NEW YORK UNIVERSITY *ENVIRONMENTAL HEALTH & SAFETY NEWSLETTER*

June 2008

In this issue of the Environmental Health and Safety (EHS) Newsletter you will find information on:

- Oil Spill Prevention at NYU
- Microbiological Laboratory Practices and Technique
- Open Flame for Performances and Open Air Events
- Future Topics

Oil Spill Prevention at NYU:

One of the most likely scenarios for a large spill at the University is during delivery of fuel oil into storage tanks. NYU stores fuel oil across the University in tanks ranging in size from 25 to 30,000 gallons. This makes us vulnerable to fuel spills during deliveries, which can present health, safety and fire hazards to our employees, students and surrounding community. To give you an idea of the magnitude of a spill that could occur at the University: the average flow rate for fuel deliveries is 25 gallons per minute so a spill for just 10 minutes could result in 250 gallons of fuel. If left unchecked, the spill could total 5,000 gallons, which is the average amount of a delivery. Fuel oil and vapors from the spill could flow into the streets, basements, storm sewers, soil and local water ways.

One of the best ways to prevent fuel oil spills is to closely monitor deliveries by the trucks. As stipulated by the University's Spill Pollution Control and Prevention Plan, the following procedures must be followed during fuel oil deliveries of any size:

- All product deliveries into the petroleum storage tanks must be supervised by NYU staff from start to finish.
- Before delivery, the tank(s) must be gauged to determine "ullage", using tank gauges or "sticking" before filling. This is to make sure there is enough room in the tank for the fuel delivery. Overfilling the tank can lead to a spill.
- Make sure the delivery truck driver is parked in the correct position to offload fuel and has set all parking brakes. The truck should be equipped with "nozzle stowed" brake interlock system to prevent the delivery truck from leaving before the transfer hoses are disconnected. If the truck is not so equipped, wheel chocks must be used during tank filling operations.
- All visible fuel delivery equipment and hoses must be inspected for deterioration, frays, leaks, breaks, etc.
- Make sure the truck offloading product hose is firmly inserted into the correct tank fill port.
- The delivery truck must use safety cones/tape to cordon off the area. Not using safety cones or tape to cordon off the work area during deliveries can cause an accident in the street and the sidewalk.

- The delivery truck must have spill clean up materials available on the truck. All fuel oil contractors are responsible for clean up of spills and safety issues during deliveries and must follow all applicable regulatory requirements.

- A complete spill kit must be available for NYU employees to stop and clean up a spill if needed. The spill kit must include PPE such as gloves, boot covers, eye splash guard and more spill equipment such as loose sorbent material, and a plastic bag and a non-sparking shovel to collect the waste.

- Prior to the fuel truck leaving, a walk around inspection shall be made to determine if the fuel hose is disconnected and there is no visual evidence of a spill.

If a spill does occur during delivery, take the following actions:

- Quickly determine the magnitude of the spill and cause.

- Don personal protective clothing, including gloves, boots and safety glasses.

- Take measures to stop flow of material, and any/all eliminate ignition sources.

- Call your own facility manager, Public Safety and then call the Emergency Coordinator for Environmental Health and Safety:

  Supply the following information:
  - location of spill
  - approximate quantity of spill and type of material
  - source of and status of leak

- Secure the area so no one can accidentally be exposed to the fuel oil spill.

- Clean up spill or remain on stand-by for clean-up contractor, if Emergency Coordinator deems it necessary.

- Generate report of incident to manager and provide to Environmental Services.

Remember, the best way to protect yourself and others is make sure a spill does not occur in the first place. Following these prevention procedures will help minimize the chances of a large spill occurring at the University and keep it a safe and clean environmental for everyone.

Microbiological Laboratory Practice and Technique

The most important element of containment is strict adherence to standard microbiological practices and techniques. Persons working with infectious agents or potentially infected materials must be aware of potential hazards, and must be trained and proficient in the practices and techniques required for handling such material safely. Lab personnel should:

- Know and understand the biology and infectious potential of the biohazards you handle.

- Be trained by EHS if working in a Biosafety Level 2 Lab
- Be certified by NYU EHS before shipping any biological material or dry ice.
- Handle all potentially infectious materials as if the biohazard is present.
- Develop Safe Operating Procedures
- Use the principles of good microbiological practices when handling any biohazard.
- Plan in advance for safe handling of accidents.
- Use disinfectants with proven efficacy against the specific biohazard you are handling.
- Work at the appropriate Biosafety Level (BSL) for the biohazard you are handling.
- Accept full responsibility for your work.
- Report all accidents to your supervisor.
- Dispose of biohazards waste properly.

Personal Protective Equipment
Once a biological hazard has been identified, the supervisor and employee must agree on the appropriate personal protective equipment (PPE) to be worn as the primary barrier of protection. PPE may include, but is not limited to face protection, lab coats and gowns, respirators, and booties. Supervisory personnel are responsible for the initial demonstration and periodic follow-up of proper use.

Appropriate PPE should be donned before handling potentially hazardous biological materials and removed immediately and replaced if gross contamination of the equipment occurs. PPE should be removed before exiting the laboratory.

1. Face Protection: When splash or splatter of infectious substances or other biological materials is anticipated, appropriate face protection should be worn if work is performed outside a biological safety cabinet. Such equipment would include but is not limited to goggles, side-shielded safety glasses and chin length face shields.

2. Lab Coats and Gowns: Long sleeved lab coats or gowns should be worn to protect skin and street clothes from contamination. In circumstances when splash or splatter is anticipated, the garment must be resistant to liquid penetration. A cuffed lab coat or gown should be worn when working with potentially infectious materials, and MUST be worn when working with agents requiring Biosafety Level-2, or 3 containment. Personnel should not launder laboratory clothing at home if working in a BSL 2 or 3 labs.

3. Gloves: Gloves should always be worn when handling biological materials. Disposable gloves can provide an adequate barrier between the lab employee and most biohazardous materials.

4. Respirators: When engineering controls (i.e. Biosafety Cabinets) are not available to provide adequate protection against aerosolized agents or when mandated by federal regulations, respirators shall be worn. Respiratory Protection Program requires that employees be medically cleared, fit-tested, and trained on proper usage and care before allowed to wear a respirator. Please contact EHS at 212-998-1450 for Respirator training and fit testing.

5. Disposable Booties/ Shoe-covers: When significant splash and splatter are anticipated, booties/ shoe-covers should be considered. Prior to exiting the laboratory, these must be removed and disposed of properly.

Hand washing
Hands should be washed as soon as possible when they come in contact with potentially infectious materials. A vigorous hand washing with a mild soap for 20 full seconds is appropriate. Hands should also be washed as soon as feasible after gloves are removed, and before exiting the laboratory.

Eating, Drinking, Smoking, Applying Cosmetics and Handling Contact Lenses
Eating, drinking, smoking, applying cosmetics and handling contact lenses is prohibited in work areas in which potentially infectious materials are being manipulated.

Housekeeping
Good housekeeping in laboratories can reduce the risk of accidents occurring. Work benches should be kept as clutter-free as feasible, and aisles should always be free of trip hazards. Benches should be wiped down with an approved disinfectant at least once a day and immediately after a spill of potentially infectious materials.

Pipetting
Pipetting infectious agents can lead to personnel exposures by inhalation, contact, or ingestion if not performed properly. The following are a few safety precautions to be followed when pipetting in the laboratory: 1) Never mouth pipette; pipetting aids should always be used, 2) Pipette contents should be allowed to run down the wall of the container, making sure not to release the contents from a height, 3) Place absorbent paper on bench tops to reduce the risk of aerosols being generated by accidental dripping of infectious materials from pipette tips.

Sharps
The use of needles, glass pipettes, glass slides and cover slips, scalpels and lancets should be eliminated when possible. Appropriate precautions should be taken to avoid percutaneous injuries. These items should be disposed of immediately after use by placing them in an appropriate puncture proof container. Bending, recapping or clipping of needles is prohibited. If recapping is absolutely necessary, a mechanical device or the one handed scoop method must be used. Plastic ware should be used whenever possible, such as plastic graduated cylinders, funnels, etc. Safety devices (i.e. Mylar-coated capillary tubes, Eclipse safety needles) should be used when available.

Good Microbiological Practices Summary

- Never pipette by mouth.
- Avoid hand-to-mouth or hand-to-eye contact in the laboratory.
- Never eat, drink, take medicine or apply cosmetics in the laboratory.
- Always wear protective equipment (lab coat, gloves, and eye protection) appropriate for the task.
- Change gloves frequently.
- Remove gloves and lab coat and wash hands before leaving the laboratory.
- Wash hands thoroughly after handling microorganisms, cell cultures, human blood or tissues and before leaving the laboratory.
- Handle all pathogens or materials containing pathogens in biosafety cabinets if the potential for aerosolization exits.
- Store all biohazards securely in clearly labeled, sealed containers.
- Never recap a used needle or otherwise manipulate it by hand.
- Dispose of needles and other sharps in Sharps Containers.
- Label all biohazards with the Universal Biohazard Symbol.
- Know the location of appropriate spill kits or other decontamination equipment.
- Clean work surfaces with proven disinfectant after work with biohazards and at end of work shift.

Open Flame Permits for Theater Performances

For stage performances that require an open flame or pyrotechnics, an Open Flame Permit is required by the Fire Department of New York (FDNY). An open flame is considered lighted candles, striking a match, smoking a cigarette and even the use of a small butane torch for caramelizing crème Brule; and probably any other item that uses an open flame. To obtain the permit, one contacts the Environmental Health and Safety (EHS) and we in turn contact the FDNY, Bureau of Fire Prevention, Explosives Unit. This is the same unit that handles pyrotechnic displays at the University (also the Macy's fireworks). The FDNY requires a letter to the bureau a couple of weeks before the performance. Once notified the FDNY will make an on-site inspection of the area where the open flame use is to occur, request documentation regarding Certificate of Occupancy (CofO), Permit of Assembly (PA), and flame proofing for any curtains and combustible material. All combustible materials including decorations and fabrics are required to be flameproofed. All scenery shall be constructed of treated fire retardant lumber. Where treated wood can not

used, the final product shall be treated. This is accomplished either by being treated with flame retardant that has a Certificate of Approval from the NYC Fire Department and is applied by an individual with the requisite Certificate of Fitness; or manufactured with flame proofing and has an approval from the NYC Fire Department. Certificates of flame proofing for such items as curtains for combustible scenery are to be provided by the client as EHS does not have this required data. There is a fee that is the responsibility of the client.

Future Topics

Environmental Health and Safety will be introducing this summer a new Biosafety Manual and a revised Laboratory Safety Manual to NYU laboratories. In addition we will be publishing information on environmental self-audits this fall. If there are any topics you would like to have us address in our newsletter, please contact Louis Ortiz at extension 81442.