



V.I.E.W.S.

IEWS & INFORMATION
ON ENVIRONMENTAL & WORKPLACE SAFETY

The Newsletter of the Office of Environmental, Health & Safety Compliance

June 2005

NEED AN EH&S DOCUMENT? TYPE "PIPELINE" IN YOUR WEB BROWSER'S ADDRESS BOX AND CLICK ON HEALTH & SAFETY! VOL 3, ISSUE 2

SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLANS

by

Christine D. Panicia
Technical Asst. to Director
Bureau of Water Supply

Division of Regulatory Compliance & Facilities
Remediation

Robert N. Gould, M.S., M.P.H.

Section Chief, Regulatory Compliance
Bureau of Water Supply

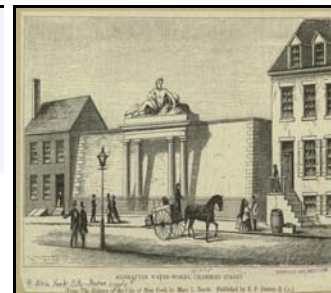
Division of Regulatory Compliance & Facilities
Remediation

Protection Agency introduces the requirements set forth in the Oil Pollution Prevention Rule.



US EPA's Oil Pollution Prevention Rule (40 CFR 112), requires any facility with a combined, aboveground bulk oil storage capacity exceeding 1,320 gallons prepare and implement facility-specific SPCC Plans. Bulk oil storage containers may include, but are not limited to: tanks, containers, and drums. When calculating bulk storage capacity, containers less than 55 gallons are not included. The term "oil" addresses oil of any kind or in any form, including: petroleum, fuel oil, sludge, oil or greases of animal, fish, or marine mammal origin, vegetable oils, and other synthetic and mineral oils.

(Continued on the following page)



Manhattan Water Works,
Chambers Street (1800)

Inside this Issue

Spill Prevention Control	1
Lab Safety for Non-Lab Personnel	3
Electric and Magnetic Radiation	5
Serious About Safety Awards	7
Employee Concerns Hotline on Pipeline	8

Editor

Kevin Z. Moore

Contributors

Environmental
Coordination Committee

Health & Safety
Coordination Committee

Office of Environmental,
Health & Safety
Compliance

The Bureau of Water Supply's Division of Regulatory Compliance and Facilities Remediation is pleased to announce that nineteen (19) Spill Prevention Control and Countermeasures (SPCC) Plans have been developed and are now in-place at applicable facilities throughout the City's Upstate Watershed. The Bureau addressed this need by procuring the consultant services of ENSR, Inc. to prepare compliant SPCC Plans with input from Bureau EH&S and Operations personnel.

Did you know a spill of only one gallon of oil can contaminate one million gallons of water? This question is typically how the US Environmental

(Continued from page 1)

The purpose of the Rule is to **prevent** the discharge of oil into navigable waters of the United States or adjoining shorelines, as opposed to response and cleanup after a spill occurs. Navigable waters or adjoining shorelines is defined by US EPA as streams, ponds, ditches, storm or sanitary sewers, wetlands, mudflats, sandflats, and other locations.

The distance to navigable waters, volume of material stored, worse case weather conditions, drainage patterns, land contours, and soil conditions must be considered when determining whether or not a facility has the potential to



discharge. Because of the proximity of most of DEP's Upstate petroleum bulk storage locations to the City's drinking water supply, nineteen individual oil storage locations were deemed to have a "reasonable expectation to discharge."

Development of a unique SPCC Plan requires detailed knowledge of the facility and the potential effects of any oil spill. Each SPCC Plan, while unique to the facility it covers, must include certain standard elements to ensure compliance with the regulations. These elements include:

- ❖ A description of the physical layout and a facility diagram;
- ❖ An emergency contact list, including clean-up contractors and all appropriate federal, state, and local agencies who must be contacted in case of a discharge;
- ❖ A prediction of the direction, rate of flow, and total quantity of oil that could be discharged where experience indicates a potential for equipment failure;
- ❖ A description of containment and/or diversionary structures or equipment to prevent discharged oil from reaching navigable waters;
- ❖ Where appropriate, a demonstration that containment and/or diversionary structures or equipment are not practical;
- ❖ A complete discussion of the spill prevention and control measures applicable to the facility and/or its operations; and
- ❖ A demonstration of the Responsible Manager's approval (signature) and certification by a licensed professional engineer.

Where applicable and as per the *Agency's Petroleum Bulk Storage Tank and Container Management Policy* (adopted May 2003), Responsible Managers have been tasked with preparation and implementation of facility-specific SPCC Plans. For further guidance on the Oil Pollution Prevention Rule, visit EPA's Oil Program website at www.epa.gov/oilspill.

Laboratory Safety Considerations for Non-Laboratory Personnel

By Jeffrey Hurley
Health and Safety Director
DWQC Watershed Operations

Laboratories are specially designed and contain potential hazards not found in the average working environment. To safely enter these areas, training and information on hazardous chemicals is required. OSHA mandates that a written Chemical Hygiene Plan (CHP) be prepared for laboratories that work with hazardous chemicals in order to ensure the protection of the laboratory worker. Information contained in the CHP must be readily available to employees who work within the laboratory, as well as to any non-laboratory visitors. Contractors, vendors, and even occasional visitors must be provided with ample information for their protection. Proper communication of hazards also serves to avoid conflict and disruptions, which may result in injury to others working within the laboratory.

To ensure that any non-laboratory personnel are provided with necessary information, the Division of Water Quality Control (DWQC) Watershed Operations Laboratory CHP includes a section dedicated to non-laboratory personnel. The CHP requires that the hazards of all chemicals handled and used in laboratories are evaluated, and information concerning the hazards is transmitted to employers and affected personnel. The plan is designed to meet the requirements of OSHA Standard 29 CFR 1910.1450, "Occupational Exposure to Hazardous Chemicals in Laboratories," which is also referred to as "The Laboratory Standard." Laboratory personnel are provided annual CHP training and rely on their elevated level of expertise in order to protect themselves and their co-workers from harm when working around laboratory hazards. Specific visitor and non-laboratory worker hazard communications can be found in Appendix F of the DWQC Watershed Operations CHP

and is titled, "Information for the Contractor and Non-Laboratory Support Staff Working in Laboratory Spaces." This document is designed to provide and understanding of the basic laboratory hazards, protective measures, and safety procedures.



The CHP and Appendix F documents are designed to provide guidance on potential hazards specific to each laboratory. Laboratories can contain hazards associated with materials used and stored in the laboratory, or from analytical equipment, such as lasers and powerful magnets. These materials may be of a biological, chemical, or radioactive nature. In most laboratories the first indication of such hazards is a sign posted on or near the door to the laboratory, a specific work area, or directly on a piece of instrumentation or equipment. A sign may be general in nature and warn of the potential hazards regarding laboratory entry, or can identify a specific hazard such as from contact with bio-hazards or radiation. Visitors and non-laboratory personnel should not enter areas that advise against unauthorized entry or state warnings such as "Keep Out" without specific permission from the Laboratory Director.



Non-laboratory personnel can also find instruction in Appendix F on the administrative, engineering and personal protective equipment (PPE) necessary to prevent injury to themselves and others, while performing work within the laboratory or as a visitor. Visitors and non-laboratory workers should be briefed as to what type of work may be taking place in their presence by laboratory personnel. In turn, they should also inform affected personnel as to the nature of their visit through communication with the Laboratory Director. Equipment may need to be moved, hazardous sources of energy locked out, or work zones created in order to avoid

injury or conflict between laboratory and non-laboratory personnel. Laboratory experiments can take days, weeks, and sometimes months to set up and complete. If work performed by non-laboratory personnel will disrupt a test procedure, the Laboratory Director must be notified well in advance. This interaction also may be necessary to provide information for safe work practices and PPE selection. All personnel who enter a DWQC Watershed Operations Laboratory are required to don safety glasses and may be provided access to a laboratory coat as general personal protective measures. In some cases additional PPE may be provided or engineering solutions employed in order to prevent exposures from a specific hazard. Good personal hygiene practices such as washing your hands before leaving the laboratory, as well as no eating, drinking, or smoking, are essential first lines of defense for all laboratory occupants.

In order to assure that non-laboratory personnel have received ample information before performing work, an orientation checklist and certification are included in the DWQC CHP Appendix F document. A “Non-Laboratory Personnel and Contractor Orientation Checklist” is supplied to any non-laboratory staff that plans on performing work within the laboratory area. This document is not intended as a requirement for the casual visitors, but is necessary whenever non-laboratory personnel are performing work within laboratory areas. In addition to the orientation checklist, a certification statement is provided to entrants for their signature in order to assure hazard information was adequately conveyed. This document is kept on record at the laboratory for future reference.

The Chemical Hygiene Plan is the key to providing communications on laboratory hazards and offers a conduit for transmitting that information to laboratory and non-laboratory personnel. Attachment F of the DWQC Watershed Operations CHP provides instruction to visitors and non-laboratory workers concerning exposure to chemicals and other hazards in upstate laboratories. Laboratory specific guidance for avoiding potential exposures, injuries, and disruptions while occupying a laboratory space are found within these documents. For more information on the laboratory CHP and Appendix F document, please contact the Laboratory Director of the DWQC Watershed Operations Laboratory you intend on visiting.



Understanding Electric and Magnetic Radiation

by
Jaime Yanofsky
OEHSC Training

When I teach a class about visual display terminals (VDTs) and ergonomics, I discuss ways to reduce the onset of VDT-related health problems such as eye strain, carpal tunnel syndrome, and lower back pain. *The Mayoral Directive 1-91* (Attachment A of DEP's Ergonomics Policy) gives guidelines as to how an employee's workstation should be positioned to avoid these issues. One of the requirements is that the rear and sides of the terminals are at least forty inches from any employee. This statement always raises concern from attendees. It seems that everyone is familiar with the musculoskeletal disorders associated with the use of VDTs, but not everyone is aware of their exposure to radiation when using VDTs.

The specific type of radiation being referred to is the result of electric and magnetic fields (EMF) usually in the extremely low frequency (ELF) range near 60 Hz, the frequency of electric power in North America.

EMFs are invisible lines of force created whenever electricity is generated or used, and they surround all electric equipment, appliances, power lines, and electric wiring. They are much more prevalent in equipment that uses alternating current (plugged-in) rather than direct current (battery-operated). Voltage produces an electric field, and current produces a magnetic field. When an appliance is plugged in, but not turned on, there is an electric field. Once the appliance is turned on, a magnetic field is produced. Electric fields are blocked by materials that conduct electricity, such as human skin, so they don't penetrate our bodies. Magnetic fields, however, pass through most materials and are more difficult to shield. For this reason,

magnetic fields are researched more for health effects than electric fields.

Many VDTs have cathode ray tubes (CRTs), which produce pulsed electromagnetic fields and which are not in flat-panel monitors. The radiation emitted from CRT monitors is at a higher frequency range, making them very low frequency (VLF) equipment, rather than ELF. Different brands or models of the same type of equipment can have different magnetic field strengths.

It seems that everyone is familiar with the musculoskeletal disorders associated with the use of VDTs, but not everyone is aware of their exposure to radiation when using VDTs.

Different types of equipment have different field strengths, which is not dependent on the size, power, or noisiness of the equipment. For example, standing six inches away, a fluorescent light bulb emits more radiation than a VDT. A copy machine at the same distance emits six times as much radiation as a VDT. Using an electric can opener exposes you to about 430 times the amount of radiation as sitting at your desk. The further you stand from the equipment, the less radiation exposure you have. Sometimes moving just a few inches away from an appliance can halve your exposure.

Factors that effect exposure include the magnitude and frequency of the waves, length of exposure, time of day exposure occurs, spikes in EMFs when you turn equipment on and off, and how often the exposure changes over time.

So, you must be wondering what are the health effects of radiation exposure. After more than 20 years of research, scientists are really uncertain. Epidemiologists cannot replicate the human environment well enough to do a controlled experimental study on people. Instead, they try to find associations between exposures and groups of people who have had specific diseases. And even when an association is discovered, this does not mean the exposure caused the disease. The problem with this type of data analysis is that it is

difficult to claim a causal relationship when there is a lack of adequate exposure information.



A few studies have concluded that with certain occupational groups with high exposures, such as electrical workers and welders, there is a higher rate of brain cancer, leukemia, and breast cancer. But in order for a study to be taken seriously, it must be replicated by another research group and that group must get the same results. So far, most of these claims have not been proven by subsequent studies.

In fact, there is not sufficient biological plausibility to support an association between EMF exposure and disease. Some biological tests done on lab animals have found that in animals who already have cancerous activity in cells, magnetic fields promote tumor development. Conversely, several biological studies have found that magnetic fields have no effect on these cells. Currently, the U.S. government is sponsoring research that attempts to replicate some of these studies.

There is no firm evidence that EMF radiation causes cancer. The scientists who do say there is a link between EMF exposure and disease acknowledge only that a weak link exists. More studies are being done worldwide. These include epidemiologic, laboratory, environmental, and engineering studies.

Because of the lack of evidence for negative health effects and the inability to determine what level of exposure would be considered unsafe, the U.S. government cannot set occupational exposure limits for EMF radiation. This means that there are no federal standards in the U.S. to limit occupational exposure to EMFs. The American Conference of Governmental Industrial Hygienists (ACGIH), a non-government group, has developed voluntary occupational exposure guidelines for EMF exposure. A magnetic field exposure that averages one or two milliGauss or less over a day is typical in homes and in many workplaces. ACGIH's threshold limit value (TLV) for magnetic fields for people without cardiac pacemakers is 10,000 milliGauss, which is very much higher than the levels to which an office worker would normally be exposed.

If you want to reduce your exposure to magnetic fields, you should turn off equipment when you're not using it and keep at least an arm's length away from sources of radiation, such as VDT's.

To learn more about VDT's and radiation topic, visit the EMF Rapid Home Page, the federal government's EMF public information site, which is maintained by the National Institute of Environmental Health Sciences (NIOSH).

<http://www.niehs.nih.gov/emfrapid/home.htm>



“Serious About Safety” Awards 2005



FDC David Tweedy presents the first EH&S “Serious About Safety” Awards: (l to r) Frank Ivone (BWS), FDC Tweedy, Michael Mitts (BWSO), Timothy Kelly (BWSO), William Cadellina (BWSO), and Robert Bye (BEE). (Not Pictured Robert Miller, BWS).

The January 2005 winners of "Serious About Safety" Awards are the first DEP employees to receive this honor. We congratulate the individuals on their dedication to safe DEP work practices and facilities, and for their commitment to the health and safety of their co-workers and the general public.

The January 2005 Awardees are:

Robert Bye, Senior Construction Manager, Bureau of Environmental Engineering. When individuals from a Contractor's staff refused to comply with safety gear regulations after warnings from Mr. Bye, they were removed from the project. The contractor was previously involved in a tragic accident at another non-DEP site. Mr. Bye's dedication to site safety prevented this tragedy from striking at DEP.

Timothy Kelly, Watershed Maintainer, Bureau of Water Supply. Mr. Kelly witnessed a member of the Contractor's staff pouring concrete slurry and water down a manhole at a DEP facility; he followed procedure and notified his supervisor. His quick actions prevented potentially hazardous materials from entering the Cross River Reservoir.

Robert Miller, Machinist, Bureau of Water Supply. Mr. Miller has had a long track record of using his skills to design and create equipment that enhance the Bureau's environmental health and safety capabilities. This equipment has included a hoist and crane for washing disinfection equipment and numerous custom-made guards for facility machinery.

William Cadellina, Senior Stationary Engineer (Electric), Bureau of Water and Sewer Operations. Mr. Cadellina has developed a facility preventative maintenance program that notifies users of specific safety precautions and measures pertaining to specific equipment under maintenance, as well as allowing the addition of other relevant EH&S information.

Michael Mitts, Supervisor of Watershed Maintenance, Bureau of Water and Sewer Operations. Mr. Mitts has developed an integrated tracking database to track, monitor, and research hazardous and non-hazardous waste removal. The database provides information in "real time" and stores a specific site's waste removal history.

Frank Ivone, Senior Stationary Engineer (Electric), Bureau of Wastewater Treatment. When working with mercury remediation at Douglaston Pumping Station, Mr. Ivone developed a capture device that absorbs mercury to prevent it from venting into the atmosphere.

These individuals each received a \$250 check from the Water Board and their accomplishments will be highlighted in agency communications.

For more information about DEP's Environmental Health and Safety Compliance program and the "Serious About Safety" Awards, please visit the Office of Environmental Health and Safety Compliance or the Commissioner's Office pages on DEP's intranet, *Pipeline*.

EH&S Employee Concerns Hotline & Email Form

In 2003, DEP launched its Environmental, Health & Safety (EHS) Employee Concerns Program. The program is administered through the Office of Environmental, Health & Safety Compliance. The program was established to allow employees to report concerns relating to environmental, health and safety issues and to identify and prevent the harassment and intimidation of co-workers who properly report in-house health and safety concerns.

The Employee Concerns Hotline & Email Form has been established for DEP employees who wish to report environmental, safety and health concerns regarding DEP. Employees who wish to communicate may identify themselves or remain anonymous. Persons using the hotline or email form will not be subject to reprisal or retaliation. Employee Concerns Hotline & Email Form complaints are strictly confidential.

An environmental, health & safety concern could be an act or omission in the workplace that you believe violates the environmental or health & safety laws at your facility. If you see or suspect this, immediately notify your supervisor or call the EHS Employee Concerns Hotline. It is better to bring up a questionable activity than to ignore it.

Employees may use the hotline or email form if they believe they have been mistreated because they have reported an

environmental, health or safety concern to a supervisor or to anyone else.

There are two ways employees may contact OEHS.

1. A toll-free telephone number that is accessible to DEP upstate and in-city employees 7/24 to report environmental, health and safety questions, concerns, or problems. That number is **(800) 897-9677**.
2. **The Employee Concerns Hotline link on Pipeline.** Write a complaint or concern anonymously or include a return address for a direct replay. Simply type "pipeline" into your browser's address box. This takes you to Pipeline's Home Page. Scroll down to **Health & Safety**. There you will see this link, [email EH&S](#). Click on the link and you will be connected to an information page with the Hotline telephone number (above, 1) and a link to a **Confidential Email Form**. Click on **this form** and a box will appear in which you may write and submit your concern directly to EH&S. You may or may not wish to submit your email address. Submissions are strictly confidential. OEHS will respond directly to you if you have included an email address. Otherwise, responses are posted weekly on **Pipeline** in the **EH&S Employee Concerns Hotline & Form** section on the **EH&S Home Page** under **Employee Hotline RAQ's** (Recently Asked Questions).

Department of
Environmental Protection

Emily Lloyd
Commissioner

Office of Environmental,
Health & Safety
Compliance

Gerould J. McCoy
Assistant Commissioner,
Environmental, Health &
Safety Compliance

59-17 Junction Blvd.
10th Floor
Flushing, NY 11373

Phone: (718) 595-4782

Fax: (718) 595- 5546



OEHS

The Office of Environmental, Health and Safety Compliance (OEHS) has been established to coordinate and enhance agency-wide environmental and occupational health and safety management activities. Its mission is to provide support and direction in complying with relevant federal, state, and local standards, guidelines, and regulations as well as to monitor the effectiveness of agency-wide environmental, health and safety policies.

The goal of the Office of Environmental, Health and Safety Compliance is to promote pro-active compliance strategies through the preparation and revision of procedures, programs, and employee training (specifically tailored to Agency operations), while assessing hazards, preventing violations, and maintaining safe and sensible work practices.