

## Collaboration Is Backbone of Chlorine Safety

**M**ore than nine million residents of New York City and dozens of upstate communities depend on DEP for an adequate supply of safe drinking water. Federal and state regulations require that public drinking water supplies disinfect the water to protect against harmful pathogens. Chlorination is still, as it was 100 years ago, the most widely used and effective method to disinfect water. It is a highly efficient way to kill pathogenic organisms (like *E. coli* bacteria and *Giardia*), which can cause disease in humans, and is one of the best disinfection technologies for large scale and complex delivery systems. Chlorine also provides a “residu-



From left to right: Wilfredo Melendez, Persis Luke, Colleen Whitaker, Timothy Brutus

al” disinfection capability for the city’s high volume and lengthy distribution system, and the use of chlorine gas does not require extensive storage requirements.

(Continued on reverse side)

## Spotlight on Safety

### What do they mean? – ‘NIOSH,’ ‘OSHA’ and ‘PESH’

The Occupational Safety and Health Act of 1970 created both the National Institute for Occupational Health and Safety (NIOSH) and the Occupational Safety and Health Administration (OSHA), which are responsible for securing safe and healthy working conditions by establishing and/or enforcing standards that employers must practice and adhere to in order to protect their employees.

OSHA is the primary federal agency charged with the enforcement of safety and health legislation, and compliance with OSHA’s standards is mandatory. These include requirements to provide fall protection; prevent trenching cave-ins; ensure that workers safely enter confined spaces, prevent exposure to harmful substances such as asbestos; install guards on machines; provide respirators or other safety equipment; and provide training for

certain dangerous jobs. New York State has a separate enforcement arm for public employees for all OSHA and some state standards as well. It is called PESH (Public Employees Safety and Health).

NIOSH was established to help assure safe and healthful working conditions for employees by providing scientific research, information, education, and training, as well as developing guidance and authoritative recommendations, and responding to requests for workplace health hazard evaluations.

OEHS has incorporated OSHA/PESH requirements and many recommendations of NIOSH in its EHS Policies and Procedures. DEP’s EHS policies are always posted and updated on the Pipeline Intranet. You can view all EHS policies, metrics and EHS Matters by clicking here [👉](#).

## Commissioner’s Corner

There is nothing quite so romantic as learning about protecting the environment. At least that is what more than 220 people thought last week on Valentine’s Day when they decided to take a tour of Newtown Creek. (The usual monthly tour led by Superintendent **Jim Pynn** has between 30 and 50 visitors.) New Yorkers curious about how the wastewater system works included couples of all ages, a number of babies, children, and groups of friends who just thought it would be an unusual outing. When visitors arrived, they were escorted to the second floor of the Visitor’s Center and presented with a Hershey Kiss before settling in for a 45-minute presentation about the basics of the wastewater treatment process in New York City and at the Newtown Creek plant in particular. After that, Jim led the groups through a tour of different rooms like the boiler and control room so visitors could visualize what they just heard about in the presentation, ending with the highlight of a visit to the top of the digester eggs. Our guests admired the magnificent views of New York City from 130 feet above ground and were fascinated by the architecture of the digesters. On top of the eggs, Jim explained how DEP treats 1,200 tons of sludge each day, and he even opened a hatch in one of the eggs to let gas out so visitors could really get a sense (or scents!) of what is actually taking place underneath their feet. Overall, the day was a huge success, providing a small glimpse for these lucky New Yorkers into the amazing job that our employees do every day. If you or anyone you know is interested in a tour, please send an email to [events@dep.nyc.gov](mailto:events@dep.nyc.gov) to sign up!

Along the same lines of informing the public about protecting New York City’s waterways, we made a major announcement last week that we would install remote sensors at several outfalls to measure combined sewer overflows (CSO) in real time. Enhancing our current monitoring system at 108 outfalls that transmits the elevation of wastewater near combined sewer overflow locations, the new pilot will give us real time flow from



specific outfalls, making it possible to distinguish CSOs from any tidal effects. That will allow us to better evaluate the impact of CSOs on harbor water quality, respond to developing emergencies, and optimize the existing sewer system. Once the monitors are installed at the initial locations, we will assess their effectiveness. Assuming that we are confident in the accuracy of the data, we fully expect to use the information to alert the public to potential health advisories so that New Yorkers and visitors can make the most informed decisions before recreating in New York City’s surrounding waterways when it rains.

We continue to invest in improvements to harbor water quality. Last week, we announced significant milestones in the ongoing effort to help the ecology of a Jamaica Bay tributary: the completion of the Shellbank Basin Destratification Facility and installation of nitrogen reduction technology at the 26th Ward Wastewater Treatment Plant. Shellbank Basin is a tributary of the Bay, and the new air compressor station at Howard Beach will aerate the water to increase oxygen. This will reduce odor in the waterbody and make it more hospitable for marine life. At 26th Ward, we’ve begun adding glycerol during the wastewater treatment process to remove ammonia from effluent discharged to Jamaica Bay. Ammonia is the form of nitrogen occurring in wastewater following secondary treatment, which at very high levels can degrade water quality and lead to high algae growth. With this new facility, we are reducing the nitrogen discharged into Jamaica Bay by roughly 7,000 pounds per day.

At DEP, everyone is responsible for safety. If you or anyone on your team is concerned about your working conditions, it’s okay to ask your supervisor or your bureau’s EHS liaison how they can help. If you’ve still got questions, you can call the EHS Employee Concerns Hotline. It’s DEP’s responsibility to acknowledge and fix unsafe situations, procedures, and practices. With your help, we’ll not only get the job done, we’ll make it safer for ourselves, our coworkers, our families, and our city. CALL (800) 897-9677 OR SEND A MESSAGE THROUGH PIPELINE. HELP IS ON THE WAY. [👉](#)

## Focus on the Field



As DEP field staff report to their various facilities on a daily basis, they trust that they are working in a facility and environment that is safe. To verify that, employees rely on their own training and knowledge, but also on the dedication of employees like **Svetlana Khomutova** and her colleagues in the Office of Environmental, Health and Safety (OEHS). As an EHS auditor, Svetlana works on the front lines to assess DEP facilities on safety and environmental regulatory requirements and best practices.

Svetlana began her professional career in the New York City Department of Health & Mental Hygiene, where she gained extensive experience in public health during her 10 years of service. She joined DEP as a re-

search scientist in 2007. She audits facility operations to ensure compliance with federal, state and city EHS regulations, many of which have been strongly enhanced and improved over the course of her time with the agency.

In the event that some conditions are amiss, Svetlana and her OEHS audit team will secure a detailed plan on how the conditions will be improved, setting deadlines and obtaining commitments from facility managers in accordance with EHS requirements. This may entail a detailed discussion of which equipment or procedures must be improved, enhanced or replaced.

This work requires a high level of technical and scientific expertise—fitting for someone with a master of science degree in chemical engineering. In 2008, Svetlana obtained her second master's degree, this time in public administration. Svetlana's strong background in research and science makes EHS Auditing a great fit and ensures a thorough evaluation. Despite all the hard work, Svetlana manages to find time for her passions outside the office: reading and traveling.

## Press Box

**GREAT GREEN INFRASTRUCTURE:** "...at Dean Street, the city recently installed four bioswales, tree pits that will stop and clean 1,870 gallons of stormwater apiece. They are test runs for what (Commissioner) Strickland hopes will become a city-wide network. 'We're really hoping to crank these out and put them in place very cheaply,' he said, with up to 100 in place by the end of 2012." – From a February 10, 2012 Huffington Post article [on the creation of a Sponge Park along the Gowanus Canal](#)

## Ask Carter

[askcarter@dep.nyc.gov](mailto:askcarter@dep.nyc.gov)

Q. How much of the city is still unsewered and using septic?

A. The South Shore of Staten Island and Douglaston Manor in Queens are the largest areas without sanitary sewers. There are some other small pockets on the Brooklyn/Queens border that are also unsewered due to insufficient grading. BWSO has been building out the sewer system on the South Shore of Staten Island for the last couple of decades and uses the bluebelt strategy [to manage storm water when providing sanitary sewers for its customers in this area.](#)

## Did You Know

... that it was not until 1946 that Flatbush began using city water? Until then its water was supplied by a private company. ("Flatbush water" had a distinctive taste that was not to everyone's liking.)

(Collaboration Is Backbone of Chlorine Safety... continued)

However, it is also considered a highly toxic substance, and its use by the bureaus of Water Supply (BWS) and Water and Sewer Operations (BWSO) triggers a federal requirement to comply with two related and comprehensive sets of regulations: EPA's Risk Management Regulations (RMP) and OSHA's Process Safety Management of Highly Hazardous Chemicals (PSM). These regulations were developed in the U.S. after the tragic release of Methyl Isocyanates (a chemical produced in the manufacture of pesticides and plastic), from the Bhopal, India pesticide plant run by Union Carbide in 1984, which killed more than 3,000 people.

The primary goal of both RMP/PSM regulations for DEP is to protect the public and employees, as well as the local environment, by preventing and minimizing chlorine releases. Although the goal seems simple, developing, maintaining and improving a strong chlorine safety program is a daunting task. DEP has demonstrated considerable success, which is evidenced by the reduced number of releases and incidents (down 64% since 2008) and a strong performance in compliance audits. Many DEP staff members play a critical role in this success. Among them is RMP Manager for BWSO **Tim Brutus**, and RMP Manager for BWS **Colleen Whitaker**. Both Tim and Colleen benefit from significant support from their management teams, including Chief of Reservoir Operations **Wilfredo Melendez**, P.E., and Kensico Regional Manager **Ralph Marchitelli**, P.E. Playing an important coordinating and oversight role are bureau EHS Directors **Charlene Graff** and **Karen Marino**, as well as the Office of Environmental Health and Safety (OEHS). As both RMP Managers explain, the program

could not succeed in creating a safer environment without the sustained work, attention to detail, and dedication of all the BWS and BWSO watershed maintainers, supervisors, plumbers, electricians, stationary engineers electric and carpenters that operate and maintain the chlorine equipment and procedures day in and day out.

There are 13 RMP/PSM program elements, including employee participation, management of change, process safety information, mechanical integrity, process hazard analysis, training, and contractor safety. The program provides for significant worker training on chemical awareness and handling, safe work practices, operations, materials and equipment integrity, maintenance, and emergency response. "The city and DEP have made a substantial investment and developed what we believe to be a 'gold standard' program," said Colleen.

One constant factor in the program's success is the strength of the bureau based programs, and the hands-on management by Tim and Colleen. They both agree however, that without the commitment and contributions of all water operations staff, there would be no success. RMP/PSM is a model of strong commitment on the parts of labor and management. The collaboration and involvement of all these stakeholders insures that the program is efficient, comprehensive, and sustainable.

"PSM/RMP continues to be a DEP success story and demonstrates the power of two bureaus working together with their employees' involvement, to make water treatment for New York City a safe process all around" said Assistant Commissioner for OEHS **Persis Luke**.

**We welcome your feedback! To submit an announcement or suggestion, please email us at: [newsletter@dep.nyc.gov](mailto:newsletter@dep.nyc.gov)**