# The Conduit

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NYC Department of Environmental Protection
Bureau of Water & Sewer Operations, Environmental Health & Safety (EHS)

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## Environmental Health & Safety News for BWSO


***"When it comes to petroleum spills here at DEP the goal is PREVENTION first and mitigation second."***
*– BWSO EHS Staff*

NYC Environmental Protection

BUREAU OF WATER & SEWER OPERATIONS
ENVIRONMENTAL HEALTH & SAFETY DIVISION

Inside this issue:



## Our Spill Prevention Policy in Action: Brooklyn North Sewer's Speedy Reaction

Every year, the New York State Department of Environmental Conservation (NYSDEC) receives approximately 16,000 reports of confirmed and suspected releases to the environment, and approximately 90% of those releases involve petroleum products.

When it comes to petroleum spills here at DEP the goal is PREVENTION first and mitigation second. By preventing oil spills we protect our environment, and by extension, our own health while conserving valuable resources. DEP's policy on Spill Prevention, Environmental Release Reporting & Investigation identifies several spill prevention measures, including careful handling of petroleum products, replacement of damaged or old equipment and performance of pre-use and/or routine inspections of equipment.

However, despite the best prevention measures, oil spills may still occur. Recently, a hydraulic oil spill was reported to EHS by Brooklyn North Sewer Maintenance (B-9) District Supervisor Daniel Bollaert.

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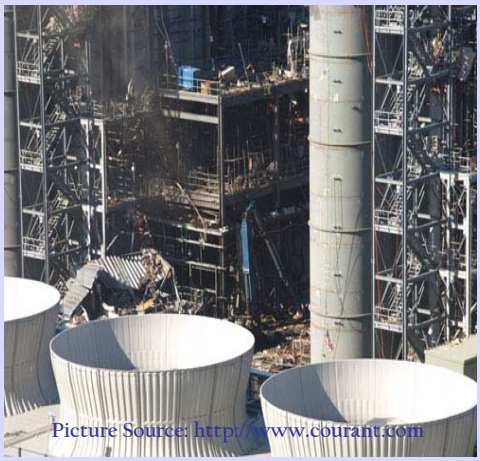
## A Power Plant Explosion Reinforces the Importance of Having Strong Environmental, Health and Safety Programs

As DEP employees, we are fortunate to have Environmental, Health and Safety policies that were developed to ensure that every employee works safely throughout the course of his or her workday and returns safely to their home and family each night. Unfortunately, earlier this year, employees at a Kleen Energy Systems Plant in Middletown, CT experienced what could happen when appropriate regulations and policies are not in place or not properly followed. On February 7, 2010, six workers were killed and 26 were injured at the gas-powered plant when an explosion ripped through the facility. The 620-megawatt plant had been under construction since September 2007 and was set to go online by spring 2010.


Picture Source: http://www.courant.com

As workers purged natural gas lines in preparation for the plant to open, a portion of the plant exploded with an earthquake force that could be heard for a 30-mile radius and shook homes across much of the state.

The accident investigation, which began immediately after the incident showed Continued on Page 3

## Familiar with Groundwater Operations?

Rodney Willoughby and Milton Apotsos of BWSO, Groundwater Operations
**See Page 4**


WIN AN iTUNES GIFT CARD!
TAKE QUIZ ON PAGE 3

## Our Spill Prevention Policy in Action: Brooklyn North Sewer's Speedy Reaction Continued from Page 1

**The Situation:**

A hydraulic hose fitting failed during a routine catch basin cleanout resulting in the release of nearly 10 gallons of oil to the street surface. Construction Laborer Willie Flores immediately shut down the vehicle, placed absorbent pads on the affected area and called Supervisor Robert Pryor. When Pryor notified the facility, P.A.A. Marilyn Burrowes set the spill response in motion. Construction Laborer Radhames Soto was dispatched to the spill location with additional materials to supplement the spill kit. In the mean time, the crew utilized several empty containers from a nearby dumpster to capture a significant amount of oil before it could further impact the environment. "Our DS, [Daniel Bollaert], came up with the idea of scrounging for containers" said Pryor. When EHS arrived at the site the release had been stopped, approximately 3–4 gallons of oil had been captured and the remaining spill was contained.

***"The crew utilized several empty containers to capture a significant amount of oil before it could further impact the environment."***

*– BWSO EHS Staff*

When a spill cannot be prevented the most important objective is to follow agency reporting procedures and MINIMIZE IMPACT. The situation above illustrates how the quick action and ingenuity of B-9 personnel went a long way toward minimizing the environmental impact. By following these simple steps, the time and expense of the final cleanup was greatly reduced:

1. Stop the source of the spill;
2. Contain the spill; and
3. Absorb the spill.

The crew agreed that communication and teamwork were the driving forces behind this successful effort. EHS would like to take this moment to acknowledge the crew's exemplary performance. Great job Brooklyn N. Sewer!

District Supervisor Daniel Bollaert (not pictured), Supervisor Robert Pryor, Construction Laborer Radhames Soto, Construction Laborer Willie Flores and P.A.A. Marilyn Burrowes (not pictured) worked together to mitigate the spill cleanup.

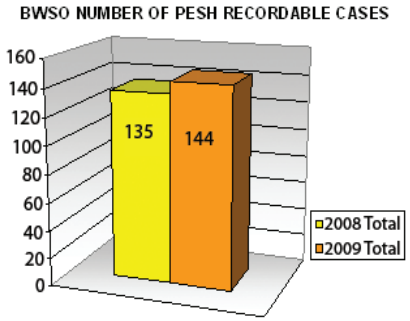
Do you have a suggestion that could help BWSO prevent spills? We would love to hear from you! Send your suggestions to bwsoehs_suggestions@dep.nyc.gov or use the suggestion box at your facility.

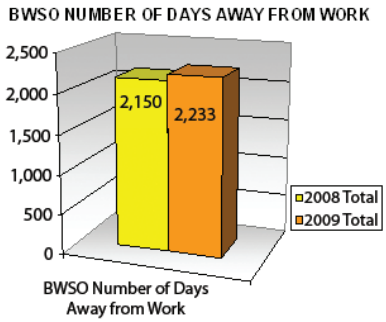
## Injuries and Illnesses – A Comparison of 2008 to 2009

Think Safety. That's a slogan we often hear while we are on the job at DEP. Although it is a simple slogan, it captures one of the most critical components of a strong safety management program – Accident Prevention.

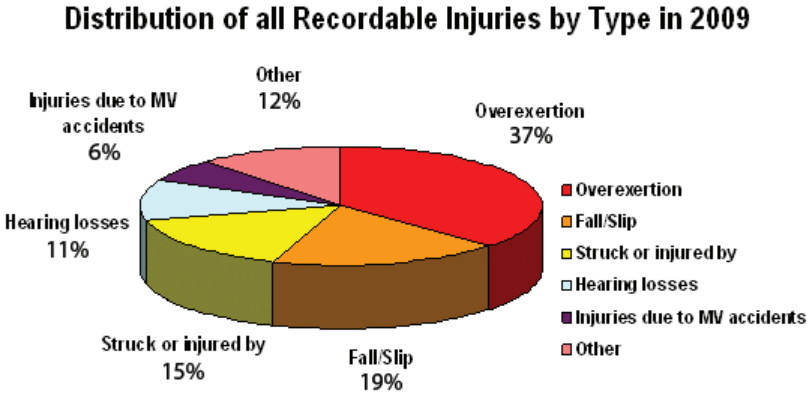
The first step in injury prevention is to understand the types of accidents and why they occur. The next step is to ensure that this information reaches as many employees as possible. We will likely make progress in reducing the overall BWSO injury rate as more and more employees begin to understand why injuries occur and how to prevent them.

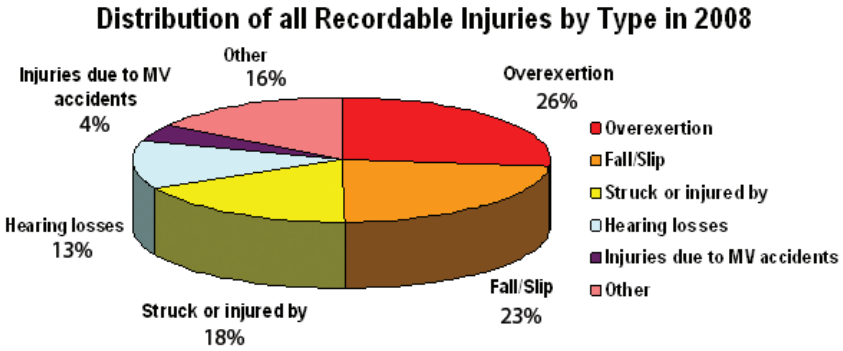
Statistics collected by BWSO EHS indicate that our injury incidence rate rose slightly by 0.9 from 2008 to 2009, with a 2008 rate of 10.56 recordable cases per 100 employees and a 2009 rate of 11.54 recordable cases per 100 employees.




This injury incidence rate increase of 0.9 translates into 9 additional injury cases and is most likely due to the 10% rise in the number of overexertion injuries from 2008 to 2009. Below, you will find a breakdown of the most common causes of workplace injuries in BWSO. In many instances, these are injuries and illnesses that could have been prevented.




**1.** Overexertion (36.8%) – This injury has consistently been ranked as the number one type of BWSO workplace injury. Overexertion injuries are primarily caused by activities such as pulling, lifting, pushing, holding or carrying an object that is too heavy, or repeating an action multiple times.

**2.** Fall/Slip (18.75%) – Fall and slip injuries occurred mostly while employees were getting in and out of trucks and as a result of icy conditions. The number of fall and slip injuries declined by 5% from 2008 to 2009.

**3.** Struck or injured by (18%) – This type of injury mostly occurred while employees used tools such as jackhammers or sledge hammers, and is also due to loading/unloading events. Struck or injured by injuries have declined by 2.5%.

As demonstrated by the pie charts shown above, overexertion injuries are on the rise. It is important to think more about how to lift and move equipment. You should only lift, push or pull within your "power" zone (the area between your shoulders and knees.) If the task at hand forces you into an awkward position, get help or re-position yourself or the equipment. Remember – the way you approach a work task can save your back!!

# A Power Plant Explosion Reinforces the Importance of Having Strong Environmental, Health and Safety Programs Continued from Page 1

that the explosion was most likely caused by human error, coupled with inadequate regulations.

The investigation found that the gas was being purged into a courtyard in the plant while, according to a source, possible hot work was being conducted by workers. Two of the workers killed were pipe fitters, whose job included threading, brazing and welding.

The National Fire Protection Administration (NFPA) regulations, which are adopted because there are no OSHA regulations governing gas purging, actually allow gas to be purged into open spaces so long as precautions are taken. Evidently, if hot work was being conducted in the courtyard during the gas purging, there was a failure of communication, and the necessary precautions were not being taken.

This accident could have been prevented if Kleen Energy and its workers had enforced a policy similar to the DEP Hot Work Policy, which contains clear instructions on how to prevent such incidents, including:

- The Responsible Individual communicating the locations of all flammables and combustibles to persons conducting hot work;
- The need for a Hot Work Permit for all welding and grinding in areas not designated for hot work;
- Relocating all flammables and combustibles at least 35 feet away from the hot work site;
- Prohibiting hot work in the presence of combustible atmospheres or whenever there is a potential for a combustible atmosphere to occur; and
- Contractors performing hot work must submit a completed Contractor Certification (Attachment G of the DEP Hot Work Policy) that indicates they have received and understood the DEP Hot Work policy and will communicate the requirements to all of their employees performing or authorizing hot work.


Picture Source: http://www.courant.com

As of now, the root cause of the explosion is still being investigated by the US Chemical Safety Board (CSB), OSHA and local authorities, and a final report has not yet been issued. Although we are still waiting for the final report, an urgent recommendation has already been issued by the CSB –change the fuel gas codes to improve safety when gas pipes are being purged, or cleared of air during maintenance or installation. While the development of more stringent fuel gas codes will take time, Kleen Energy will likely be taking a hard look at its own safety policies and taking steps to prevent an accident of this magnitude from occurring again.

## DEP's New and Improved Tapping Truck!

BWSO is pleased to announce the arrival of the new tapping trucks. The new design provides thermal insulation inside the cab, which helps to maintain a comfortable interior temperature, additional lighting in the interior to aid worker visibility, air-ride seats for driving comfort, and roll up doors for easy access to the back and sides of the truck. The truck is also equipped with an under deck air compressor and generator, which permits the use of electric and pneumatic tools. These trucks are designed to be multipurpose; they can be used for wet connections, fire hydrant repairs and potentially for light construction jobs.

Since its unveiling, the new tapping truck has received good ratings from our Field Operations colleagues, who are glad that its design is more operator friendly!

Congratulations to:

**Hydrant Flushing**

*for achieving a high level of EH&S compliance and for their*

OUTSTANDING PERFORMANCE*

at their OEHSC EH&S AUDITS

*Based on a comparison of their two most recent audits resulting in a 50% or more reduction of their total findings.

**UPCOMING TRAINING:**

April – May 2010

1. Traffic Work Zone Training
2. Forklift Training

**Questions?**

Contact Nelson Leon at (718) 595-5544

## *Do You Know Someone Who Deserves Recognition?*

In addition to Eyes on Environmental Awareness and Serious about Safety awards, the Agency has expanded its award categories to include "Commissioner" and "Bureau" awards. These new categories recognize employees who have distinguished themselves in service to the Agency or their Bureau in one of the following ways:

- Outstanding work performance that supports the mission of the Bureau and the Agency;
- Demonstrated excellence in leadership, integrity, innovation and bravery;
- Performance of tasks above and beyond the call of duty;
- Exemplary work performance that improves the day-to-day work life of one's fellow DEP employees;
- Exemplary work performance in protecting the interests of New York City and its assets.

If you know someone who you feel deserves recognition for one of the above categories, send in a nomination to Karen Marino at kmarino@dep.nyc.gov.

***Nominations should include the employee's name, work location and title, and a description of why he or she should be recognized.***

TAKE THIS QUIZ: SUBMIT CORRECT ANSWERS FOR A CHANCE TO WIN A FREE GIFT CARD

BE SURE TO INCLUDE YOUR FULL NAME AND WORK ADDRESS. FAX: (718) 595-5541 AND/OR EMAIL:BWSOEHS_suggestions@dep.nyc.gov

**1. According to the DEP Injury & Illness Investigation and Recordkeeping policy, which of the following statements is true?**

a) The timekeeper shall complete an SH 900.2 or equivalent form for each recordable injury.
b) A copy of each SH 900.2 must be maintained at the facility and a copy must be forwarded to Bureau EHS.
c) The SH 900.1 Injury and Illness Annual Summary must be posted from March 1 – August 31st for the previous calendar year.
d) Employee deaths resulting from a work related incident must be reported to PESH within 24 hours of the death.

**2. To which state agency is DEP responsible for reporting spills of hazardous substances?**

a) Public Employee Safety and Health (PESH)
b) Environmental Protection Agency
c) Department of Environmental Conservation
d)Division of Natural Resources

**3. According to DEP's Hot Work policy, a temporary designated hot work area must:**

a) Only be established when hot work projects are expected to last longer than 7 days.
b) Be outdoors.
c) Have clearly identified and delineated boundaries.
d) All of the above
e) A and C

Answers for February 2010 Newsletter Quiz: 1) C 2) D 3) B

NYC Environmental Protection

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We'd love to hear from you!

E-mail us at:
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# GETTING TO KNOW GROUNDWATER OPERATIONS

Teamwork and dedication are required to maintain a dependable water supply for all residents of New York City. Many "thank yous", as always, are owed to the staff at the Bureau of Water and Sewer Operations.

In an effort to learn more about the support process and the work that goes on at Groundwater Operations in Southeast Queens, EHS reporters met with Rodney Willoughby, Supervisor of Watershed Maintenance, and Milton Apotsos, Watershed Maintainer, on April 2nd, 2010. Read on to learn what they found out.

Recorder charts at Station 6

**9:00 AM:** First stop – Groundwater Headquarters, Station 6. The Conduit reporters met with Rodney and Milton. According to standard procedure, all present at the facility were required to sign-in. Recorder charts were observed on the walls that measure system pressures from several groundwater stations located in Queens. Rodney explained that the recorders measure system pressure in psi (pounds per square inch). In circumstances where pressure levels drop, booster pumps may be remotely started to increase the system pressure. Groundwater Operations' primary infrastructure consists of a number of well stations and storage tanks, and its staff operates equipment 24 hours a day.


Booster pump at Station 6

Milton explained that water in the tanks comes from the NYC distribution system; water travels from upstate reservoirs through the NYC water tunnels and mains to Southeast Queens. The storage tanks are filled at night during periods of low demand. During periods of higher demand, to maintain water pressure and chlorine levels, booster pumps are turned on to discharge water from the tanks into the distribution system.

According to Rodney, the wells have not been used to supply the distribution system for several years, but preventive maintenance (PM) is performed to ensure that the equipment is ready to be used, if and when, an emergency occurs.

**When EHS reporters asked, "How do we know what the water levels are in the wells if they are not being used?" The following answer was given—**
A static level test is performed every month using a static probe. A "static probe" is an electronic sensor with a cord attached to it. The static probe is dropped into the well and beeps once it hits the water level.

**9:50 AM:** The team arrived at Station 38. On-site there is an air stripper and a granular activated carbon (GAC) system— two types of treatment systems used in combination to treat groundwater.

**GAC system at Station 38**

Milton explained that all stations are to be checked at least once a week. Upon entering the station, one of the first things checked is whether all of the indicator lights on the panel boards are working. Milton explained, "When you see a light bulb off, it means either that the light bulb needs to be changed or a chemical is not being pumped." Some additional spot checks that are performed during routine site visits include checking for signs of chemical leaks, and ensuring that all pumps are working properly. Different shifts also visit the various stations to ensure that everything checks out.

Back outside the station, Rodney and Milton spoke about the GAC system– as water moves through the GAC system, the activated carbon removes certain contaminants in the groundwater. "Starting up a GAC system is a group effort," said Rodney. Groundwater routinely turns on the GAC systems to confirm if they are functioning properly.


LMI pump at Station 23

**11:10 AM:** The team arrived at Station 23 and the Conduit journalists were educated on the LMI pump. The LMI pump is used to pump hypochlorite into the water. Milton explained that "an operator would be able to adjust the speed of the LMI pump to either raise or lower the hypochlorite output." If a repair was needed to be made on the LMI, the operator would wear PPE such as gloves, an apron, and eye protection. Hypochlorite is corrosive, so it is important to be protected. Before leaving, Milton also pointed out a sample water faucet where chlorine residuals (from hypochlorite treatment) are taken for sampling purposes.

**What does "taking chlorine residuals" mean?**
Milton explained that it is a test to verify that the water has the proper amount of free chlorine in it. Chlorine residual restricts bacteria growth.

**12:27 PM:** Station 56 – The Conduit journalists were shown a natural gas powered engine that drives the well pump. It was installed as a back up for emergencies to ensure water can still be supplied during electrical power outages.

**1:15 PM:** Rodney, Milton, and the Conduit journalists returned to Station 6 to conclude the tour of Groundwater Operations. The EHS Conduit journalists left with a new view of all that BWSO operations encompass, and a greater understanding and appreciation of all of the hard work performed by Groundwater Operations personnel!

Picture Source: www.hach.com


Chlorine kit used to take chlorine residuals.