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EDITORS: PAULA DUFFY
AND EMILY RANKEN

▶ **Please welcome...Inspectus auditus**



Inspectus Auditus, a very smart auditor with impeccable credentials, has joined the Environment, Health and Safety Office to announce the pilot audit that will occur during the fall at MIT.

In his unwavering quest for compliance, Inspectus Auditus will be appearing, with his ubiquitous magnifying glass, on posters and fliers around campus to kick off the Environment, Health and Safety Management System Awareness Campaign. The goal of the campaign is to increase knowledge about MIT's EHS Policy and the EHS Management System. Key components of the management system will be highlighted, including EHS training, inspections, programs for EHS sustainability, and the upcoming external audit. All these components involve the MIT community "working together to protect people and planet." Keep your eyes open for Inspectus Auditus and learn what steps you need to take to work and study safely and protect and preserve the environment.

▶ **Emergency Preparedness**

By Paula Duffy

"I am prepared for the worst but hope for the best" –Benjamin Disraeli

Disraeli could not have begun to imagine the scope and breadth of preparedness that is now required in the 21st century. However, as the aftermath of Hurricane Katrina has demonstrated, we at MIT must.

A University is like a small city and has all the concerns that a city would have for emergency planning with additional unique concerns due to the research activities. Many of MIT's laboratories and work areas contain hazardous materials and agents that may need to be contained. In addition, there are some unique operations and experiments in some buildings that have the potential to cause or exacerbate an emergency. Therefore, when there is an emergency, it is imperative that all the potential issues have been previously considered and planned for so as to minimize danger to people and maximize preservation of facilities and the integrity of ongoing research and data.

In meeting its responsibilities to students, faculty, and employees, the Institute has designated the Environmental Programs Office and the Environment, Health and Safety Office as the two principal organizations responsible for establishing requirements and procedures to ensure the safety of the MIT community in the event of a natural or man-made emergency. However, implementing those requirements and procedures is a shared responsibility, and Departments, Laboratories, and Centers play a key role.

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<http://mit.edu/environment>

If you would like others to receive this newsletter, please contact environment@mit.edu.

Emergency Preparedness

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Accordingly, regulations require all personnel at MIT to be covered by an Emergency Preparedness Plan (EPP). A designated representative from your Department, Laboratory, or Center is responsible for developing and implementing the EPP.

This representative is referred to as the Emergency Preparedness Coordinator (EPC). Training is available at EHS for the EPC, and personnel who may back them up. In addition, templates and worksheets are available to them to assist with developing plans and can be found at: <http://web.mit.edu/emergency>

As part of emergency preparedness, the following must be attended to:

- Everyone knows to dial **X100** in the event of an emergency.
- Students and employees are familiar with building emergency/evacuation plans, and the building alarm and warning systems.
- Teaching Assistants and students on **Day 1** have been informed as to where exits and safety routes are as well as what to do in the event of an emergency.
- Last person out of classroom, laboratory or office knows to close door and has been told **NOT** to go back for anything!
- All research and data have been backed up and the back-up has been stored in a separate location.
- Equipment, shelving and cabinets have all been anchored.
- Hazardous materials are properly stored at all times.

One other resource to assist those working in laboratories with Emergency Response is the MIT Emergency Response Guide. This guide should be posted in the laboratory, and the EHS representative for the laboratory should show personnel where it is posted.

If you have not received instructions regarding emergency preparedness in your workplace or classroom, or you would like a copy of the Emergency Response Guide, please contact the Environment, Health and Safety Office at 2-3477.

By being fully prepared, we can ensure a safe and orderly response to an emergency should one occur. But of course, like Disraeli, we are hoping for the best!

► Environment, Health and Safety Management System (EHS-MS) Implementation – Final Phase

By Paula Duffy and Hans Richter

External pilot audit

The development and implementation of the comprehensive Environment, Health, and Safety Management System (EHS-MS), initiated in 2001 as a part of a Consent Decree with the Environmental Protection Agency and Department of Justice, is entering the final phase this year. A requirement of the final phase is a third party audit to evaluate the implementation and effectiveness of the system. During the fall, an outside auditing firm will test MIT's audit process for the system in preparation for the Institute-wide EHS-MS audit that is required in the spring of 2006.

This pilot audit presents an invaluable opportunity to assess performance and correct problems while promoting learning and understanding of the EHS-MS at MIT. It is important to understand that the pilot audit is part of a learning process, and what we learn will help identify and address problem areas and improve implementation of the EHS-MS.

What to expect

At the time of the pilot audit, you may receive an escorted auditor to your lab or work area. The external auditor is an environment, health and safety professional consultant. The auditor will be accompanied by an MIT environment, health and safety staff professional and/or an MIT EHS Coordinator or EHS Representative.



Nadia Morrison and Doug Lamay, EHS Office, staffing EHS Booth at vendor fair featuring information on the pilot audit.

The auditor may ask you or a fellow lab member questions pertaining to MIT's EHS Policy and the MIT EHS-MS. Training, laboratory practices and procedures, the EHS-MS and general environmental, health and safety knowledge are all areas that the auditor may address.

As always, please be aware of who is entering your lab and ensure that all authorized visitors are wearing proper personal protection.

How to prepare

First, go to the EHS-MS web page at <http://mit.edu/ehs-ms>, and click on the link to review MIT's EHS Policy. Then take time to understand or review your role and responsibilities as defined by the EHS Management System and familiarize yourself further with the EHS-MS by investigating the website and the links. For further information or clarification, contact your EHS Coordinator or EHS Representative. You are also invited to contact the MIT EHS Office at x2-3477 with questions.

If you work with hazardous materials and/or work in hazardous spaces, ensure that your EHS training and the EHS training requirements of personnel under your supervision are complete and up-to-date. For laboratory areas, this can be accomplished by accessing the Training Needs Assessment web site at: <http://web.mit.edu/environment/training>. For non-laboratory areas such as the Facilities Department or Division of Student Life, contact your EHS coordinator.

Correct or report hazards in your work area, and make sure you use the personal protective equipment and follow the safe practices required for the work you are doing. Good housekeeping rules always apply. Eliminate clutter such as excess boxes and papers or unused equipment and materials from your laboratory or work area. Ensure that food and drink are not consumed in spaces with hazardous materials, and that they are not stored in refrigerators or freezers used for

chemicals or other hazardous materials. Check that chemicals are properly labeled and appropriately stored. Know how to manage wastes generated by your work. Hazardous chemical wastes must be properly contained, placed in compatible groups in appropriate satellite accumulation areas, labeled with complete chemical names written out and the appropriate hazard boxes checked, and disposed of by contacting EHS.

More information

Frequently asked questions about the audit and inspection process can be found at: http://web.mit.edu/environment/pdf/inspection_FAQ.pdf

You can also get more information by contacting your EHS Coordinator, EHS Representative or the MIT EHS Office at x2-3477.

Remember

By taking time to understand your role in the Environment, Health and Safety Management System and applying the information to your work situation, you will be doing your part to make MIT a safe and healthy place to work that is in compliance with environmental requirements and good practices, and this will help assure the success of the Audit in the spring.

► Everyone wants to know...

By Kathleen Gilbert

The Environment, Health and Safety Office responds to many questions throughout the year concerning safety, industrial hygiene, biosafety, environmental compliance, services provided by the EHS Office, and questions about the EHS-MS. These questions come in by phone at 2-3477, or can be submitted by e-mail to environment@mit.edu. We have been compiling the questions, and developing a list of frequently asked questions. The following is a compilation of questions regarding various topics that are commonly asked of the EHS Office.

I use computers routinely, and want to make sure my work area is set up properly. How do I request an ergonomic evaluation of my work area?

You may call the EHS Office at 617-452-3477 to set-up an appointment for an ergonomic evaluation of your work area. We encourage you to use a resource available on-line to assist you to do a self-analysis, and learn more about how to set up your computer workstation. This on-line tutorial offers suggestions for workstation adjustments, based on information you submit, as well as tips for exercises you can do to reduce potential for injury. The tutorial is available at: <http://web.mit.edu/environment/ehs/topic/ergonomics.html>

What requirements do I have to complete before performing experiments in MIT laboratories with human materials including human blood or body fluids, unfixed human tissue, or established human cell lines?

Human materials have the potential for containing bloodborne pathogens and employers are required, by regulation, to protect employees when they work with human materials as part of their job. In addition, there are regulations pertaining to use of humans as research subjects, and these regulations include research with materials taken from humans.

At MIT, it is required that all personnel, staff and students, working with human materials be trained and protected, as required by the OSHA Bloodborne Pathogen standard, and that the Committee on Use of Humans as Experimental Subjects (COUHES) reviews all use of human materials as part of research. Accordingly, the following is required at MIT before a laboratory can perform work with human blood, body fluids, tissue, or established human cell lines:

- The Principal Investigator must submit a Biological Project Registration form and an Exposure Control Plan to the EHS Office Biosafety Program.
- All individuals in the lab who work with any of the human materials listed above must complete the OSHA Bloodborne Pathogen training offered by the EHS Office Biosafety Program.
- The Principal Investigator must submit a review form to the Committee on the Use of Humans as Experimental Subjects (COUHES) This form is available at: <http://web.mit.edu/afs/athena.mit.edu/org/c/committees/couhes/>

For additional information on these requirements and links to forms required by EHS, go to OSHA BPP Compliance Program at: <http://web.mit.edu/environment/ehs/bloodbourne.html>

Where can I find information regarding precautions to take when working with a hazardous chemical?

The Chemical Hygiene Plan for your lab and the Material Safety Data Sheet (MSDS) for the chemicals that you work with will provide you with information on precautions for the safe handling of hazardous chemicals. For specific questions, you can email the EHS Office at environment@mit.edu or call the EHS Office 617-452-3477.

How do I obtain approval for an exhibit or a project in a public area on campus?

You must complete a Project/Exhibit Review Form and submit it to the appropriate space administrator. This form is available at: <http://web.mit.edu/environment/ehs/exhibits.html>, along with information regarding space administrators and instructions. The form is a pop up form to be copied and pasted into an email. Once the completed form is reviewed and approved by the Space Administrator and the EHS Office Safety Program, a decision will be made as whether the request is approved or not and you will be notified. More information and a list of contact information for Space Administrators are available at: <http://web.mit.edu/environment/ehs/exhibits.html>

The EHS Office Safety Program is available for guidance and can be reached at environment@mit.edu or call the EHS Office at 617-452-3477.

How do I determine the hazard class of the hazardous waste that I am generating?

The Material Safety Data Sheets (MSDS) for the chemical should state if the chemical is ignitable

► EHS-MS Updates

By Paula Duffy, Pam Greenley, and Emily Ranken

(flammable), toxic, reactive, or corrosive. To obtain an MSDS, go to the EHS website page at: <http://web.mit.edu/environment/ehs/topic/msds.html> for a list of links to quick and reliable information for accessing MSDS.

Once you obtain an MSDS, it should be readily available to all personnel in your lab or work area who have contact or may potentially have contact with the chemical(s) being used. It is suggested that the MSDS for routinely used materials be kept in a notebook for the lab.

How do I ship a hazardous chemical or a biological material?

The Department of Transportation (DOT) and the International Air Transport Association (IATA) strictly regulate the shipment or transport of hazardous chemicals and biological material. Only properly trained individuals can package and ship these materials. Please send an email to environment@mit.edu or call the EHS office at 671/452-3477 for assistance from a trained and certified shipper.

To view additional frequently asked questions please visit the following website: <http://web.mit.edu/environment/faq>

For information about environment, health and safety at MIT visit the EHS Office website: <http://web.mit.edu/environment> or call the EHS Office at 617-452-3477.

GOT EHS TRAINING? EHS-MS Training Requirements

Are you new to MIT? A key component of the EHS Management System is the process to assure that people receive the environment, health, and safety training that they need to perform their work safely, and in compliance with EHS regulatory requirements. Many new people join the Institute in September. If you are new, make sure you receive the EHS training you need for the work that you do. Get to know your EHS Coordinator and, if you work in a research laboratory, your EHS Representative. Find out how you will be provided EHS training. For most laboratory researchers, you will be directed to complete a Training Needs Assessment on the web at <http://web.mit.edu/environment/training>. After selecting the EHS Activities that apply to your work or research, a list of your EHS training requirements will be generated. You can fulfill some of these requirements by taking web-based training. In other cases, you will need to sign up for a class and can do this on the web. If your training requirements are not completed in 30 days, you will get an automatic email reminder to complete training requirements.

An individual frequently needs to complete a mix of web and classroom courses, read manuals, and in some cases, receive special medical evaluations. Most EHS training is required by federal or state regulations. For example, the chemical hygiene training requirements for those who work with chemicals in a laboratory (general, lab specific, and chem. hygiene plan) have been established to assure compliance with an Occupational Safety and Health Administration (OSHA) regulation. The annual course "Managing Hazardous Waste" is an Environmental Protection Agency (EPA) and MA Department of Environmental Protection (DEP) requirement. If you use radioactive materials, the MIT license for radioactive materials with MA DEP requires that you receive training before working with those materials.

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"Nature's first green is gold, Her hardest hue to hold.

Her early leaf's a flower; But only so an hour.

Then leaf subsides to leaf. So Eden sank to grief, So dawn goes down to day.

Nothing gold can stay."

Nothing Gold Can Stay By Robert Frost

External pilot audit

The external pilot audit of the Environment, Health and Safety Management System at MIT will be conducted this fall. For questions related to the audit process, please contact your EHS Coordinator, EHS Representative or call the EHS Office at 2-EHSS (2-3477).

Did you know?

- That five recycled plastic bottles make enough fiberfill to stuff a ski jacket.
- In Fiscal Year '05 the average amount of waste per person generated at MIT was 570 lbs trash and 245 lbs recycling.

► Fire Prevention Week October 9–15, 2005

By Paula Duffy

Strike a match, light a candle, chase away the darkness but...do it carefully!

The National Fire Protection Agency (NFPA) has chosen as its theme for October's Fire Prevention Week to be "Use Candles with Care." An important reminder considering that candles are a leading cause of home fires and are often the cause of dormitory fires.

At MIT the use of candles is prohibited in places of assembly and in on campus housing such as dormitories and residence halls by Massachusetts Fire Prevention Regulations. Safer alternatives include electronic flicker candles, flashlights, and battery operated lanterns.

For off campus settings, some safety tips recommended by the NFPA to remember are:

- Light candles carefully. Keep your hair and any loose clothing away from the flame.
- Never leave a burning candle unattended.
- Keep candles at least one foot away from anything that can burn including flammable liquids.
- Use sturdy candleholders.
- Extinguish candles when they burn down to within two inches of their holder or any decorative material.

For more information about Fire Prevention Week visit the National Fire Protection Agency web site at: <http://www.nfpa.org>



Steven Greenlaw received an "Infinite Mile" award in July of 2005 to recognize his many years of outstanding service to the Radiation Protection Program at MIT

► Tempus fugit

By Paula Duffy

He played on empty lots of land where laboratories would be built that would discover wonderful things. He accompanied his father, who worked at MIT, down Massachusetts Avenue on his way to school. He began working at MIT as a young man. Lastly, this past August, he retired from MIT after 41 years of service.

The Environment, Health and Safety Office would like to extend a warm and heartfelt congratulation to Steve Greenlaw on his retirement. As office historian, friend and colleague, Steve worked in the Radiation Protection Program as a technician. He spent much time around the campus attending to hazardous waste, and will continue to help on a part time basis. Now we suspect he'll be spending much more time attending to the finer things in life!

EHS-MS Updates *(Continued from page 5)*

Many regulations and best practice dictates that the EHS training occur before work with the hazard begins. Even if you have worked elsewhere with hazardous materials and have had training, you need to learn MIT's specific procedures, programs, and resources for working safely. If you have any questions about your EHS training requirements, give the EHS Office a call at 2-3477 or email environment@mit.edu.

Launch of SAPweb System to support EHS Inspections

Inspections are an important component of any management system. Through inspections, problems and good practices are identified, leading to processes for continuously improving the system and assuring the objectives of the system are met. On August 1, a SAPweb system tool developed to support the EHS inspection process was launched. This tool allows users to generate a customized inspection checklist, enter and track inspection findings, and generate inspection reports. The system also has a number of other options for tracking the inspection process. It is a flexible system developed to meet the needs of the different Departments, Labs, and Centers (DLCs) at MIT, and the needs of the EHS Office. One of the many useful features of the system is that it interfaces with the Facilities Department work request system and will generate a work request, when appropriate, to correct an inspection finding. While the primary users of the system will be the EHS Coordinators and the EHS Office; PIs, Supervisors, and EHS representatives may receive inspection reports generated by this system and may need to enter information about correction of an inspection finding. The process for doing this is straightforward. If you have questions about this inspection system and how it will be used in your DLC, you should contact your DLC EHS Coordinator or the EHS Office at 2-3477.

Just a click away...EHS quick reference web sites

MIT Environment, Health and Safety home page (<http://web.mit.edu/environment>) is a great portal for information about all things environment, health and safety at MIT. However, for easy access and quick reference bookmark the following sites:

Environment, Health and Safety Management System
<http://mit.edu/ehs-ms/>

EHS Office Main page
<http://mit.edu/ehs>

EHS Training page
<http://mit.edu/environment/training>

MSDS
<http://mit.edu/environment/msds/>

Online Chemical Waste Collection Forms
<http://mit.edu/environment/wastepickup>

Topic Index Forms
<http://mit.edu/environment/forms>

Order Signs and Labels
http://mit.edu/environment/ehs/topic/order_signs.html

Online Supervisors' Report of Occupational Injury/Illness
<http://mit.edu/personnel/wcomp/>

Emergency Website
<http://web.mit.edu/emergency>

Questions...

Call the EHS Office
at 2-EHSS



From left Andrew Lauer, Katrina Woodin, Neil Langille, and Chudi Ndubaku from Chemistry Department filling out the EHS-MS Awareness Questionnaire at the MIT Vendor Fair.

► The Environment, Health and Safety Office participates in vendor fair

The 2005 Purchasing Vendor Fair, held in early September, offered a forum for the EHS Office to showcase the services they provide to the MIT Community. Of particular interest to people dropping by the EHS booth was information regarding the EHS-MS pilot audit. Many took time to fill out our awareness questionnaire, and entered their names into our prize drawing. The winners were Lauren Saragosa (Laboratory for Nuclear Science), Michele Perry (Center for Cancer Research), Ellen Stordy (Admissions Office), Chudi Ndubaku (Chemistry Graduate Student), Gene Fierro (Literature Section), Laura Von Bosau (Research Laboratory of Electronics), Quentin Alexander (Public Relations Services), Christine Titus (Laboratory for Nuclear Science), Kathy Collupy (Department of Facilities), and Jen Harter (Libraries).

► Got waste?

The Environment, Health and Safety Office at MIT provides guidance and support to the MIT community on the proper management of regulated waste. For information on proper waste management and/or to request a Biohazard Sharps Waste Collection, Chemical Waste Collection, Radioactive Waste Collection or Radioactive Mixed Waste Collection (radioactive / chemical) use our online form. Biohazard Sharps are collected on Thursdays. Other wastes are collected throughout the week. For more information visit the following site: <http://web.mit.edu/environment/ehs/waste.html#6>



EHS NEWS & VIEWS

Environment, Health and Safety Office, N52-496, 617-452-EHSS