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- Regulatory Update & MWRA Update



ITLA

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President's Message

By Chris Wakefield

This being my last President's Column, I had aspirations of writing a long drawn out column of wisdom & insight, but after thinking through what that might be, I decided against it for various reasons. What I would like to do in this last statement is to thank the ITLA membership for allowing me, over the last 10 years, the chance to serve this organization in different positions. I have been able to use my ability as to what I hope is perceived as adding to the growth of this organization

Lastly, I have had a great executive committee to work with over my two years as president. Bob, Mike, Laurel, Steve, Greg, Kevin, Jim and Dan, I just want to say thanks for working with me and supporting ITLA over the last two years. I could not have done it without any of you. Thanks.

MWRA Items

By Mike Delaney

(mike.delaney@mwra.state.ma.us)

MWRA Obtains New DEP Laboratory Certifications

The MWRA Labs are now certified for *Enterococcus* by Enterolert for the Ground Water Rule. We expect to be certified soon for ICP-MS metals by EPA 200.8.

Update on MWRA TRAC.IS and LIMS

MWRA's new LIMS from Lab Ware (www.labware.com) went live at our Central Lab on 1/1/10 for all chemistry and microbiology data, including eDEP uploads. We completed our first month of data with the new LIMS without any major difficulties. We expect our productivity to improve over time as everyone becomes familiar with the new system.

MWRA's new Pretreatment Information Management System (PIMS), formerly known as TRAC.IS, went live in 2008. This commercial, off-the-shelf system was configured to address

Annual Meeting

Wednesday, March 17, 2010, DoubleTree Hotel in Milford, MA.

Feature Presentation: "PA DEP's Mobile Laboratory" *John Fitzgerald, MA DEP*

MWRA's unique needs for enhanced data management capabilities in the MWRA's Toxic Reduction and Control section. Labs are required to use the eSMART system to electronically report industrial self-monitoring discharge data. For additional information, please contact Alice Chang, Data Management Supervisor, (617) 305-5621, or e-mail her at alice.chang@mwra.state.ma.us.

MWRA Water Ranks Fifth Nation Wide

MWRA is pleased to be among top 5 cities for drinking water quality in recent Environmental Working Group national survey, and is the highest ranked among non-filtered systems.

MWRA and its member water communities perform hundreds of thousands of tests each year on hundreds of different parameters. This extensive testing covers over 120 compounds regulated by the Environmental Protection Agency & the Massachusetts Department of Environmental Protection, as well as many other compounds that are not yet regulated. The water quality data are posted regularly on our website including the annual and monthly water quality reports.

As the data shows, year in and year out, the results are excellent. Few compounds are found, and those that are found are well below the federal and state health-based standards. These excellent results are due to the well protected watersheds that surround Wachusett and Quabbin Reservoirs as well as state-of-the-art disinfection at the new Carroll Water Treatment Plant. In 2005, the Carroll Plant started to use ozone which provided better disinfection while also reducing the level of disinfection by-products, which are now at an all-time low.

Check the data & information on our water system. MWRA has great confidence in the water we deliver to homes & wants you to have the same confidence.

Arsenic No Concern In MWRA Drinking Water

A recent local TV story discussed arsenic in drinking water. MWRA regularly tests for arsenic at four locations along the MWRA system and has not detected arsenic in the water supply since 2001. Furthermore, all results from 2001 or earlier are far below EPA's new stricter standards.

Under the federal Safe Drinking Water Act, the EPA

has lowered the arsenic standard from 50 parts per billion to 10 parts/billion. The rule took effect in 2006.

In over 160 samples since November 2001, MWRA laboratories found no detectable quantities of arsenic in any of the samples. The last detection of arsenic was 1.2 ppb in October 2001, well below the new stricter EPA standards.

Arsenic is a naturally occurring mineral that comes from erosion of rocks and soil. In the U.S., highest arsenic levels are found in the Southwest and parts of the Midwest, West, and New England. Communities served by ground water supplies and home wells, rather than reservoirs and streams, are more likely to find higher arsenic levels.

MWRA drinking water comes from the Quabbin and Wachusett Reservoirs in Central Massachusetts, very large reservoirs with high water quality that do not have high levels of arsenic. MWRA routinely tests for 122 contaminants. Overall testing results for 2008 were published in MWRA's Annual Water Quality Report distributed in June to every household in MWRA's water service area. Copies of prior annual reports and more detailed monthly reports are available online at www.mwra.com.

December 24, 1991 from Mass Moments (www.massmoments.org)

On this day in 1991, the Massachusetts Water Resources Authority ended an age-old practice of dumping sewer sludge directly into Boston Harbor. Proponents of the Boston Harbor Project celebrated this milestone in an 11-year, \$3.6 billion effort to clean up the nation's dirtiest harbor. It had taken several centuries for Boston's harbor to reach its nadir as a "Harbor of Shame." Conservation activists had feared it might take just as long for various government agencies to agree on how to address the problem. But in the early 1980s, two landmark lawsuits produced a timeline for a mandated solution to be paid for by water bill surcharges. The Boston Harbor Project is now an international model of environmental restoration.

The most famous thing ever dumped into Boston Harbor was probably tea, but the most costly was wastewater and sewage. For generations, residents of

the “city on a hill” counted on gravity to carry their waste down to the marshes and bays surrounding the city; they relied on the tides to carry it out to sea. They built “sewers” — uncovered, brick-lined gullies or sometimes buried wooden pipes — to direct the flow of the waste into the harbor.

In the late 1700s and early 1800s, as typhus and other contagious diseases afflicted the city, sewage emerged as a public health issue. In the 1820s, Mayor Josiah Quincy launched a major effort to rid the streets of manure, offal, and sewage. The city took control of the underground sewer pipes, which continued to empty effluents into the marshes and harbor. A drainage system based on gravity worked well enough in the higher parts of the city, but as Boston expanded onto filled wetlands, many of the pipes leveled out or dropped below sea level. As a result, they often backed up, overflowing into the marshes and polluting the shoreline with raw sewage. Just as troublesome, when discharges reached a certain level — after a storm, for example — the tides were ineffective in carrying the waste out to sea and dispersing it. Much of the waste returned on the next high tide.

In the late 1800s, with the city growing rapidly, officials initiated a campaign to link each house to a system of interconnected sewer pipes. Waste moved through this combined sewer grid to a pumping station on either Moon, Deer, or Nut Island; from there, it went straight into the harbor. The waste was not treated; it was just moved farther away from shore. The Metropolitan District Commission (MDC) took control of the system in 1919. Twenty years later, mismanagement and political patronage had helped create a situation in the harbor that even legislators considered “revolting.”

Conditions did not improve, and the once-rich harbor began to die. The pollution blocked light and consumed oxygen necessary for plants and animals to survive. Industrial pollutants poisoned the water with heavy metals. By the mid-twentieth century, the city’s beaches were frequently closed because of poor water quality. Bottom-feeding fish such as flounder developed widespread liver tumors, skin problems, and fin rot. Shellfish beds had to be closed; the stench

and debris at low tide were what one would expect from a cesspool. The press labeled it “the filthiest harbor in the U.S.”

The rise of the environmental movement in the 1960s and 1970s focused attention on the harbor. In 1952 on Nut Island, and in 1968 on Deer Island, some primary treatment was introduced, but the resulting sludge still went directly into the harbor. Despite countless studies, nothing was done to reduce pollution. Industry lobbied against restrictions, and legislators were reluctant to take up what they knew would be a costly and politically divisive issue. Meanwhile, 100,000 pounds of sludge and 500,000 gallons of barely treated, or entirely untreated, wastewater continued to flow into the shallow waters of the harbor every day.

One morning in 1982, Quincy City Solicitor William Golden went for a jog and found what he believed to be raw sewage on the beach. Outraged, he persuaded city officials to sue the MDC for causing unhealthy conditions on Quincy’s shoreline. The suit came before Judge Paul Garrity, who appointed a “special master,” Harvard Law school professor Charles Haar, to investigate. In 30-days’ time, Haar produced a 500-page report summarizing the problem. Garrity ordered a halt to all new connections to the sewer system until he was satisfied that the problem had been addressed.

Garrity’s dramatic decision attracted the attention of the press and environmental groups. Within a few months, the Conservation Law Foundation filed a lawsuit in federal court against the MDC on similar grounds. In spite of numerous stays and evasive actions on the part of the defendants, in 1986 federal Judge David Mazzone ordered the MDC to comply with state and federal Clean Water Acts. The legislature created a new agency, the Massachusetts Water Resources Authority, to manage Boston’s drinking and waste water and to implement a 13-year plan to clean up the harbor.

The MWRA began by constructing a plant on Deer Island that combines primary and secondary treatment. Heavy solids settle out of the wastewater in large tanks; the sludge that is produced is then piped to Quincy where it is turned into fertilizer pellets.

Anaerobic “digestion” by microorganisms reduces the remaining pollutants in the wastewater. When this system went into effect in 1991, Boston finally stopped pumping its sewage directly into the harbor. Another milestone was passed in 2000 when the MWRA opened an outfall tunnel that carries treated wastewater 9.5 miles off shore, where ocean currents help to dissipate it.

The surcharges that were necessary to pay for the clean up of Boston harbor were not popular among ratepayers, but the project has been so successful that on most days the harbor is now clean enough for swimming. Although more work remains to be done to deal with the problem of storm overflow, Boston serves as a model for successful waste management.

Sources

Political Water: The Long, Dirty, Contentious, Incredibly Expensive, but Eventually Triumphant History of Boston Harbor: A Unique Environmental Success Story, by Eric Jay Dolin (University of Massachusetts Press, 2004).

Mastering Boston Harbor: Courts, Dolphins, & Imperiled Waters, by Charles M Haar (Harvard University Press, 2005).

[See page <http://www.institutofranklin.net/en> for]

“The Boston Harbor Project,” a case study by Enrique Alonso & Ana Recarte, Research Institute of North American Studies, University of Alcalá, Spain.

Visit our web page for more information

Check us out at www.mwra.com. We have a wealth of information for both the public and for experts on our water and wastewater activities. This includes monthly updates on drinking water quality testing, information on lead, our most recent Consumer Confidence Report, & many technical reports associated with the Deer Island Treatment Plant and our extensive Harbor and Outfall Monitoring program.

Food for Thought

If successful people have one common trait, it's an utter lack of cynicism. The world owes them nothing. They go out and find what they need without asking for permission; they're driven, talented, and work through negatives by focusing on the positives.

Mike Zimmerman

Regulatory Update

By Bob Bentley, bob@h2otest.net

This issue's news is relatively sparse. The LAC December meeting was canceled due to snow. Your ITLA representatives have been requesting a meeting, but the request has been falling on deaf ears. There are some issues, however, that have arisen.

eDEP

Within the past 2 weeks (mid-February), the folks at eDEP have rolled out their Rules Based Processing (RBP). The concept is good. They want to let the computers check things like holding time violations, correct units of measure, etc. This frees up more time for the DEP staff to do real work, BUT computers look at input as black or white, they cannot reason. Because of this, The RBP is rejecting anything which is not within these confines. This has required many of us to scramble to re-program our systems and has DEP rethinking their narrow stance. In spite of this, the drumbeat continues regarding mandatory implementation. We will have more information for you at the Annual Meeting.

On this and other issues, stay tuned!!! We hope to be able to update you at our upcoming meeting with news from an as yet not called Lab Advisory Committee meeting. If you know of other regulatory issues or have any other items we should be watching, please contact me or any member of the Executive Committee.

calendar

Dec. 16, 2009

ITLA Annual Meeting
Milford, MA
9:00 a.m. - 3:00 p.m.

July 18-20, 2010

NY/PaAAEL Annual
Convention & Exposition
Location - Lancaster, PA

ITLA Annual Meeting

Wednesday, March 17, 2010

DoubleTree Hotel

11 Beaver Street, Milford, MA 01757

(508) 478-7010

8:30 a.m. Coffee

9:00 a.m. Committee Reports

9:30 am Automating Sample Prep for Semi-Volatile Organics EPA Meth 8270d In Water Utilizing a Solid Phase Extraction Disk & Carbon Cartridge
By Chris Uriarte, Horizon Tech.

Automating the sample preparation step through the use of Solid Phase Extraction (SPE) improves the quality and consistency of the results by minimizing operator to operator variation. SPE offers the additional benefit of reduced solvent consumption by as much as 70% as compared to the EPA Method 8270D's manually performed liquid-liquid extractions. Since the EPA Method 8270D has an extensive analyte list of 243 semi-volatile organic compounds that range in volatility and polarity, the sorbent selected for this SPE disk has both hydrophilic and lipophilic groups to maximize retention of these analytes. A carbon cartridge is included downstream of the SPE disk to scavenge the disk effluent of any analytes that were not retained by the disk. These analytes are typically volatile compounds such as n-nitrosodimethylamine, N-nitrosomethylethylamine and methymethane sulfonate. The carbon cartridge is designed to accommodate the higher sample flow rates from the SPE disk without restrictions. In addition the disk effluent passes through the carbon cartridge in the back flush mode for fast extractions with reduced solvent usage. In this paper we will present our methodological approach with the automated SPE instrumentation and the results achieved. To date very good recoveries of 34% to 95% have been achieved for the more volatile compounds and the 8270D full list respectively.

10:15 pm Break & Elections

10:45 am Environmental Solutions and Case Studies

By Eric Butler, Gradient

Abstract will follow when available.

11:45 am Lunch

1:00 pm PA DEP's Mobile Laboratory

By John Fitzgerald, MA DEP

Mr. Fitzgerald will be speaking on the use of the department's mobile lab to obtain near real time data in support of site investigations that are of interest to the MassDEP.

2:00 pm Solvent-Free Method for Membrane Recoverable Oil and Grease by Infrared Determination

By Dean Smith, Orono Spectral Sol.

Oil and grease is one of the five conventional pollutants covered by the 1974 Clean Water Act. The measurement of oil and grease is included in all of the National Pollution Discharge Elimination Systems (NPDES) permits, all pre-treatment permits, and all Industrial Effluent Guidelines.

A new method "ASTM D7575 – *Standard Method for Solvent-Free Membrane Recoverable Oil and Grease by Infrared Determination*" has been developed by Orono Spectral Solutions. Easy adoption of this method is anticipated because it incorporates central elements of current and past methodologies

The new method ASTM D7575 is a 'green' extension of the Solid Phase Extraction process in that it uses a novel extraction membrane that is infrared-amenable so that the oil and grease does not need to be eluted by a solvent for measurement. It is noted that the use of infrared spectroscopy for the determinative step after performing an extraction is the same as that in past Freon-based methods.

The new method is currently under consideration for EPA's Method Update Rule.

3:00 pm Meeting Adjourns

Nominating Committee Report

The offices to be filled in 2010 are President and Vice President. We are pleased to report that the nominee for President is Dan Falcone and the nominee for Vice President is Steve Hartmann. Both are longtime ITLA members and have served the Association for many years in other capacities. If you are members in good standing, you will be asked to vote at the upcoming Annual Meeting. If you are unable to attend, please print this page and fax it to Judy Graves at (570) 882-8538. Please add your name and your company name to the bottom of this page. Remember that there is one vote per member lab. Questions about the elections should be addressed to Mike Delaney at mdelaney@mwra.state.ma.us.

ITLA

2010 Ballot for the Election of Officers

Please - one vote only per member lab or member vendor

Please vote for one by circling the bullet for each office.

President:

■ **Dan Falcone**

■ _____

Vice President:

■ **Steve Hartmann**

■ _____

Company: _____

Name: _____