



12.6&7.07 AI 9a

To: CSWEA Executive Committee
From: Jay Kemp
RE: Education Seminar Committee Report
Date: December 3, 2007

The 13th Annual Education Seminar will be held the Monona Terrace Convention Center in Madison, WI on April 1, 2008. The committee has completed the program planning and the final program is attached to this report. We have not finalized the title of the seminar, but will do so this week and expect the brochure to be mailed this month.

The general topic of the seminar is activated sludge with a particular focus on efficiency and performance.

The Education Seminar also features a reception the evening before. A block of room is reserved at the Madison Hilton Monona Terrace at a conference rate.

13th Annual Education Seminar
Central States Water Environment Association
Monona Terrace Convention Center
Madison, Wisconsin
April 1, 2007

7:20-7:55 am Registration and Continental Breakfast

8:00-8:10 am Introduction and Welcome
Dennis Lindeke, P.E. President Central States WEA
Hastings WWTP, Hastings, MN

8:10-8:50 am **History and Applications of Activated Sludge**
Dr. Wesley Eckenfelder, Jr.

The activated sludge process was developed in England in 1915. During the early period, process design was empirical with kinetic model development starting in the 1950s. Many changes have the system has evolved as so has our understanding of it. This presentation will provide a sense of the past and current status of activated sludge with application examples.

8:50-9:35 am **Aeration Systems – Past, Present and Future and What to Expect from Aeration System Upgrades**
Dr. Michael K. Stenstrom

With rising energy rates, it could be time to reconsider your aeration methods. This presentation will provide a brief overview of diffuser types (including 3rd generation models), their efficiencies, and operating considerations. Additionally, the terminology and methods for achieving efficiency and savings will be presented. The trade offs between capital costs, energy savings, and increased maintenance costs will be explored.

9:35-10:20 am **Activated Sludge Clarifier Optimization and Design**
Dr. David J. Kinnear

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

10:20-10:45am Morning Break

10:45-11:20 am **Aeration Efficiency Studies at the MCES Metropolitan Wastewater Treatment Facility, St. Paul, MN**
Larry Rogacki

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

11:20-12:00 pm **Morning panel**

(Morning speakers answer questions collected from the audience.)

Ask these experts your questions on their presentations or other pertinent wastewater treatment questions.

12:00-1:00 LUNCH

1:00-1:40 pm **Dissolved Oxygen Control – What to Expect and How to Avoid Pitfalls**
Dr. Michael K. Stenstrom

Dissolved oxygen (DO) control in aeration tanks is an excellent way of minimizing energy consumption but they have often performed poorly. This presentation will review the reasons for failing DO control systems, discuss the latest DO probes and describe how blower alternatives impact DO controllability.

1:40-1:50 pm Questions/ Transition

1:50-2:20 pm **The Latest Blower Technologies: Are they worth it or are they just a lot of hot air?**
Steve Arant

This presentation will explore currently available blower technology, present evaluations from two existing facilities, and provide data from recent plant upgrades to new blowers.

2:20-2:30 pm Questions and Transition

2:30-2:50 pm Afternoon Break

2:50-3:20 pm **Advancements in Control Systems for WWTPs**
Manuel de los Santos

With increasing pressure from financial limitations and more stringent effluent limits, reliance on plant control systems is increasing. This presentation includes a brief overview of available monitoring and control technologies for SBRs and other systems, from PLCs to SCADA to the latest in on-line, intelligence-based, process management control systems. SBR examples will be used.

3:20-3:30 pm Questions and Transition

3:30- 4:00pm **Why Settle for Settling? A Case Study on Membrane Treatment at the Traverse City, MI WWTP**
Scott Blair

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

4:00-4:10 pm Questions

4:10 pm Closing Thoughts and Adjourn.