

**WVOA Southern District  
Business Meeting Minutes  
Baraboo, WI  
August 13, 2009**

**Call to Order:** The meeting was called to order by Chairperson Joe Zakovec.

**Review of the Minutes:**

The minutes from the May 2009 meeting at Janesville were approved by the group.

**Treasurers Report:**

The beginning balance for the last period was \$5,194.22 and the ending balance was \$4,517.38. The treasurer's report was approved by the members.

**Old Business:**

- None.

**New Business:**

- Nomination of new board member. Jim Johnson - ITT Flygt was nominated for Secretary by Roy Swanke, with a second from Randy Herwig. With no other nominations, the membership cast a unanimous ballot for Jim's election.

**Other Business:** None.

**Acknowledgements:**

- Joe presented Eugene Doro of Baraboo a plaque acknowledging the appreciation of the Southern Region for hosting the meeting there.
- Roy presented Joe a plaque acknowledging Joe's contribution to the Southern Region WVOA the past 3 years. First year by serving as Secretary, 2<sup>nd</sup> year as Vice-Chairperson and most recently as Chairperson.
- Bernie Robertson presented Todd a hat (from Milfred Hills Gun Club) and a plaque for his contributions to the Southern WVOA by serving as treasurer for the past 6 years (and continuing in that role).
- Joe acknowledged Roy Swanke, Madison Metropolitan Sewerage District for use of their laptop computer for the meeting. Also acknowledged were the numerous vendors who provided many door prizes for the raffle.

**Announcements:**

- Upcoming Phosphorus Training is being held on August 24<sup>th</sup> in Onalaska and August 25<sup>th</sup> in Green Bay. Nutrient Management is being offered in Madison August 31<sup>st</sup> - Sept. 1<sup>st</sup>. August 29<sup>th</sup> - 30<sup>th</sup> in Wausau. The WVOA annual conference will be held in Green Bay from October 6 to October 9, 2009 (pre-conference workshop will be 2 consecutive sessions). Joe also reminded the group about various scholarships and tuition reimbursements that the WVOA has to offer. Please refer to the WVOA.org website for details about upcoming events. Joe solicited nominations for Southern Region Wastewater Treatment Plant Operator of the Year Award to be given out at the 43<sup>rd</sup> Annual WVOA Conference in Green Bay and to start thinking about nominations for next year's conference.
- Joe mentioned that we have host meeting sites for 2010. They are: Watertown in February, Madison in May (possibly in conjunction with Central States) and Boscobel in August.

**Adjournment:**

A motion was made and carried to adjourn the meeting.

**Southern Region WWOA Meeting  
Hosted by the Baraboo WWTP at the  
Baraboo Arts Banquet Hall  
Thursday – August 13, 2009**

There were 67 people in attendance at the meeting. We were greeted by Joe Zakovec – Southern District Chairperson who introduced City Administrator Ed Geick of the City of Baraboo. Ed told the audience that the facility we were meeting in had recently been renovated from its status as a former factory building into a banquet hall (the original brick walls and exposed ceiling beams were retained). Ed further spoke about the redevelopment of the neighborhood which was formerly an industrial area. The redevelopment is meant to compliment Circus World, which is adjacent to the site. Lastly, Ed thanked everyone for their attendance and said he would be appreciative if everyone would spend a few dollars while in Baraboo.

Our first presentation was by John Delleman – EMS Industrial (locations in Madison, Janesville, Dubuque and Rockford). John's PowerPoint presentation (with assistance from Bruce & Brian) was titled Effects of VFD's on Motor Bearings. John has seen where VFDs induce bearing currents, which causes ground to travel through bearings, causing premature bearing failures. There are 3 types of bearing currents: Circulation Currents (accounting for 95%); Shaft Grounding Current (commonly caused by unshielded motor cable; and Capacitive Discharge Current. The oil film between the raceways and the ball bearings or roller acts as a capacitor which is charged by the bearing currents.

Detection: Shaft to ground voltage and current can be measured using a shaft riding probe and an oscilloscope.

Prevention includes any of the following; insulation or ceramic bearings; insulated bearings and pockets; cables and grounding; and installation of current diverter ring.

The proper wiring and grounding of power cables is essential with the installation of VFDs. Critical are grounding and noise reduction; EMC & EMI; common mode noise; capacitive coupling; identifying noise or grounding issues; power and motor cables; and critical equipment considerations.

Bearings and races were passed around for the group to observe wear caused by bearing currents. Although not a widespread problem, it is a [problem and one everyone should be aware of as more and more VFDs are being put into service in wastewater treatment plants.

After our break, Pallin Allen – Cities & Villages Mutual Insurance Company gave a PowerPoint presentation titled Behavioral Based Safety to the group. Pallin began his presentation with information which indicated that it takes a minimum of 5 years to change culture within a workplace. Common practice behavior doesn't happen over night or after safety related training. Safety is more than just regulations and policies. Pallin stressed to the group that standards are a minimum requirement. The fact that an organization or group meets the standard is merely stating that they are doing the minimal amount to be in compliance. We need to strive to exceed the minimum!

Unsafe acts and behaviors are common place and often reside within a workplace for years and years. 96% of accidents are due to human factors.

We need to take personal responsibility for our safety and our fellow employee's safety. Pallin then spoke about the "Yellow Light" mentality... Get away with it one more time; a little voice within us says 'I won'; Some benefit of reward due to our actions; developing poor work habits; and a sense of over-confidence.

The number one cause of accidents is slip/trip/fall incidents. All of these are largely attributable to lack of housekeeping at the workplace!

Why is it so difficult to change unsafe behaviors?

- We are willing to take risks.
- We are lazy by nature and look for the easy way to do things (shortcuts).
- The train of thought that “it won’t ever happen to me.”
- This is the way we have always done it.
- Taking shortcuts saves time.

The police car mentality was discussed. We slow down when we see a police car and speed back up after we have passed them. Same with safety, we are in compliance when being observed by an authoritative figure and lax when not being observed. For every 300 accidents, which require first aid or are near misses, there are 29 non-disabling injuries and 1 serious or fatal injury. It is the M&M theory, only 1 of the 300 is poisoned, would you be willing to reach into the jar and risk getting that 1 poisoned M&M?

How do we change our unsafe behaviors? Slow down; follow the safety rules; don’t take risks; what gets rewarded or punished; think safety (on & off the job); our behaviors and attitudes.

In closing      **Take care of yourself and your loved ones!**  
**Slow down and don’t take shortcuts!**  
**Take responsibility for your own safety!**  
**Commit to safety!**

Todd Steinbach Aero-Mod Incorporated gave the morning’s final presentation – Treatment Plan Design with the Operator in Mind. The primary emphasis was the transition from lagoon based systems to mechanical plants.

The low-maintenance ClarAstor provides clarification to the Aero-Mod System. It features no moving parts below the water, a uniform distribution and collection of the influent, and the unique ability to regulate the effluent flow rate. Its unique flow regulation system even provides in-basin surge storage.

Stainless steel components, PVC piping, and aluminum handrails and walkways are easily installed into common-wall concrete tankage. This compact rectangular configuration reduces overall plant construction costs. The only operator attention typically required is periodic cleaning of the walkways and effluent discharge weirs. With no mechanical equipment below the water, mechanical maintenance is virtually eliminated.

ClarAstor Clarifier Advantages:

- No moving parts below water.
- No motors, gears or electrical components.
- Stainless steel fabrication.
- No field welding or painting.
- Minimal maintenance.
- Rapid and positive sludge withdrawal.
- Effluent flow regulation.
- Applicable for a wide range of flows.

## Cost Effective Nutrient Removal

The SEQUOX Nutrient Removal Process is the latest innovation for biological nutrient removal from wastewater. Even if nutrient removal is not the primary objective, the SEQUOX process results in sufficient process improvements and energy savings to make it cost effective.

SEQUOX offers the benefits of sequencing aeration with the reliability of continuous clarification. Excellent denitrification occurs, and levels of 3 mg/l for Total N have been achieved. Although results depend upon BOD to Total P ratio, some plants have produced effluent values for P approaching 1 mg/l. To achieve better solids settling, SEQUOX incorporates a selector tank to provide a preconditioning of raw wastewater that inhibits filamentous growth. The process is energy efficient and has a small footprint, lowering capital costs.

Combining the SEQUOX Process with the ClarAator Clarifier offers the ability to handle up to 4:1 sustained peak flows, resulting in additional treatment without additional costs. If infiltration and inflow is a problem, the SEQUOX-HF system offers superior treatment capabilities without exceeding effluent standards.

### SEQUOX Process Advantages:

- Reduced energy requirement
- Biological nutrient removal
- Low levels of effluent N and P
- Selector tank promotes rapid settling
- Elimination of most chemical feed
- Batch reaction, continuous withdrawal
- Allows batch withdrawal for high flow
- Dedicated nitrification tank
- Sequencing without stopping blowers
- Simple operation, minimal valves
- No moving parts below water surface.

The Slide Rail Diffuser Access System provides simple access to the aeration diffusers. This flexible system can be used in a variety of applications, incorporating virtually any type of diffuser. The key to the SR Diffuser Access System is the ability to take a flexible, lightweight, PVC diffuser drop pipe and make it stationary by attaching it to a rigid, stainless steel guide rail.

Isolation and air control are provided by a ball valve on each assembly. Removal is achieved by loosening a stainless steel union and lifting up the lightweight assembly on guides. A permanently mounted slide rail of stainless steel, firmly bolted to the tank wall and floor, provides rigidity. Since all equipment below the water surface is stainless steel and permanently mounted, there is no need to drain the tanks for maintenance.

### SR Diffuser Access System Advantages:

- Access to the diffusers without turning off blowers or draining the tankage.
- Eliminates the need for hoist or winching systems.
- Access to individual drop pipes without affecting the entire aeration system.
- Suitable for "wet" retrofits.
- Flexible system readily accepts most types of diffusers in varying amounts.
- Connect to new or existing air pipes.

After lunch, Joe Zakovec conducted the business meeting for the Southern Region. After approval of the agenda, minutes, Treasurers Report and election of a new Secretary, Joe told the group about various upcoming events of interest. Phosphorus Training is being held on August 24<sup>th</sup> in Onalaska and August 25<sup>th</sup>

in Green Bay. A Nutrient Management Course is being offered in Madison August 31<sup>st</sup> - Sept. 1<sup>st</sup> and August 29<sup>th</sup> - 30<sup>th</sup> in Wausau. The WWOA annual conference will be held in Green Bay from October 6 to October 9, 2009 (pre-conference workshop will be 2 consecutive sessions). Joe solicited nominations for Southern Region Wastewater Treatment Plant Operator of the Year Award to be given out at the annual conference in Green Bay and to start thinking about nominations for next year's conference.

- Joe mentioned that we have host meeting sites for 2010. They are: Watertown in February, Madison in May (possibly in conjunction with Central States and Boscobel in August).

Joe presented Eugene Doro a plaque acknowledging the appreciation of the Southern Region for hosting the meeting in Baraboo. Joe was presented a plaque for his contributions to WWOA for the past 3 years and Todd received a plaque for his service as WWOA treasurer. Jim Johnson was elected Secretary for the upcoming year. After adjournment of the business meeting, door prizes were then drawn. Thank you to all of our vendors for the many prizes and support with their displays at the meeting and a special thanks to Madison Metropolitan Sewerage District for the use of their laptop computer!

DNR Update: Doris Thiele, Basin Engineer for the Wisconsin DNR. Doris is "standing in" for George Osipoff, former Basin Engineer who recently retired from the DNR. Doris then "painted the picture" of what the future looks like in the DNR wastewater program. In 2001, the Southern Region DNR wastewater staffing was 12 persons. In 2010 it will be 4.8 persons (Doris is working at 80%). Further reductions are likely to take place in the near future. Before the retirement of Roger Schlessler (former permit drafter, whose position is currently being filled part-time by Diane Fiegel) the municipal WPDES permit backlog was below 10%. The current permit backlog is at 27% and is projected to be at 32% by June 30, 2010. With the reduced staff, expect less frequent visits from DNR wastewater staff.

Code revisions for thermal, phosphorus water quality-based limits, the TMDL proposal are all on hold indefinitely. With the Wisconsin Budget constraints, the DNR is currently in a hiring freeze. Things look grim for the foreseeable future! Remember, your current WPDES permit is in effect until a new permit is issued.

Our next speaker was Jack Saltes of the DNR. His topic was CMOM/CMAR Update. Jack reiterated many of the points Doris had spoken of in regards to the State Budget Deficit and the effects it was having on the wastewater program within the DNR. Many of the initiatives that had been forecast to be implemented have fallen by the wayside. Many of the initiatives are idle due to staffing issues (retirees not being replaced) and an ever increasing workload for those remaining employees. The SSOS rule, for all intents and purposes, is dead in the water. Mandated furlough days will also have a profound effect on workload priorities.

The Capacity, Management, Operations & Maintenance (CMOM) consists of 8 elements:

Goals

Organization

Legal Authority

Operation & Maintenance Activities

Design & Performance Provisions

Overflow Emergency Response Plan

Capacity Assurance

Annual Self-Auditing

The next eight installments of In Control (which can be found at <http://www.dnr.state.wi.us/org/water/wm/ww/cmar/CMOM.htm>) through 2009-2010, Jack will write about each of these elements to provide everyone a better understanding of the program. CMOM is to be addressed as part of the Compliance Maintenance Annual Reporting and at some time will be formally adopted as a rule.

In the mean time, maintain your system and become educated on the complexities of proper collection system management!

Our next speaker was Dean Wiebenga from Peterson and Matz, Inc. and his topic was Monster Separation System recently installed at the Baraboo WWTP.

The JWC Environmental Monster Separation System provides a complete high-performance system, resulting in the best solids capture possible along with screenings of unparalleled dryness and cleanliness, ready for disposal. The removed solids contain up to 50% dry solids, are 80% compacted and are significantly lighter and cleaner than typical screened solids.

The Finescreen Monster portion of the system incorporates a continuous band of perforated stainless steel panels with openings sized to meet plant requirements. The advanced panel design eliminates debris passing downstream. The panels are sealed to fixed UHMW guides and along the bottom sealing brush. Panels are shaped for optimum cleaning by the 2-stage brushing and wash water process.

Panels are fastened securely to the special strength chain which tracks in polyethylene guides. The main structural side plates are manufactured for strength, rigidity and incorporate unique side outlets which allow additional passage of screened flow, minimizing head loss.

Screened solids are directed to the Screenings Washer Monster, which is a self-contained, hopper-fed system used to effectively grind, wash, compact and dewater screenings that have been captured by the screenings removal device. The removed solids contain up to 50% dry solids, are 80% compacted and are significantly lighter and cleaner than typical screened solids. The unique process of grinding prior to solids separation removes virtually all the soft organics (fecal) from the discharged product, which reduces odors and landfill costs.

The direct mounting of the grinder on the auger minimizes the height of the unit and feeds solids directly into the washing chamber in ideal condition. The internal wash system sprays directly on the screenings, auger and screen perforations. These internally mounted spray bars offer the highest level of efficiency and keeps the 2, 3 or 6mm perforated screen open and clear.

The Screenings Washer Monster uses the same proven technology of the Auger Monster product line. Captured solids are diverted through a grinder and passed to an auger, which washes and separates the soft organics from the plastics, paper and other undesirables. Grinding exposes more surface area, allowing the spray water to isolate and clean more of the unwanted solids. The material is then conveyed, compacted and dewatered. The result is drier, less odorous screenings ready for disposal.

Gil Hantzsch, MSA Professional Engineers, then gave a brief overview of the Baraboo wastewater treatment plant and directions on how to get to the site.

Finally, the members were given a tour at the plant by the Baraboo staff (with refreshments provided by MSA).