contributor. However, through improved environmental awareness and proper chemical uses the situation has greatly improved. One of the measures that fish biologist use is the IBI-Index of Biological Integrity. This helps them evaluate the quality or status of streams in the state. Indicators can be fish populations, fish species, aquatic insects, and plants. Another pollutant problem is medical waste washing up on shores such as needles and plastics. Also chemical compounds from prescriptions are getting through the human body and ending up in the waters of the state, since the wastewater plants are not designed to remove or treat this waste. This is showing up in the IBI. As a final display, Larry did bring in for show and tell a Chestnut lamprey, which is native to Wisconsin, waters. This is a very slithery and quick creature. No touching for me.

Following the lunch there was a tour of the newly revamped wastewater plant. The plant has a fine screen, two parallel oxidation ditches, biological and chemical removal of Phosphorus, two clarifiers where the out fall goes to a wetlands and Moon Creek. The
solids are sent to two aerobic digesters, through a centrifuge and on to the cake biosolids storage building. A 600 KW generator was also part of the upgrade.

Following the tour chairman Walkey introduced Jay Michaels-Minnesota Erosion Control Association. Jay started by introducing the program the association has developed called NEMO-Nonpoint Education for Municipal Officials. The program focuses on educating the municipal officials on better uses for storm water and better ways to deal with the situations storm water creates. Jay discusses how regional development originated by such factors as, where water was present like lakes or rivers, railroad spurs, and highways or road systems. Water quality is tied to land use; and land use is determined by local officials who did not always understand the full impact of their decisions. They do not need to be experts but they do need to know the right questions to ask to be good stewards of the environment. Jay mentioned that the #1 source of pollution is non-point. New concepts are being designed to incorporate keeping the rain water on site. Such as flowerbed uses, lawn irrigation and recreational ponds. Approximately 50% of all rain find it's way to a receiving waterway. This has a number of parameters that are problems. Problems such as Nutrient run off, Pathogens, sediment carry Toxic contaminants, debris, thermal issues and ecological stress. Did you know that 1 lb. of miss applied phosphorus can result in 300-500 lbs. of algae bloom in a lake? Recharge area of aquifers is being blocked by impervious surfaces. Another did you know, 10% of impervious surfaces start impacting ground water and 20% of impervious surfaces will start degrading the ground water quality of a recharge area. Development is starting to use LID-Low impact development, which involves letting the water that falls on a given area stay on the area it fell. Such practices as curbless residential roads, vegetation plots vs. pipes and infiltration vs. detention ponds. Another did you know, A parking lot for any commercial business is based on the one shopping day maximum for its design. The day after Thanksgiving. There are new designs for parking lots that are porous surfaces and also designs that collect the surface water run off and convey it back under the parking lots into a drain field system. Jay said the day of ignoring storm water is coming to a head and the water shortages being felt throughout the country are real and now.

Chairman Walkey opened the business meeting. The treasure report was given. The Escrow account at state has a balance of $1,177.87 and the regional check book has a balance of $2,540.89 as of 10-25-04.

The secretary's report was accepted as printed in the Clarifier. There was no other old business. Under new business chairman Walkey announced the site and dates for the 2005 meeting in the Northwest region:

Spring of 2005 will be in City of Barron on March 25th

Summer of 2005 will be in Medford on June 24th

Fall of 2005 will be in Siren on September 30th

There was an election of officers, as follows:

Treasurer - Mike Romsos
Secretary - Wally Thom
Vice chairman - Rick Carroll
Current Chairman is Craig Walkey
Incoming Chairman is Mike LaRose

A motion was made to adjourn. Meeting was adjourned at 4:00 PM.

Respectfully submitted,

Wally H. Thom

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De Pere Wastewater Treatment Facility is First in U.S.
Installation of High-Efficiency Blower System

The first U.S. installation of the highly energy efficient HST Integral turbo-compressor has begun operation at the City of De Pere Wastewater Treatment Facility in De Pere, WI. This 4 million dollar project is intended to upgrade the main power supply of a large portion of the treatment facility and to upgrade its old air compressor system that supplies the needed air for the activated sludge biological treatment system. The goals of this current project are to increase efficiency of the aeration system and to increase the reliability of power supply. Another major benefit of this project is reduced maintenance of the air supply system.

The De Pere Wastewater Treatment Facility is currently designed to provide tertiary treatment services for the City of De Pere and several surrounding communities. Energy costs to operate the plant's existing five (5) 450 horsepower blowers is approximately $170,000.00 per year. The new HST blower system will optimize control of the process while realizing a savings in power costs of $40,000.00 to $50,000.00 per year.

The HST Integral turbo-compressor, furnished by ABS Pumps, Inc. of Meridan, Ct, is a high-speed centrifugal air compressor that uses an integral motor and compressor with a variable speed drive to match air compressor output with demand. The motor and compressor are a single rotor design that operates at speeds up to 25,000 rpm, which is possible since there are no bearing or friction components in the compressor. A magnetic bearing system maintains the proper clearances around the rotor so that it does not touch the motor stator. This means that no oil is required for lubrication and no bearings are needed in this compressor, eliminating the maintenance requirements normally found in standard air compressors.

At this time, the only HST turbo-compressor installations are in Europe, making this the first installation in the United States. HST Integral, the manufacturer of the turbo-compressor, is located in Lappeenranta, Finland, and is a subsidiary of ABS Pump Company. The U.S. division of ABS is located in Meridan, CT. Crane Engineering Sales,
headquartered in Kimberly, WI, is the Wisconsin representative and service center for the HST compressors. The design engineer for this project is Robert E. Lee & Associates of Green Bay, WI.

The City of De Pere Wastewater Treatment Facility, located at 315 Leonard Street, is dedicated to provide its' customers with the best service and low cost treatment, while maintaining harmony with the environment. In order to maintain quality treatment and protect mechanical function, the Facility Manager, Michael Kersten, has been replacing outdated/failing equipment and renovating treatment systems over the last seven years, all without increasing their treatment costs. The facility, utilizing computerized control/surveillance of operations and staffed by a complement of 23 personnel, has been the recipient of the USEPA Regional Award for excellence in operations and maintenance, and the WDNR Brogan Award for excellence in environmental achievement. Other recent awards include the National Energy Watch Award, the Clean Bay Backer Award, and the Brown County Conservation Alliance Award.

CONTACT INFORMATION:

Michael Kersten
De Pere Wastewater Treatment Plant
315 Leonard Street
De Pere, WI 54115
Phone# 920-339-4094
Fax# 920-330-4048
mkersten@mail.de-pere.org
President Herwig called the meeting to order at 10:20 AM Friday, August 27, 2004. All Board members were present, except Jim Schreiber.

Also present was Troy Larson from Strand Associates.

The minutes of the April 29 and April 30, 2004 Board meeting were reviewed. Neis made a motion to approve the minutes. Kruzick seconded the motion. Motion carried.

McKee presented the Financial Statement for Board approval. McKee reported as of August 15, 2004 we have $138,521.72 in revenues and $125,352.18 in expenditures with excess revenues over expenditures totaling $13,169.54. After a brief discussion Nennig made a motion to approve the Financial Statement as presented. Bond seconded the motion. Motion carried.

McKee presented the vouchers 168 - 219 for Board approval. After a discussion, Nennig made a motion to approve the vouchers as presented. Marshall seconded the motion. Motion carried.

**COMMITTEE REPORTS**

**PERMANENT ARRANGEMENTS** - No report.

**AWARDS** - Nennig provided the Board with a list of annual award recipients. All the regions except the Northwest Region have submitted nominees. After a discussion, Nennig made a motion to approve the Operator of the Year Awards with the Northwest Region pending a qualified candidate. Neis seconded the motion. Motion carried.

The Committee has received nominees for the Bernauer and the Crabtree Awards. The Service...
Award will not be awarded this year. There are 32 Lifetime Award recipients this year. A discussion ensued. Nennig made a motion to approve the nominees for the Crabtree and Bernauer Awards. Bond seconded the motion. Motion carried.

TECHNICAL PROGRAM - Kruzick informed the Board there have been some changes to the Technical Program.

Gary Hanson and Earth Tech have offered to help us again this year with the conference abstracts.

Gerald Bizjak of Becher Hoppe will again help with the evaluations.

CONFERENCE SIGNAGE - Troy Larson discussed with the Board the needed signage for the Conference.

LOCAL ARRANGEMENTS - President Herwig reported for Gil Hantzsch. They will provide the same staff for registration and security this year.

SPOUSE PROGRAM - President Herwig reported for Kelly Zimmer. Zimmer provided the Board with the Spouse Program Agenda and a cost for the gift bags and bussing.

GOLF OUTING - Kruzick stated Mike Barreau from Norquip will be in charge of the golf outing this year. Mike is in charge of collecting the prizes and donations.

EXHIBIT COMMITTEE - President Herwig reported for Carol Strackbein. We have sold 110 spaces for the Conference this year as of 8/25/04 a total of 88 booths has been sold to exhibitors. The committee is planning on assigning the booth spaces the first week of September. A discussion ensued regarding the exhibit hall layout. In her report Strackbein Exhibit Chair stated that there is enough space for the exhibit in the large hall (I-VIII) and recommended the exhibits be in I-VIII of the large Exhibit Hall. However the Board decided to split the Exhibit between the two Hall(I-VIII and Hall A, H and G, with the operators competition in B. McKee informed the Board that we will need additional security for the second Hall. Herwig stated he would
talk to MSA and arrange for the additional security for the second Hall.

President Herwig will contact Strackbein regarding the exhibit halls and the booth layout. President Herwig will provide Exhibit Chair Strackbein and McKee with a set-up floor plan for the exhibit setup.

OPERATORS COMPETITION - Thalke informed the Board that five teams have signed up to compete in the Operators Competition this year. There will be a new event this year, the Collection System Event.

MANUFACTURERS AND CONSULTANTS - President Herwig reported for Jim Shaw. The Manufacturers and Consultants Committee will again sponsor fi of the walk-a-round lunches and fi of the Exhibit Hall refreshments. The Manufacturers and Consultants will cover the cost of the beer, wine and soda to extend the Meet & Greet until 9:00 and will contribute 100% of the cost for the Banquet Social Hour. They will also contribute $500.00 scholarships to applicants approved by the WWOA Board of Directors.

OTHERS - Conine stated he received a total of four applications for scholarships. All of the applications are for the four-year program. Only one of the four applicants fully meets the requirements of the scholarship program. A discussion ensued. Neis made a motion to award the four-year scholarship to Justin J. Stanek. Thalke seconded the motion. Motion carried.

Neis reported that Dan Tomaro and Dave Carlson are going to run for the 2-year Directorship including incumbents, Jim Thalke and John Bond. Kay Marshall will be running for the office of Vice-President and Tom Kruzick will be running for the office of President-Elect.

OLD BUSINESS

OTHERS - President Herwig presented the Board with revisions to the Memorandum of Understanding for the Governmental Affairs and Biosolids Symposium for the Board to review.

There being no further business, Kruzick made a motion to adjourn. Bond seconded the motion. Motion carried.

President Herwig adjourned the meeting at 3:00 PM on Friday August 27, 2004.

Respectfully submitted,

Richard D. McKee
Executive Secretary
Eventually, even the best pumps go bad. Wastewater pumps live in harsh and unforgiving environments. They are often ignored and abused. It is the kind of lifestyle that leads to breakdowns.

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Supervisory Control and Data Acquisition (SCADA) systems can integrate data from motion sensors, glassbreak detectors, window/door alarms, surveillance cameras and other security equipment alarms. Should you program your SCADA system to monitor and evaluate your security equipment alarm data, or connect your security equipment to a separate alarm control panel? Consider these factors in making this decision:

1) Is your SCADA system connected to the Internet?
2) How secure are your data transmitting units?
3) Who will maintain your security alarm equipment?
4) Who will evaluate and respond to your security equipment alarm data?

Is your SCADA system connected to the Internet?

Computer hackers can use SCADA system Internet connections to enter and disable your security equipment alarms. A security alarm system is more vulnerable when it is programmed into an internet-connected SCADA system. Security alarm systems are more secure when they are connected to their own control panel with fiber optic line transmission. A separate control panel connection also maintains security protection when you have lost power, have the SCADA system down for repairs or upgrades, or are in an emergency manual operation mode.

How secure are your data transmitting units?

Typical SCADA system hardware includes Remote Telemetry Units (RTUs) to transmit data to the computer/primary control center. If you install a motion detector in a remote lift station, will you transmit the security alarm data through a RTU to your SCADA system? If so, consider these factors in evaluating the reliability of the security equipment data:

- Is the RTU/SCADA system able to function at all times to receive data?
- Can the transmitted RTU data be intercepted, altered or interrupted during transmission?
- Can the RTU unit or security equipment be remotely deactivated?

If you answered yes to any of the above questions, then your security equipment alarms are vulnerable to false readings. Consider how to transmit your security equipment alarm data in a more secure way, such as through telephone lines or optic fiber lines.

Optic fiber lines are able to transmit more information than a telephone line. Transmission of photographic images of a plant from surveillance cameras requires more data storage and speed transmission capabilities than the transmission of equipment on/off status data. Remote evaluation of images from surveillance cameras by a security company may require the installation of optic fiber lines.

When choosing your type of transmission system consider:

- The speed of transmission needed,
- The amount of data that can be transferred,
- Who will evaluate the security alarm data, and
- The cost.
Who will maintain your security alarm equipment?

Security equipment alarms need annual testing to make sure all connections are functional. Security firms who install security equipment often offer a very low cost annual maintenance fee with a lifetime warranty on their installed security equipment.

Some security firms may not be familiar with installing and maintaining security equipment that is connected to a SCADA system. They may charge you more initially for this type of installation, or you may need to have both the security firm and wastewater treatment staff perform annual maintenance. It may be more costly to maintain your security equipment alarm system if it is programmed into your SCADA system, than if it is installed on its own separate control panel.

Consider the initial installation cost and the annual maintenance cost into your decision to program your SCADA system to receive security equipment alarm data.

Who will evaluate your security alarms?

Operators routinely evaluate and respond to mechanical and electrical failures at wastewater treatment plants. But experts recommend professionals trained in self-defense respond to security equipment alarms.

For the quickest police response, you may want to convey your security equipment alarms directly to your local police department. If your police department doesn't have the ability to receive your calls or digital readings through a dispatch center, you could use a security firm to receive and evaluate the alarms and then call the local police department for response.

An added benefit of a separate security equipment alarm control panel is that you can also connect in temperature and smoke detector alarms. All of these "first-responder" type alarms can be consolidated into one control panel. This data can then be transferred to a local dispatch department or security company for evaluation and response referral.

Ultimately, the question you need to ask is: "How can we achieve the fastest response to a security breach or fire?" Your answer to this question will help determine who you choose to receive and evaluate security equipment alarms for response.

### 2005 Clarifier Deadlines

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- Willow Springs, IL

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IntelliSys Information Systems is pleased to announce the addition of Martin Rognlien, P.E. to our staff. Marty has experience in utility construction engineering and is a registered Professional Engineer since 1992 with the State of Wisconsin.

He received his B.S. degree in Electrical Engineering from U.W.-Platteville in 1987 with an emphasis in all areas offered including Digital/Computers, Controls, Power and Communications. In 1993 he received on behalf of Madison Gas and Electric (MGE), the "Capital Community Citizens 24th Annual Orchid Award" for contributing to the enhancement of the environment on a project he designed. Marty was also awarded to the "Green Team" by MGE for environmentally conscious ideas involving company construction and facilities. Likewise he also initiated automation and efficiency improvement projects at MGE.

In addition to his engineering experience Marty also has six years experience in small business development and financial management. During that time he serviced and supported customers for all 13 locations of the "2003 Time Magazine Quality Service Dealer Award" winner.

I went down to the treatment plant to it I wed, To see my mixed liquor and be sure she ain't dead
Sure was dark and foamy and sad
Looked in the clarifier, sure made me mad

Full of solids just pouring over those weirs
All becuz I didn't waste enough ya hear
Those filaments were happily in there too
Helping float solids for me and for you
Ooooh, I got them mixed liquor blues
Oh man, I can't have them leave me
All becuz I love them so much
And now I got me a bad case of them blues

I say I have just too much to do
Can't waste everyday, every week for you
With grass to be mowed and snowplowing too
So leave me alone in my other jobs I do

The plant runs itself so well
That's what to DNR I adamantly tell
I only need to waste when thick and rich
So give me a break DNR and stop your bitch.

Ooooh, I got them mixed liquor blues
Oh man, I can't have them leave me
All becuz I love them so much
And now I got me a bad case of them blues

Process control? What is that you say
No time for that either, got other work today
MLSS and settling tests and centrifuge spins?
Come on now that's just unnecessary din

An aeration basin as a digester too
Is how I run the plant its true.
It's less sludge to waste and much less to haul,
So leave me alone and let me do what I do.

Ooooh, I got them mixed liquor blues
Oh man, I can't have them leave me
All becuz I love them so much
And now I got me a bad case of them blues

By the skin of their teeth the floc'cers hang
Cause the filaments are forming a long chain gang
Good bugs can't compete, they're losing their hold
Please get rid of the sludge, we're getting too old

We need young bugs to help put up a fight
To force ‘ol bugs to work so hard just ain't right
You 're mow'n’ and plow’n’ all those other jobs too
Those bugs are just way too old, around ninety-two.

Ooooh, I got them mixed liquor blues
Oh man, I can't have them leave me

All becuz I love them so much
And now I got me a bad case of them blues

The solids build up and build up and build up
I love them so much so please shut-up
They build to a level so high but don't fear
I'll waste some out when they go up to the weir

Up, up they go right out the effluent pipe
To river, to stream where the fish really gripe
Those solids I should have wasted yesterday
Are now in the stream flowing today

Ooooh, I got them mixed liquor blues
Oh man, I can't have them leave me
All becuz I love them so much
And now I got me a bad case of them blues

So waste that sludge often during the week
Don't be singing the blues or losing sleep.
Waste and haul that sludge to keep it young
And that, my friend, is the song to be sung

HAPPY HOLIDAYS!
The August 19, 2004 Lake Michigan District WWOA meeting was held at the Maxwelton Braes Golf Resort in Bailey's Harbor. A total of 82 people attended. After a breakfast buffet, Chairman Bruce Bartel called the meeting to order at 9:15 a.m.

Bruce began the business meeting by thanking Joe Burress and the operators from Fish Creek for hosting the meeting, Foth & Van Dyke for sponsoring the morning break refreshments, and RDM & Associates for sponsoring the brat and corn roast. Next he read the minutes of the May 13, 2004 meeting held in Green Bay, and delivered the Treasurer's Report. A motion was made and seconded to approve the minutes and treasurer's report.

Bruce reported that the LMD will field two teams in the Operator's Competition at the statewide conference, and thanked the volunteers, coaches, and their employers for participating. He also reported that the LMD had received five nominations for the regional Operator of the Year award and thanked those who had taken the time to nominate a fellow operator.

Under new business was the election of the Vice-Chairman for the LMD WWOA for next year. Kevin Skogman nominated Ron Austreng from Hortonville. Although Ron wasn't present at the meeting, he had discussed it with Kevin and accepted the nomination. Bruce asked for other nominations from the floor and after no other nominations were received, Ron was unanimously elected.

Bruce then proceeded to the announcements. Bruce encouraged everyone to check out the WWOA web site for information and to sign up for the mailing list. The next meeting will be on November 11, 2004 at the Best Western in Marinette, Wisconsin. The 2005 schedule is as follows: February - Hortonville; May - host is still needed; August - Egg Harbor; November - Manitowoc. Bruce also mentioned a workshop scheduled for September 30th at GBMSD on "Troubleshooting Motors and Controls" noting that space is limited so advance registration is essential. Bruce informed the group that the Actiflo pilot plant is up and running at the Heart of the Valley MSD. Anyone interested in a tour should call Kevin Skogman. Bruce recognized Toby Kettner of the Village of Black Creek who is retiring after 41 years of service. The group gave Toby a round of applause. Bruce then introduced Tom Kruzick of the WWOA Board of Directors, who gave a brief update on the annual conference at the Kalahari. Then Jeff Haack of the DNR described the status of several administrative code changes relating to Operator Certification for Septage Operators (NR 114), the Compliance Maintenance program (NR 208), laboratory procedures (NR 219) and bacteriological water quality standards and disinfection (NR 102 and 210). He also reminded operators that when reporting Whole Effluent Toxicity test results, they must submit the results on a DMR form and also send the 4-page WET report form to the Biomonitoring Coordinator.

A motion was made to adjourn the business meeting. The motion was seconded and approved. Bruce then introduced Mike Burda who welcomed the group to
Bailey's Harbor and invited everyone to tour the wastewater treatment plant in Fish Creek. Phil Korth, from Foth and Van Dyke gave the plant introduction to the Fish Creek WWTP. The group then adjourned for the tour and returned at 10:50 a.m.

The agenda was modified to allow Greg Alden of RDM & Associates to give the first presentation on pump maintenance. His discussion included evaluation of alignment and impeller balance on pumps. He recommended paying special attention to proper pipe supports.

After a short break, Jason Jones of Hach Company gave the second technical presentation. Jason gave a presentation on dissolved oxygen (DO) measurement and automatic DO control. Jason discussed three different methods of measuring DO. These included the Galvanic, Clark (Poloragraphic), and Luminescence methods.

Ken Sedmak gave the final presentation of the day. Ken talked about how to incorporate selectors into activated sludge design. Case studies at Clinton, Lakeland College near Sheboygan and Jennie-O Turkey Farms in Barron were used to illustrate applications.

Chairman Bruce Bartel thanked Fish Creek for hosting the meeting. The group then adjourned for the brat & corn roast and golfing. A special thanks to Foth & Van Dyke for providing the break refreshments and RDM & Associates for providing the brats & corn roast.

Dawn Jandrey
WWOA-LMD Secretary/Treasurer

Tour of the Fish Creek Wastewater Treatment Plant

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December 1, 2004

Dear Fellow WWOA Member:

The WWOA Technical Program Committee is requesting your assistance in developing the Technical Program for our 39th Annual Conference to be held October 4-7, 2005. The KI Convention Center in Green Bay, WI will again be our conference site.

Technical papers are being solicited at this time for the Technical Program. The Committee is especially encouraging members actively involved in the day-to-day operations of a wastewater facility to prepare and present technical papers at the Conference. The following are major subject areas that presentations may cover. Papers dealing with other topics will also receive consideration by the Committee.

1. Activated Sludge
2. Biosolids Handling
3. Nutrient Removal
4. Process Control and Automation
5. Design Concepts and Implementation
6. Staff Training and Development
7. Utility Management Skills
8. Computerization & Internet
9. Industrial Waste Issues
10. Maintenance Practices & Methods
11. Safety & Health Issues, Personnel & Process
12. Regulations, Watershed Issues
13. Laboratory Practices
14. Plant / Process Upgrades
15. Utility Benchmarking
16. Receiving Water Quality Issues
17. Collection System O&M/Programs Management
18. Operator Ingenuity and Everyday Problem Solving

Submit your outline(s) on the 2005 Conference Submittal Form (via mail or fax) by January 7, 2005 to:

Kay M. Marshall
SEH Inc.
1701 W. Knapp Street
Rice Lake, WI 53868-1350
Phone 715-236-4018
Fax 715-234-4069
Email kmarshall@sehinc.com

Please consider responding to this request or forwarding it on to someone who may be interested in participating. The strength of the WWOA is in the sharing of ideas and information. The success of this organization is dependent upon you the individual member; please consider making a difference!

Sincerely,

Kay M. Marshall
2005 Technical Program Committee Chair
39th Annual WWOA Conference                                2005 Conference Submittal Form
October 4-7, 2005

Technical Presentation Subject ________________________________________________________________

Has this paper been given anywhere else in the last six months? _______ If so, where? ______________

Author(s) / Presenter(s) ____________________________________________________________________

Employer / Affiliation ______________________________________________________________________

Address _________________________________________________________________________________

E-mail Address ___________________________ Phone # ___________________________ Fax # ______________

Author is actively involved in the day-to-day operation of a WWTP?   Yes _______  No  _______

Author is an active member of WWOA?    Yes _______  No  _______

===============================================================================

Brief Description of Presentation (Please type or print clearly; continue on back or attach additional pages if necessary)

Submit your outline(s) on the 2005 Conference Submittal Form (via mail or fax) by January 7, 2005 to:

Kay M. Marshall
SEH Inc. Phone 715-236-4018
1701 W. Knapp Street Fax 715-234-4069
Rice Lake, WI  53868-1350 Email  kmarshall@sehinc.com
# Municipal Environmental Group - Wastewater Division Legislation and Regulation Tracking Table

**October 2004**

## Pending Legislation

<table>
<thead>
<tr>
<th>Topic</th>
<th>Number</th>
<th>Impact on Impact of Bill on Wastewater Facilities</th>
<th>Status</th>
<th>MEG Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Septage</td>
<td>Legislative Council Committee</td>
<td>Committee formed in response to failed AB 154, which would have prevented municipalities from refusing septage without prior DNR approval and restricted septage fees. <em>Issues associated with septage treatment, service areas, fees and DNR oversight. Legislation scheduled for January 2005 session.</em></td>
<td>Legislative Study Committee meeting</td>
<td>Participating in Committee</td>
</tr>
</tbody>
</table>

## Pending Regulations

<table>
<thead>
<tr>
<th>Topic</th>
<th>Number</th>
<th>Impact on Impact of Bill on Wastewater Facilities</th>
<th>Status</th>
<th>MEG Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytical Methods</td>
<td>NR 219</td>
<td>Revisions to update methods based on federal level changes and add cleanup procedures for analysis of PCBs in biosolids</td>
<td>Approval by NRB August 11, 2004; Legislative review in progress</td>
<td>Monitor</td>
</tr>
<tr>
<td>Bacteria Standards</td>
<td>No number assigned</td>
<td>In 2000, Congress passed the BEACH Act, i.e. the Beaches Environmental Assessment and Coastal Health Act. As a recipient of BEACH funds, the state must now revise its bacterial water quality criteria to be consistent with EPA criteria.</td>
<td>Advisory Committee in process</td>
<td>Oppose in part</td>
</tr>
<tr>
<td>CMAR</td>
<td>NR 208</td>
<td>New and expanded format and web-based system for compliance monitoring and reporting requirements.</td>
<td><em>Adopted by Legislature. Goes into effect 1/1/05</em></td>
<td>Support with amendments</td>
</tr>
<tr>
<td>Lab Certification</td>
<td>NR 149</td>
<td>New rules to add detail on lab procedures and reporting. Could create substantial additional burdens for small wastewater labs.</td>
<td>Advisory Committee in process</td>
<td>Oppose in part; support in part</td>
</tr>
<tr>
<td>Landspreading</td>
<td>NR 243</td>
<td>Revised rules on wastewater from large scale animal feedlot operations. Will control nutrient runoff from agricultural facilities and indirectly benefit point source discharges to affected waterways.</td>
<td>Advisory Committee in process</td>
<td>Monitor</td>
</tr>
<tr>
<td>Landspreading</td>
<td>NRCS 590</td>
<td>Revised standard to control nutrient runoff from agricultural fields; could negatively impact landspreading.</td>
<td>Advisory Committee in process</td>
<td>Oppose application to municipalities</td>
</tr>
<tr>
<td>SSO</td>
<td>NR 210, NR 110</td>
<td>New rules governing sanitary sewer overflows from sewerage systems including collection systems, new definitions of bypass, new provisions for response to SSO events.</td>
<td>Advisory Committee on hold</td>
<td>Support in part Oppose in part</td>
</tr>
<tr>
<td>Thermal Water Quality Standards</td>
<td>NR 106</td>
<td>DNR developing rules relating to thermal water quality standards and their applicability for the first time to wastewater treatment facilities</td>
<td>Advisory Committee in process</td>
<td>Oppose application to municipalities</td>
</tr>
<tr>
<td>WET Test</td>
<td>NR 106, 149 and 219</td>
<td>DNR revising WET test methods with stated objective to improve reliability; does not include algal test method</td>
<td>Public hearings scheduled in Madison for 10/12/04</td>
<td>Monitoring; oppose algal standard</td>
</tr>
</tbody>
</table>

*For more information on any of these topics or information about the Municipal Environmental Group, please call Paul Kent and/or Amy Tutwiler at Anderson & Kent at (608)246-8500 or e-mail Paul at pkent@andersonkent.com and Amy at attutwiler@andersonkent.com.*
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Green Bay Area Housing Form

Wisconsin Wastewater Operators
October 4-6, 2005
Regency Suites/KI Convention Center
Green Bay, Wisconsin

<table>
<thead>
<tr>
<th>Hotels</th>
<th>Single</th>
<th>Double</th>
<th>Triple</th>
<th>Quad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days Inn City Centre</td>
<td>$ 75.00</td>
<td>$ 75.00</td>
<td>$ 75.00</td>
<td>$ 75.00</td>
</tr>
<tr>
<td>Best Western Washington Street Inn</td>
<td>$ 79.00</td>
<td>$ 79.00</td>
<td>$ 89.00</td>
<td>$ 99.00</td>
</tr>
<tr>
<td>Holiday Inn City Centre</td>
<td>$ 85.00</td>
<td>$ 95.00</td>
<td>$105.00</td>
<td>$115.00</td>
</tr>
<tr>
<td>Regency Suites (Standard Suite)</td>
<td>$ 99.00</td>
<td>$ 99.00</td>
<td>$119.00</td>
<td>$139.00</td>
</tr>
<tr>
<td>Regency Suites (King Suite)</td>
<td>$109.00</td>
<td>$109.00</td>
<td>$129.00</td>
<td>$147.00</td>
</tr>
</tbody>
</table>

A 13.5% tax will be added to the above room charges.

Arrival after 6:00 p.m. must be guaranteed. Reservations not canceled directly with the hotel will be billed for one (1) night’s lodging. If your choice of facility is filled, we will then reserve the facility nearest to your choice. Rooms will be filled on a first-come, first-served basis, with confirmation of your reservation coming directly from the hotel.

Hotel Preferences
Please type or print when completing this form.

1st choice #: ____________________________ 2nd choice #: ____________________________ 3rd Choice #: ____________________________

ROOM #1
Names of each person staying in room:

______________________________________

______________________________________

Accommodations desired: ____________________________
(Choose one from the categories listed below)

S   Sgl. (1 bed, 1 person)
D   Dbl. (1 bed, 2 people)
D/D  Dbl./Dbl. (2 beds, 2 people)
D+   More than Dbl/Dbl (2 beds, 3–4 people)

Do you prefer: Smoking or Non-Smoking (Circle One)
Do you require a handicapped accessible room: Yes  No

Arrival Date: ____________________________
Departure Date: ____________________________

ROOM #2
Names of each person staying in room:

______________________________________

______________________________________

Accommodations desired: ____________________________
(Choose one from the categories listed below)

S   Sgl. (1 bed, 1 person)
D   Dbl. (1 bed, 2 people)
D/D  Dbl./Dbl. (2 beds, 2 people)
D+   More than Dbl/Dbl (2 beds, 3–4 people)

Do you prefer: Smoking or Non-Smoking (Circle One)
Do you require a handicapped accessible room: Yes  No

Arrival Date: ____________________________
Departure Date: ____________________________

Confirm Reservation to:

Name ____________________________
Address ____________________________
City ____________________________ State ________ Zip ________
Phone ____________________________
Credit Card # ____________________________
E-mail Address ____________________________
Expiration Date ____________________________

Only reservations submitted via this form will be processed. Telephone reservations are not accepted.

Note: Do not send any deposits with this form. Please retain a copy of this form for your records.

Return this form no later than September 3, 2005 to:
Housing Bureau, P.O. 10596, Green Bay, WI 54307-0596 or fax to (920) 494-9229
For questions regarding the Housing Bureau form, please e-mail patti@packercountry.com or call (920) 405-1159.
Getting To eCMAR 2004

The newly revised Compliance Maintenance Annual Report for 2004 will require electronic submittal by June 30, 2005. There will be no paper copies mailed out to operators in January 2005 so don't plan on seeing it in the mail. The eCMAR will be made available on the Internet to operators by April 30, 2005 once they have registered in the Wisconsin Web Access Management System (WAMS). The 5-step roadmap for getting to your eCMAR is provided below. Complete detailed instructions for obtaining e-mail addresses and WAMS registration, providing eCMAR User Notification and accessing and submitting your eCMAR can be found at the Department website: www.dnr.state.wi.us/org/water/wm/ww/cmar.html

(1) Computer
With Internet Access

(2) E-MAIL Address
(A separate e-mail address is needed for each WAMS registrant)

(3) WAMS Registration
https://on.wisconsin.gov/servlet

(4) Notify DNR
Of eCMAR Users and WAMS ID’s
(By form or e-mail)

(5) WAMS & eCMAR
You made it!

If you have questions or need further assistance, please contact Jack Saltes (608) 264-6045, Julia Riley (608) 264-9244 or Gail Mills (608) 266-1387.

Shane O'Donnell Memorial Fund

You are probably aware that on Monday, November 8, 2004, Lance Cpl. Shane O'Donnell, a member of the Golf Company, 2nd Battalion, 24th Marine Regiment, was killed after being struck by an Improvised Explosive Device along a roadside near Fallujah, Iraq. Shane was the son of Peg O'Donnell, DNR Operator Certification Coordinator. Many of you know that Peggy has actively served the wastewater industry and WWOA in many ways. She was recognized with the WWOA Service Award in 2003.

The O'Donnell family has requested that any memorials be made available to the Madison Area Technical College in support of the apprenticeship program that Shane graduated from just prior to being activated. If you would like to contribute to the memorial fund, please make your check out to the "Shane O'Donnell Memorial Fund" and mail to:

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Or e-mail Tony.Bickel@CEM.com
The meeting was called to order at 4:14 p.m. Regional Coordinator Kay Marshall welcomed those in attendance and introductions were made. The attendees were asked for their current mailing and e-mail addresses. In attendance were: Kevin Skogman, Bruce Bartel, Dawn Jandrey, Skip Poster, Peter Conine, Randy Herwig, Dale Neis, Craig Walkey, Jeremy Cramer, Timothy Nennig, Jim Thalke, Kris Gauger, Kathy Kamin, Greg Engeset, John Bond, Jeff Haack, Dennis Holtz, and Kerry Gloss.

PRESENTATION OF REGIONAL REPORTS: The following people submitted regional reports that included highlights, financial statements, membership information, new officers, future meeting sites, and future goals:

A. Bruce Bartel - Lake Michigan District
B. Ken Bloom - North Central District
C. Craig Walkey - Northwest District
D. Kris Gauger - Southeast District
E. Skip Poster - Southern District
F. Greg Engeset - West Central District

Highlights, news, and concerns of the regions included:

- Good attendance at the 2004 Regional meetings.
- All districts discussed their member vs. non-member attendance numbers. The Northwest District expressed concern that only 15% of their attendees were members, and asked for advice to raise that percentage.
- The districts all discussed the difference in attendance fees for member vs. non-members.

REGIONAL ISSUES: Marshall presented the following items for discussion to the Regional Officers:

- The North Central District was asked to find a secretary/treasurer to take over the clerical/financial duties for the Region. Richard McKee has been assuming the duties since the Steering Committee was formed.
- The Regions were asked to submit member vs. non-member numbers for all of their 2003-2004 meetings to Richard McKee. He needs this information for insurance purposes.

- The Regions were encouraged to communicate by e-mail and web site about future meetings, etc.
- Regions are encouraged to use e-mail in lieu of sending the meeting notifications through the US Postal System to save money.
- There seems to be some discrepancy in allowing septage operators to receive CEUs for Regional WWOA meetings. In the Northwest District, they were told that septage haulers could not receive training credits for WWOA meetings, but in the other WWOA Regions they are allowed to do so. It was agreed that this matter should be examined more closely.

CLARIFIER: Jeff Haack encouraged the use of pictures, meeting notes and any other articles from the Regional meetings to be submitted to Dan, Jean, or himself at the Clarifier. He said that this also assists the various Regions by giving them ideas for their meetings. He reminded the attendees that, because of space restrictions in the
Clarifier, not all pictures may be printed. He said that photos and brochures for plant tours and open houses are good information for cover stories.

WEB SITE: Tim Nennig stated that, although the WWOA mail list is once again up and running after the virus problems earlier this year, very few individuals are back on the list, but reminded the attendees that the Regional section of the Web Site is heavily visited. He encouraged people to use the Regional portion of the web site to announce future meetings and display the minutes and photos of past meetings. He stated that when sending the information to the Clarifier, they should also send a copy to Scott Thompson for the Web Site. He also noted that the WWOA Policy Book is now on the Web Site. Greg Engeset complimented the Web Site.

PROMOTIONS: John Bond said that the new promotional items are in and they have a large selection for sale this year. He also stated that there is a new line of women's clothing and a new logo.

MEMBERSHIP: Pete Conine announced that WWOA has set a new record with over 2000 members (2036).

OTHER BUSINESS: It was announced that there would be seven teams competing in the Operator's Competition. Jim Thalke asked that the teams meet one half hour before the competition starts. The Board was asked why the operator's competition awards were to be handed out at the annual business luncheon instead of the banquet. Some of the Regions had purchased banquet tickets for the members of the Operators Competition Teams and had registered them for Thursday night. President Herwig explained that there were time constrictons on the awards presentations at the banquet, but that the winning teams would still be announced at that time. Jeff Haack asked that each Region let Peg O'Donnell have the information about their meeting dates as soon as they plan them so that she can put the information on the WWEA calendar. He also requested that each Region check the calendar for conflicts before planning any meetings.

There being no other business to discuss, President Herwig made the motion to adjourn. Greg Engeset seconded the motion. Motion carried. Marshall adjourned the meeting at 5:38 p.m.

Respectfully submitted,

Kay Marshall
Regional Coordinator
WISCONSIN WASTEWATER OPERATORS’ ASSOCIATION, INC.
2004 - 2005 OFFICIAL DIRECTORY

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Guest Program
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Dan Busch 920 438-1101
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Jeff Haack 920 492-5811
Jeffrey.Haack@dnr.state.wi.us

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