

### Innovative Energy Management

*Using 'Plan-Do-Check-Act' to Improve Energy Management and Reduce Costs at Water and Wastewater Utilities*

Recently over 125 representatives from water and wastewater utilities from all six New England states participated in two interactive *Innovative Energy Management* workshops held in Hartford, Connecticut, and at the University of Massachusetts- Lowell in Lowell, Massachusetts.

A major challenge in providing wastewater and drinking water services is and will continue to be ever increasing energy use and associated costs. Energy management is also at the heart of efforts across the entire sector to ensure that utility operations are sustainable in the future. More and more utilities are realizing that a systematic approach for managing the full range of energy challenges they face is the best way to ensure that these issues are addressed in order to reduce climate impacts, save money, and remain sustainable.

To proactively address this issue, the Office of Water at the U.S. Environmental Protection Agency has developed a guidebook, [\*Ensuring a Sustainable Future: An Energy Management Guidebook for Water and Wastewater Utilities\*](#) and recently sponsored, in partnership with EPA Region 1, two workshops in New England for the water and wastewater sector on ways to reduce energy consumption and operating costs, improve energy efficiency and adopt renewable sources of energy.

*This EMS News (May 2008) is the sixth in a series of newsletters supported through a contract with the EPA Office of Wastewater Management that will be published quarterly by the PEER Center. The goal of each EMS Newsletter will be to keep readers informed of current developments, events and articles on environmental management systems (EMS) in the public sector.*



Andy Kricun, Camden County Municipal Utilities Authority, NJ shared his experiences in reducing energy costs through the Plan-Do-Check-Act management system approach. Also participating in the workshop was Joan Karnauskas from EPA Region 5 which is planning a similar workshop in their area.

*"Over the years, a growing number of utilities have realized that the Plan-Do-Check-Act approach inherent in environmental management systems can help them address a number of important emerging issues like energy management, climate change, and sustainability. This Guidebook and the workshops EPA is sponsoring are designed to show utilities how this proven management approach can help ensure that energy issues are managed effectively and sustainably."*

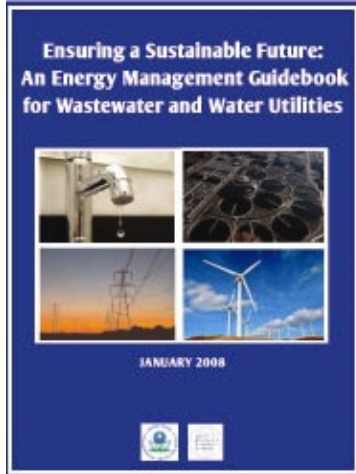
Jim Horne, US EPA Office of Water

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## NEW RESOURCES

### Guidebook to Help Water Utilities Improve Energy Management

#### Ensuring a Sustainable Future



This *Guidebook* was specifically written to provide water and wastewater utility managers with a step-by-step method, based on a Plan-Do-Check-Act management system approach, to identify, implement, measure, and

improve energy efficiency and renewable opportunities at their utilities.

To accomplish these objectives, water and wastewater practitioners with experience in implementing energy efficiency improvements played a major role in developing the *Guidebook*, serving as Steering Committee members, along with EPA staff. Their experiences and insights were instrumental in the development of this guide.

This guidebook will help utilities systematically assess their current energy costs and practices, set measurable performance improvement goals, and monitor and measure their progress over time. For more information and to download the *Energy Management Guidebook*, visit the PEER Center ([www.peercenter.net](http://www.peercenter.net)). The *Guidebook* can also be downloaded from EPA's website on [Sustainable Water Infrastructure](#).

## LRC CORNER

The eleven PEER Local Resource Centers (LRCs), located around the country, promote EMS competence and encourage government-to-government sharing and mentoring between public sector organizations. Each Center supplies communities with technical expertise, field-tested tools, and support for EMS implementation. For more information, visit: [www.peercenter.net/whocanhelp/lrc.cfm](http://www.peercenter.net/whocanhelp/lrc.cfm)

University of Florida Center for Training, Research and Education for Environmental Occupations (UF TREEO)



The City of Tallahassee is expanding its Environmental Management System (EMS) to include water quality. The City of Tallahassee contracted with the TREEO Center to assist in preparation and implementation of an EMS. In November 2007 they were awarded the ISO 14001:2004 Certification for their EMS.

Kissimmee - Toho Water Authority is pursuing the development of an EMS for both water and wastewater. UF TREEO has been contracted by both to provide assistance in the development of their EMS.

Carol Hinton, Associate Director at UF/TREEO, is a member of the Green Meeting Standards Executive Committee. She attended the inaugural meeting in Washington DC in October and participated in a meeting in Vancouver, Canada at the Green Meeting Industry Council's Greening the Hospitality Industry Conference in February. The United States Environmental Protection Agency (USEPA) and the Accepted Practices Exchange (APEX) are looking to collaborate on the creation of a Green Meeting Standard.

The meeting in Vancouver was to discuss the preliminary scope, content and process for moving forward with the standard. The standard would enable meeting professionals to ask the right questions, make environmentally and socially responsible decisions and measure the impact of these choices. The standard could also potentially identify minimum criteria for being called 'green' in the meeting industry.

The committee will also look at BS 8901:2007 as a guideline. This standard is a "daughter" of BS 8900 which applies to sustainable development. The standard also shares common management system principles and processes with ISO 9000 and ISO 14001. The standard will be trialed in the US and Canada during the next year to determine if it will become an ISO standard. To participate in this committee contact Carol at [chinton@treeo.ufl.edu](mailto:chinton@treeo.ufl.edu).

#### Virginia Tech's Center for Organization & Technological Advancement (COTA)



Virginia Tech's Center for Organizational and Technological Advancement (COTA) is hosting an Environmental Management System Implementation Institute for ISO 14001 certification. The program includes four workshops focused on specific ISO 14001 elements, a baseline review, team and senior management conference calls, technical site visits and concludes with an ISO 14001 EMS Audit. Virginia Tech is an EMS Local Resource Center endorsed by US EPA to assist public and private entities in using EMS to implement green initiatives and sustainable practices. For more information about the Institute and these workshops, please refer to the [brochure](#).

#### EMS LEADERSHIP PERSPECTIVE



Laura Fiffick is the Director of the Office of Environmental Quality (OEQ) for the City of Dallas, Texas. The Dallas

OEQ provides environmental regulatory and stewardship assistance to City Departments and hosts a variety of environmental training and outreach events for the City. Laura is responsible for leading the implementation of the ISO 14001 based EMS based for the City, as well as collaborating with federal and state environmental agencies on a variety of issues including air quality.

Prior to the City of Dallas, Laura was the Environmental Affairs Manager for the Port of Houston Authority and led the Port through ISO 14001 certification and was extensively involved with maritime air quality issues. The following interview was conducted in April 2008.

#### **What were the City's driver(s) or reason(s) for implementing an EMS?**

Dallas was facing an EPA Consent Decree at its service center facilities associated with storm water activities and the Resource Conservation and Recovery Act (RCRA). The City realized that there were not city wide environmental policies or procedures, training, or accountability for environmental issues. Therefore, the City decided to implement an EMS across all its operational areas with the potential for environmental impact.

#### **Briefly describe the objectives and goals that the City has established as part of the EMS.**

The number one goal was to achieve compliance... or go beyond compliance. A second goal was to organize its environmental stewardship programs and enhance accountability and reporting. The City set EMS objectives and targets at three levels: City-wide; multi-departmental; and at the department or facility level. It was intended to have each person with at least one environmental goal to participate in within the Dallas EMS fence line, or scope of the City's EMS operations and activities.

**What municipal departments/activities are a part of the Dallas EMS? Are departments that were not part of the consent decree with EPA part of the city-wide EMS? If so, why did you choose to involve them?**

The EPA Consent Decree included 11 City facilities. However, the EMS Dallas adopted includes hundreds of facilities and approximately 11,000 employees. The decision was made to cover all city operations with potential environmental impacts, including the Dallas Fire, Police, Sanitation, Code, Streets, Convention and Event Services, Public Works and Parks and Recreation Departments, among others.

**Describe the involvement and leadership of the Dallas City Council and the City Manager in the EMS. What is your involvement as Director of Environmental Quality?**

As the Director of the Dallas Office of Environmental Quality (OEQ), I am the citywide designated Environmental Management Representative (EMR). The City Manager's Office provides the budget and guidance for the implementation of the EMS and the Dallas City Council receives a briefing every six months on EMS progress and approves the budget provided by the City Manager's Office. The City Manager's Office also participates in the EMS senior management reviews every six months.

**How have you organized city employees in various departments to implement the EMS?**

Each City Department has a designated EMR, with a number of departments having more than one EMR depending on their structure. The EMRs attend a citywide EMS Core Team meeting every two weeks, as well as periodic departmental Core Team Meetings. In addition, each department's EMR reviews and works with the OEQ to implement procedures proposed by the OEQ.

**How does the City's EMS link and integrate with other Dallas environmental initiatives (e.g., Green Dallas)? Specifically, how will the EMS help you achieve objectives in other City environmental initiatives?**

Dallas is using the EMS as the umbrella or structure to organize all of its environmental initiatives, while

Green Dallas ([www.greendallas.net/](http://www.greendallas.net/)) assists with educating the public on all City environmental initiatives.

**Can you provide a couple of examples of some particularly important performance objectives that you have committed to achieve as part of the EMS, either city wide or within individual departments?**

The City has a number of environmental objectives that have been implemented from their EMS, including: 5% energy savings citywide each year, a 5% water conservation goal over 5 years, increasing the purchase of green chemicals, and reducing fleet fuel consumption. For more information on the City's EMS objectives and to review a complete list of the environmental objectives for Dallas, visit [www.greendallas.net](http://www.greendallas.net).

**What has been the most challenging factor in implementing the Dallas EMS? How did you overcome this challenge?**

The most challenging issues have been staff turnover and staff education.

While you can't hold an employee back from promotions or other opportunities in the city, I would suggest hiring City employees with an environmental background to hold the divisional EMR positions. The employees with an environmental background typically have more of a reason to stay in a position that interests them.

Also, offer training courses frequently would help. We are currently offering them every six months to keep up with turnover.

**Similarly, what have been your greatest successes to date?**

Our successes have included improving our environmental compliance and the organization and management of the City's environmental initiatives.

**Looking back, what advice would you give municipalities that are embarking on an EMS, either city-wide or in individual departments?**

The best advice I can give is that you must have management support and commitment.

## What's next for the City's EMS?

Dallas plans to examine its EMS objectives and targets and review performance measures that are currently being tracked and measured in order to meet the City's environmental goals. We also are looking at ways to increase contractor awareness of the EMS.

## Where can someone find additional information on the Dallas EMS? On other environmental initiatives in Dallas?

On the City's EMS Website:  
<http://www.dallascityhall.com/oeq/ems.html> and  
On the Green Dallas Website:  
(<http://www.greendallas.net/>).



Laura Fiffick, Director  
Office of Environmental Quality  
Dallas, Texas

## EMS SECTOR CORNER

### Ports Flight II Graduation



Graduates of the American Association of Port Authorities (AAPA) and Global Environment & Technology Foundation (GETF) EMS

Project received a certificate of recognition on April 1, 2008 for their successful participation in the 18 month project. The graduates, including the Maryland Port Administration, Port of Cleveland, Port of Corpus Christi, Port of Everett, Port of Long Beach and the Port of Portland, were recognized ports were characterized as leaders among their colleagues for their commitment to the environment.

Alumni ports will be asked to participate as mentors within their local port community as well as share their knowledge with other port authorities as a result of their accomplishment. To view benefits of the 2nd Port EMS and SMS Assistance Project [click here](#).

### Ports Flight III Announcement



AAPA and GETF are pleased to announce the initiation of the **3rd Round of the Port Environmental Management System (EMS) Assistance**

**Project.** We are currently accepting applications from ports interested in participating in this Port EMS Assistance Project. For more information please see the [Request for Applications Letter](#) and the [3rd Port EMS Assistance Project - Overview and Guidelines](#).

### ISO Launches Project Committee to Develop an International Standard for Energy Management



The International Organization of Standardization

(ISO) has just approved the creation of a project committee mandated to develop an international standard on energy management. The standard will provide all types of organizations and companies a practical and widely recognized approach to increase energy efficiency, reduce costs and improve their environmental performance by addressing both the technical and management aspects of energy use. The standard is intended to be broadly applicable to various sectors of national economies, including utility, manufacturing, commercial building, general commerce, and transportation sectors, and therefore, could have influence on as much as 60 percent of the world's energy demand.

ISO Secretary-General Alan Bryden commented: "The urgency to reduce GHG emissions, the reality of higher prices from reduced availability of fossil fuels, and the need to promote efficiency and the use of renewable energy sources, provide a strong rationale for developing this new standard building on the most advanced good practices and existing national or regional standards".

Following the successful examples of the ISO 9000 series on quality management and the ISO

14000 series on environmental management, the project committee ISO/PC 242, *Energy management*, will consider the development of a standard containing relevant terms and definitions and providing management system requirements together with guidance for use, implementation, measurement and metrics.

The standard will be based on the continual improvement and Plan-Do-Check-Act approach utilized in ISO 9001 and ISO 14001 to provide compatibility and integration opportunities.

For more information on the proposed energy management standard from ISO, [click here](#).

In addition, persons who are interested in participating in the development efforts of the international standard through the US TAG for PC 242 should contact Deann Desai with [the Georgia Institute of Technology Enterprise Innovation Institute](#). Ms. Desai will provide an application for participation in the US TAG or answer any questions that you may have regarding the planned standard. Ms. Desai can be reached:

- by email at [deann.desai@gatech.edu](mailto:deann.desai@gatech.edu)
- by mobile phone at +1 770-605-4474 or
- by mail at 760 Spring Street NW Suite 300 Atlanta GA 30332-0640.

## Innovative Energy Management

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The workshops focused on the use of the 'Plan-Do-Check-Act' management system framework to develop energy improvement management programs. The workshops were designed and co-facilitated by members of the PEER Center Network: Faith Leavitt, Global Environment and Technology Foundation; and Madeline Snow, UMass Lowell's EMS Service Program. Practical insights and recommendations were provided by Andy Kricun, Camden County Municipal Utilities Authority; Mark Young, Lowell Regional Wastewater Utility; and Bob Bois, Town of Natick. Workshop participants also shared their energy and management system success stories, challenges, and lessons learned with each other. State and federal energy and environmental agencies shared information on resources for

energy benchmarking, audits, incentives for renewable energy, and management systems.

The workshops were sponsored by EPA's Office of Water and EPA Region 1 New England and were co-sponsored by the Connecticut Department of Environmental Protection, Massachusetts Department of Environmental Protection, New England Interstate Water Pollution Control Commission, New England Water Environmental Association, and the New England Water Works Association.

5 additional workshops with other EPA Regions are scheduled to occur in 2008, as follows:

Region 7, July 26 in Kansas City

Region 10, September 18 in Worley, Idaho

Region 4, October 14 in Nashville, Tennessee

Region 5, October 29 in W. Lafayette, Indiana

Region 9 (to be determined)



Organizers and facilitators of the March 6<sup>th</sup> workshop in Lowell, Massachusetts (left to right): Andy Kricun, Camden County Municipal Utilities Authority, NJ; James Horne, EPA Office of Water; Anne Leiby and Gina Snyder, EPA New England; Faith Leavitt, GETF; Mark Young, Lowell Regional Wastewater Utility; Madeline Snow, Shreya Vyas, Heidi O'Brien from the EMS Service Program; and Bob Bois, Town of Natick.

*This [PEER Center EMS Newsletter](#) will be developed quarterly under a contract between the U.S. Environmental Protection Agency and the [Global Environment & Technology Foundation](#).*

*To submit an idea to EMS News, or to join the list serve to receive a quarterly copy, please contact Jeff DuTeau at 703-379-2713 or [jduteau@getf.org](mailto:jduteau@getf.org).*