Compiled by *WWD* Managing Editor Caitlin Cunningham


Lee E. Ferrell

Energy Audits

Laying the groundwork for improved efficiency

Knowledge is power when it comes to managing an energy-conscious water or wastewater facility. Collecting consumption data via an energy audit empowers operators to pinpoint and address inefficiencies. In an interview with WWD *Managing Editor Caitlin Cunningham, Lee E. Ferrell of Schneider Electric discusses how the process works and why it is important.*

Caitlin Cunningham: What makes a water or wastewater treatment plant a good candidate for an energy audit?

Lee E. Ferrell: Water treatment pumping and wastewater treatment aeration require a majority of a facility's energy consumption. However, each treatment facility is unique, and although one may have the same output quality requirements as another, its combination of processes may be entirely different than another located just down the road. That said, you cannot apply the same energy-efficiency formula to each plant. The energy requirements for every plant have to be understood completely, and an audit is a critical tool to help gain that understanding.

Cunningham: How does the auditing process work?

Ferrell: The energy audit is a critical piece of a larger strategy to maximize the energy efficiency of a plant. In most audits, a team of energy and process consultants will work with a facility manager to collect the necessary information, such as energy bills dating back several years and plant and equipment drawings. The team will tour the plant to understand its output needs and goals, and also inspect each load individually, looking for energy data collection points and opportunities. Sometimes this process can take days or weeks, depending on the type of facility being audited.

After this data is collected, the consulting team creates and presents an energy action plan. This plan provides detailed information on where the energy is being consumed and how existing equipment can be better utilized to reduce energy consumption. The plan also offers suggestions on upgrades to power management devices and more efficient equipment. A comprehensive plan will also include suggestions for renewable energies, as well as provide information on energy credit opportunities offered by the government.

Cunningham: Are there any facility components, processes or methods that audits repeatedly reveal to be "energy hogs?" If so, how can these be made more energy efficient?

Ferrell: The No. 1 consumer of energy in a plant is typically electric motors, which are used for pumps and blowers. In addition, ultraviolet disinfection is notorious for energy consumption. An increase in reverse osmosis and membrane filtration has also added to energy requirements.

Manufacturers are taking great strides to make these devices more efficient. Standards have been enacted to provide guidance with this, including the international standard IEC 60034-30 for super-premium efficiency class of electric motors. But most plants have legacy equipment and often cannot afford to upgrade everything at once. Additionally, the new efficient motors are still only a part of the larger process-efficiency equation.

Cunningham: What benefits can facilities realize by saving energy?

Ferrell: Besides the obvious benefit of a lower power bill, facilities can win awards from various government programs that will provide credits or other types of awards for carbon footprint reduction and sustainability.

Cunningham: How do you see the role of energy audits developing in the water/wastewater industry in the coming decade?

Ferrell: Facilities will increasingly begin to realize the importance of regularly scheduled energy audits—not only for improving efficiencies, but also for validating and documenting the strides they may have taken already to accomplish carbon footprint reduction.

Equipment manufacturers will continue to improve device efficiencies. The use of built-in, data-collecting devices will continue to increase. Process science and techniques will keep evolving. Each plant will continue to expand its output to meet the requirements of the community it serves. This said, energy audits will continue to play a vital role in understanding the energy consumption of a facility and provide a foundation for improving the facility's efficiencies. WWD

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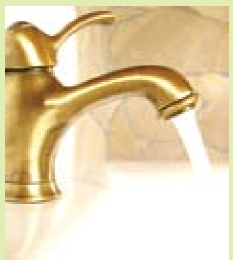
News Briefs compiled by *WWD* Associate Editor Kate Cline

Tests Show Normal Radioactivity Downstream of Shale Drilling

The Pennsylvania Department of Environmental Protection (DEP) announced that in-stream water quality monitoring in seven of Pennsylvania's rivers showed radioactivity levels at or below the normal naturally occurring background levels. DEP conducted the tests in November and December 2010 at stations downstream of wastewater treatment plants that accept flowback and production water from Marcellus Shale drilling.

Survey: Americans More Aware of Water Contaminants



A survey by Applied Research-West Inc. found that Americans are increasingly aware of water contaminants and are taking action in their homes. One quarter said they are "extremely concerned" about water quality, while less than half said they are confident their water source poses no health risks. More than half were concerned about contaminants in tap water, and many bought in-home filtration devices, especially after experiencing a boil alert.

Georgia Passes Public-Private Partnerships Bill

The Georgia State Senate approved a proposal to allow municipalities to partner with private firms for water projects. Local governments already were allowed to borrow money for major water projects, so the new bill allows public-private partnerships as a further financing option.

Tampa Bay Water Board & Barnard Construction Reach Settlement

Tampa Bay (Fla.) Water's board of directors approved a settlement agreement with the Regional Reservoir's general contractor, Barnard Construction. Barnard Construction and its subcontractor, McDonald Construction Corp., will pay Tampa Bay Water $750,000 before the trial over soil-cement cracking at the reservoir. Barnard remains liable for up to $5 million depending on the outcome of the trial, scheduled for July 2011.

EPA Proposes 30 New Contaminants for Monitoring

The U.S. EPA proposed 30 new contaminants for monitoring under the Safe Drinking Water Act and submitted the proposal for public comment. The contaminants include two viruses and 20 chemicals. Comments will be accepted until May 2, and the list will be finalized in 2012.

Thousands of Treatment Plant Projects Underway in North America

Municipal drinking water plants in the U.S and Canada have thousands of projects underway to meet the need for more and better municipal drinking water. Each project is being tracked from inception through operation in *North American Public Water Plants and People*, a report from the McIlvaine Co. Upgrades include new plants, expansion of existing plants, replacement of obsolete systems and upgrading the plants to meet new regulatory requirements.

Water Professionals Motorcycle Ride Set for June

The sixth annual Water Buffalos motorcycle ride is scheduled to arrive in Washington, D.C., on June 11 to coincide with AWWA ACE11. Riders will raise money for Water For People, then meet at several locations across the U.S. for the cross-country ride. Each participant will receive a Water Buffalos member patch. Aclara, along with several other companies, will sponsor the event.

Networking News

MIOX Corp. promoted Kyle Lee to chief operating officer.

Dixie Southern opened new corporate headquarters in Bradenton, Fla.

Anvil Intl. promoted Tim Hamelin to hardware division sales manager and Debi Skyberg to national inside sales manager. WWD

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