

## Highlights

- ITLA Quarterly Meeting Notice
- Regulatory Update
- MWRA Update



# ITLA

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## MWRA Items

*By Mike Delaney  
([mike.delaney@mwra.state.ma.us](mailto:mike.delaney@mwra.state.ma.us))*

### MWRA Obtains New DEP Laboratory Certifications

The MWRA Laboratories are working on getting certified for *E. Coli* by SM 9222G/NA-MUG, for *Enterococcus* by Enterolert, and for ICP-MS by EPA 200.8.

**Update on MWRA TRAC.IS and LIMS:** MWRA's new Pre-treatment Information Management System, formerly known as TRAC.IS, went live in 2008. This commercial, off-the-shelf system was configured to address 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, [alice.chang@mwra.state.ma.us](mailto:alice.chang@mwra.state.ma.us).

MWRA's new LIMS from LabWare ([www.labware.com](http://www.labware.com))

went live on 2/1/09 for drinking water microbiology data, including eDEP uploads and is scheduled to Go Live for everything else on 10/1/09. This is a big change for us and everyone is working hard to make it a success.

### Renewable Energy-Deer Island

The MWRA's Deer Island Waste water Treatment Plant treats an average of 360 mil. gallons of waste water each day from 43 communities in greater Boston and is one of the largest electricity users in the Northeast. Deer Island currently self-generates 20% of its electricity needs and more than half of the Island's energy demand is provided by on-site, renewable generation.

In addition to solar power, MWRA has a number of on-going and new renewable energy programs to ensure that the facility reaches the goal of 30% by 2020 established by Governor Patrick's Executive Order 484.

A design/build contract was awarded in October 2008 for the installation of two 190-foot, wind turbines (600 kW each) at Deer Island. The wind turbines will

## Quarterly Meeting

Wednesday, September 30, 2009, Holiday Inn Hotel & Suites in Marlborough, MA

**Feature Presentation:** "Environmental Health & Safety" *Mark Malchik, CIH, GZA GeoEnvironmental*

generate over 2 million kW hours per year for an annual estimated savings of \$230,000. The turbines have been installed and are scheduled to be operational by the end of 2009.

A 100-kW roof-mounted solar photovoltaic system was installed on the Residual/Odor Control Building at Deer Island in early 2008. All power generated is being utilized on-site. The \$870,000 solar photovoltaic project was funded by a \$310,000 CREB loan and a grant of \$560,000 from the Division of Energy Resources. The solar installation will be qualified as a Massachusetts Renewable Portfolio Standards Program (RPS) renewable generation unit and MWRA can sell the Renewable Energy Certificates for solar as it currently does for digester gas.

Since 2002, energy is recovered by the flow of treated wastewater as it drops from the plant into the outfall tunnel shaft through two one-megawatt hydroelectric generators that produce over 5 million kW hours of electricity, avoiding approximately \$500,000 in energy costs annually.

The methane generated from the sludge digestion process ("digester gas") is collected and used in Deer Island's on-site power plant to create steam that supplies hot water and heat for the facility. The steam is run through a steam turbine generator that produces electricity. This co-generation facility saves MWRA approximately \$15 mil. in annual fuel oil costs.

Digester gas-derived electricity generated by the steam turbine qualifies as a renewable "green" source of energy under the Massachusetts RPS Program. This program prescribes that a minimum amount of power that is supplied into the Massachusetts market be derived from renewable energy sources. Deer Island is awarded certificates for each megawatt-hour of green electricity produced. Suppliers that do not meet the minimum requirement through their own sources can purchase certificates from generators such as Deer Island through an open bid process, generating \$1 mil in revenues for MWRA in FY2008.

MWRA has accelerated a project to modify the steam co-generation system and optimize use of the digester gas by installing a back pressure turbine at the Thermal/Power Plant. The modifications are expected to significantly increase renewable energy

production by 5.5 million kW hours per year with a net savings of approximately \$500,000 per year.

Deer Island is also able to self-generate electricity by running its own two 26-megawatt combustion turbine generators to reduce or eliminate its purchases from the regional power grid. Deer Island participates in the Load Response Program, administered by the not-for-profit Independent System Operators of New England (ISO-NE). In addition to the direct compensation MWRA receives from ISO-NE when Deer Island removes itself from the grid during demand events, MWRA also avoids the high market prices that typically occur during such events. Revenue from the program for FY2008 was \$650,000.

Deer Island electricity has been purchased competitively since 2001. Energy market conditions are characterized by their volatility, and MWRA has sought to balance the ability to respond to changing conditions with maintaining a measure of budgetary predictability.

Electrical upgrades are ongoing at the two pump stations to replace the variable frequency drives that power the eighteen 1,250 horsepower motors with more energy efficient technology. Work at the South System Pump Station was completed in August 2007, resulting in an annual reduction of electricity purchases of \$130,000 plus a rebate of \$209,000.

Through NStar, Deer Island recently completed the second phase of a multi-phase lighting improvement program aimed at replacing existing lamps & ballasts with high performance fluorescent reduced wattage fixtures, integrated day lighting, occupancy controls, and replacement of "Exit" signs with LED technology.

**DCR and MWRA Close Quabbin Reservoir to Private Recreational Boats for 45 Days:** The Department of Conservation and Recreation (DCR) has closed the Quabbin Reservoir to all private recreational boats in the wake of last week's discovery of invasive zebra mussels at a Berkshire County lake. "We are taking this step in an excess of caution," said DCR Commissioner Richard K. Sullivan Jr. "Zebra mussels have not been found in the Quabbin, and there is no known threat to the public water supply. However, closing the reservoir to outside boats for 45 days gives the state the opportunity to do more comprehensive testing for invasive pests and adjust

our management plans to provide the utmost protection for public drinking water.”

As of this afternoon (7/15/09), to avoid any possibility that zebra mussels would be transferred into the Quabbin, private boats will be prohibited. To ensure recreational opportunities for the public, DCR will continue to offer its own fleet of rental boats during this 45-day period.

The MWRA board voted Wednesday to support DCR in closing the Reservoir to non-Quabbin boats.

“While the risk may be low, the Quabbin Reservoir is the drinking water supply for 2.5 million people,” said Frederick A. Laskey, MWRA executive director. “It’s prudent to take every precaution.”

Created in the 1930s as the municipal water system for the Greater Boston area, the Quabbin Reservoir holds 412 billion gallons of water and, through the Massachusetts Water Resources Authority (MWRA), the reservoir supplies water to more than 2.5 million people. Additionally, the reservoir is a popular boating and fishing area. Each year, about 9,000 boat launchings are recorded at the Quabbin.

With acidic water and low calcium levels, the Quabbin is not considered a suitable environment for zebra mussels. It is unlikely that a mussel would be able to grow its shell and thus, it would not survive. Juveniles could not grow, and adults could not reproduce successfully.

MWRA officials said there is no threat to drinking water from the Quabbin Reservoir from zebra mussels, and that the risk of such threats is low due to the water’s low calcium content. Nonetheless, board members agreed that to ensure the safety of the water system infrastructure and other valuable natural resources in the reservoir, and in recognition of other invasive plants such as milfoil that have been found in the Commonwealth, closing the Quabbin to outside boats was the most prudent course while a thorough assessment is conducted.

During the closing, DCR will employ dive teams to visually inspect and test the water and the MWRA infrastructure for zebra mussels, and will re-evaluate the appropriateness of non-Quabbin boats in the future. DCR & the MWRA will also evaluate & possibly adjust their management plans at the reservoir.

### Visit Our Web Page for More Information

Check us out at [www.mwra.com](http://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, and many technical reports associated with the Deer Island Treatment Plant and our extensive Harbor and Outfall Monitoring program.

## Regulatory Update

By Bob Bentley, [bob@h2otest.net](mailto:bob@h2otest.net)

### Rapid Confirmation of *E. coli* in Drinking Water

This change is moving ahead. Effective December 1<sup>st</sup>, laboratories will no longer be allowed to report confirmation data using EC-MUG. If you have certification for EC-MUG, you will need to perform only one (1) PT sample using NA-MUG. If you do not have membrane filter certification, you must do two PTs. We have heard no wailing from the affected community which quite frankly surprises us since many stand to be impacted by this change.

**m-coli Blue:** For those who had been using this method, HACH discontinued sales some months ago due to inaccurate results. They apparently found the problem to be in the filter pad, and “corrected the problem.” The LCO as of the June meeting had **not** re-approved this method for analysis.

**eDEP:** When we complained about the “printable forms” to replace the 39 column spreadsheets, DEP went “back to the drawing board” and changed the font on the prior forms. The ease of “sharing” issue still remains “in the pipeline.”

**Electronic Communications:** We have been told that all electronic communications, including data, is considered by DEP to be equivalent to paper. The subject of sending in renewals for lab certification electronically has created some concern, because labs are not able to get an electronic receipt. If the renewal was not received, we might never know. The LCO is looking into rectifying this.

**Perchlorate:** The LCO is considering the analysis of perchlorate to be limited to (*See Regulatory on page 4*)

# ITLA Quarterly Meeting

Wednesday, September 30, 2009  
Holiday Inn Hotel and Suites  
265 Lakeside Ave, Marlborough, MA 01752  
(508) 481-3000

**8:30 a.m. Coffee**

**9:00 a.m. Committee Reports**

Secretary	Technical
Newsletter	Lab Advisory
Election	Membership
Ethics	Treasurer
Regulatory	By-laws

**9:30 am Environmental Health & Safety  
Training for Lab Personnel**

*Mark Malchik, CIH, CIP  
GZA GeoEnvironmental*

There are numerous training programs mandated by Federal and State regulatory agencies (OSHA, DOT, DEP, etc), and a host of other potential concerns about necessary training beyond regulatory requirements. Lab managers often find it challenging to discern which requirements apply to them, and to meet the requirements in a satisfactory way. This presentation will provide an overview of training topics that may be necessary for your personnel, depending on the nature of your lab operations, offer suggestions on how to evaluate and implement your training needs, and respond to questions from attendees. GZA GeoEnvironmental is an environmental engineering firm with several offices in the Northeast.

**10:30 am New Environmental Topics**

*Mark Lawrence, Restek Corp.*

**Semi-Volatiles**

Lower Detection limits  
Rxi deactivations, pyridine, dnp, etc

Lower bleed = better sensitivity  
SIMPAAH analysis  
New Wool Deactivation

Faster Analysis Time

MS Scan Rate

14 minute runtime

17 minute runtime

Column dimensions

0.18mm ID—Fast runs low capacity

0.25mm ID—Rapid analysis

0.32mm ID—Require slow flows

**Pesticides**

New film thickness – faster runs & impr. resolution

8081 7 min. runtimes/Original application 22 mins

8151 rapid analysis, best resolution

8082 PCBs

508 Drinking water pesticides

505 PCBs & Chlorinated pesticides

**Volatiles**

Dual Purge & trap (OI, EST & Tekmar)

Column Choices (New 624Sil MS, Rtx-VMS)

Promulgation of 524.3 August 2009.

**Brominated Flame Retardants**

New column Rtx-1614

Reduced breakdown of 209

Optimized length & film thickness

Applications & Comparisons

**State GRO**

Column, Standards, & Application

**Hot Topics**

Pharmaceuticals in wastewater (1694)

Quechers for pesticides

**Helpful Products:** Dual Vespel inlet seal, Leak detector, Flowmeter, Evaluating new 8260 & 8270 Standards

**12:00 pm Meeting Adjourns**

**Regulatory  
From Page 3**

IC/MS or LC/MS and discontinuing the acceptance of Method 314.1 by IC. If this adversely affects you, please let us know.

We will be able to update you at our upcoming meeting with news from the Sept. Lab Advisory Committee. If you know of other regulatory issues or have any items we should be watching, please contact me or any member of the Executive Committee.