FINAL

CASE

Laboratory Safety Committee

Annual Report
Fiscal Year

2003-2004

10/19/2004

TABLE OF CONTENTS

INTRODUCTION

This report is submitted to the President and appropriate members of the senior administrative staff of Case Western Reserve University (CASE), as required by the Laboratory Safety Committee (LSC) Operating Guidelines. It summarizes the activities of the Safety Services branch of the Department of Occupational & Environmental Safety (DOES) at the University. Its contents cover the period from July 1, 2003 through June 30, 2004.

LICENSE/ REGISTRATION

OHIO DEPARTMENT OF HEALTH (ODH) LICENSE

At present, CASE maintains six certificates of registration for:

EPA & OEPA RCRA- 6 sites
The Department of Transportation (DOT)
The OEPA for Hazardous and Infectious Waste
The United States Department of Agriculture (USDA)
The Center for Disease Control (CDC)
The Department of Commerce.

CERTIFICATE OF REGISTRATION	EXPIRATION DATE	PURPOSE
US DOT Research & Special Programs	Expires – 6/30/2005	Hazardous Waste Transport
OEPA Generator of Infectious Waste	Expires – 12/4/2006	Infectious Waste
EPA & OEPA RCRA Hazardous Waste Management	Expires – 12/4/2006	Hazardous Waste
USDA High Consequence Agent Program	Effective - 11/12/2003	Animals/Plants
CDC Select Agent Program	Effective - 11/12/2003	Humans/ Bovine Spongiform Enchemlopathy (Prospective)
Ohio Department of Commerce	Expires - 6/30/2005	Underground Storage Tanks

USE AND STORAGE LOCATIONS

The following facilities are registered for use and storage of chemical, biological and etiological agents:

- Main campus of 10900 Euclid Avenue, Cleveland, OH
- University Hospitals (UH), 2065 Adelbert Road, Cleveland, OH
- University Circle Research Center II (UCRC II), 11001 Cedar Avenue, Cleveland, OH
- Wolstein Research Building, 2103 Cornell Road, Cleveland, OH

- Louis Stokes Cleveland Veterans Affairs Medical Center, 10701 Wade Park Blvd., Cleveland, OH
- MetroHealth Medical Center, 2500 MetroHealth Dr., Cleveland, OH
- Cleveland Clinic Foundation, 9500 Euclid Ave., Cleveland, OH

The following premises are registered and administered under DOES programs as generators of Infectious Waste: DeGrace (Biology), Millis, Morley, Smith, Rockefeller, Bingham, Glennan, Olin, White, Wickenden, Med East (Robbins), Pathology, Nursing, Dentistry, Health Services, Biomedical Research Building (BRB) and Wolstein Research Building. Registered generators of Hazardous Waste registration are: DOA990, Morley, Millis, University West, Cedar Service Center, Wolstein Research Building, and West Campus (formerly Mt. Sinai).

EPA/ RCRA INSPECTION

There were no EPA/ RCRA inspections of the University during the fiscal year. On 6/17/2003, the Ohio Environmental Protection Agency (OEPA) Hazardous Waste Division inspected the facilities and found no violations.

OSHA COMPLAINTS

The following OSHA complaints were administratively handled in 2003/2004.

11/17/2003 – COMPLAINT # 204-763-171

Notice of safety and health hazards complaint: The original complaint cited 1) no signage or labels noting hazardous chemical and radioactive material in Med East 2002, 2) lack of training for exposed employee, and 3) lack of personal protective equipment for an exposed employee. This complaint was investigated and no

problems requiring program adjustment or special response were identified. A report of these inspections and assessments was made to OSHA in writing, posted on 11/21/2003 and the matter was closed.

11/24/2003 – COMPLAINT # 204-767-230

Notice of safety and health hazards complaint: The notice 1) alleged health hazard in Medical School laboratory. The work site was inspected, and perceived hazards were mitigated. A report documenting the inspections and assessments was made to OSHA in writing, posted on 12/15/2003, and the matter was resolved without issue of an OSHA violation.

Notice of clarification complaint: 1) ability of employees to make complaints without any threat of retaliation. The University's policy on safety encourages employees to bring complaints about safety in the work place to the University and/or OSHA's attention without any form of retaliation. A report documenting this assessment and policy was resolved in writing and posted on 1/9/2004.

SAFETY SERVICES PROGRAM RESPONSIBLE PARTIES

MANAGEMENT

The Safety Services Program provides support for all programs and procedures for safe use of chemical, physical and biological agents in the laboratory. The Office reviews procedures, responds to accidents involving chemicals, biologicals, and general laboratory infrastructure that affect safe experimentation. The program also ensures regulatory compliance through monitoring, inspecting and auditing activities carried out by DOES staff, Laboratory Safety Committee support, and Senior Management. Results of internal audits, laboratory Safety committee audits and outside agency audits (Insurance and regulatory bodies) are all use to ensure timely remedial actions leading to compliance with local, ODH and federally mandated regulatory programs.

LABORATORY SAFETY COMMITTEE (LSC) PURPOSE

The Laboratory Safety Committee is an advisory committee for the Department of Occupational and Environmental Safety (DOES), an administrative unit administered by its Director under the Associate Vice President for Facilities Planning and Development, which has responsibility for the development, and implementation of all University programs concerning safety and environmental quality.

The CWRU Laboratory Safety Committee (LSC) is largely composed of Faculty members who are appointed by the President in coordination with DOES to help establish and guide University programs for the safe use of chemicals & biological materials in laboratory environments. The LSC recommends campus policy on laboratory operations and safety in concert with DOES to ensure compliance with all regulatory bodies (OSHA, EPA (Federal, State, Medical Waste), DOT, ODH, FDA, CDC, USDA). The effective operation of the university laboratory safety program is supported by

CASE's administration in order to ensure the safe use of chemical and biological materials while complying with the appropriate regulations.

LSC RESPONSIBILITIES

The Laboratory Safety Committee has the following responsibilities:

- Development, review, and recommendation of laboratory safety programs to comply with regulatory requirements and sound risk management practices.
- Identification and consultation with faculty on safety issues related to chemicals, pathogens, and carcinogens and in concert with the University's Biological Safety Committee, recombinant DNA.
- Assignment of either its members or appropriately qualified non-members to serve as advisors for safety programs in specific chemical and biological safety areas.
- Amendment and improvement of DOES chemical & biological safety programs as required.
- Conduct of appropriate audits designed to assess effectiveness of DOES programs and procedures affecting laboratory safety
- Review of laboratory activities that may be of concern to the public.

SUBCOMMITTEES

The Laboratory Safety Committee monitors four subcommittees:

- Biological Safety Committee (Recombinant DNA)
- IUCAC Committee (Pathogen Safety in Animals)
- Carcinogen Use Committee
- Select Agent Use Committee

LSC SUBCOMMITTEE DUTIES IN THE PROTOCOL PROCESS

The LSC subcommittees review the chemical/biological protocol (IUCAC for Carcinogens, ICARU for Biological Materials, or Animal) for safety content, as well as to ensure that CWRU-specific guidelines are met.

SAFETY SERVICE OFFICE (SSOF) AND PRINCIPAL INVESTIGATORS (PIs)

Laboratory safety is a shared responsibility between Safety Services staff and Principal Investigators. The Safety Services office is responsible for the implementation of safety procedures and the Principal Investigator is responsible for the daily monitoring of safety during experiments. Audit of the laboratories are conducted annually to ensure compliance with local, federal and State programs. The audit program includes yearly inspections of all Principal Investigators laboratories.

LSC MEMBERSHIP

The 2003-2004 LSC membership is listed below. The President of the University approves the voting membership of this Committee.

VOTING MEMBERS

Morris Burke, PhD. Professor Dept. of Biology Biology Building Terms Expires: 9/9/2007	Yu-Chung Yang, PhD Professor Dept. of Pharmacology HG Wood 348 Term Expires: 9/9/2007	John Durfee, DVM, PhD Asst. Professor and Director Dept. of Vet Research Services Animal Resource Center Term Expires: 9/9/2007
Paul Holter Engineer Dept. of EECS Bingham Bldg. 107 Term Expires: 9/9/2007	Lawrence Sayre, PhD. Professor and Chairman Dept. of Chemistry Millis Science Ctr. 414SA Term Expires: 9/9/2005	David Samols, PhD. Professor and Chairman of CASE Biosafety Committee Dept. of Biochemistry HG Wood 475 Term Expired: 9/9/2007
Morton Litt, PhD. Professor Dept.of Macromolecular Science KHS Bldg. Term Expires: 9/9/2007	Clive Hamlin, MD, PhD. Professor Dept.of Pathology Pathology 204 Term Expires: 9/9/2007 Chairperson: 9/9/2007	David Sedwick, PhD. Professor Dept. of Medicine Director of DOES Service Building, 1st Floor

EX-OFFICIO MEMBERS

Kenneth Basch VP of Campus Planning & Operations Adelbert 325	Richard Dell Assoc. Director of Safety Services. Service Building, 1st Floor	Marc Rubin Engineer - DOES Service Building, 1st Floor
George Cadwallader Director of Facilities Management Glennan Building 310	Richard Jamieson Asst. VP of Campus Services Crawford Tower 215	

GUESTS

Carol Grove Director of UH Safety Dept. UH Lowman Hall 321	Christian LaMantia Asst. Director Research Administration Adelbert Main 4	

SUPPORT STAFF

Felice T. Porter Q/A Specialist - DOES Service Building, 1st Floor	Shirley Mele Office Supervisor - DOES Service Building, 1st Floor	Virginia LaGuardia Department Asst. - DOES Service Building, 1st Floor

The Committee met on three occasions during the last fiscal year in addition to its audit meetings with DOES. Major business considered by the LSC included:

Select Agent Program Update – BSE
BSL3 Facility Guideline review
Review of plans for New Animal Facility – ARC
Review of Safety Programs for Wolstein Building
Review of Faculty decommissioning and recommissioning of Faculty laboratories in the Wolstein building
Review of decommissioning and recommissioning of Faculty laboratories in the Wood building.
Incident reviews
Review of safety problems in Campus Buildings
Discussion of plans for West Campus Research Facilities – Buildings, Plans, Programs

New Employee Compliance Committee
Reports and discussion of LSC Audits

AUDITS

LSC PERFORMANCE & RECORD AUDITS

The Committee promotes oversight and accountability of the Safety Services programs through its auditing of Department procedures and records. Audit areas are listed below and the focus of individual auditors on specific areas in 2003-2004 is identified with the auditor's name.

AREA AUDIT RESPONSIBILITY	LSC AUDITOR
Chemical Hygiene Plan & Exposure Control Plan	
Chemical Hood & Biosafety Cabinets	
Bloodborne Pathogen Program	
Industrial Hygiene/ Indoor Air Quality Program	
Training Program	
Respirator Program	X
Clearances Program	X
Regulated Chemicals Program (Formaldehyde, Benzene, Methylene Chloride, Vinyl Chloride)	X
Hazardous Chemical Waste Program	X
Incident Reports	X
Website Accuracy	X
Inspections Reports	X
Research Protocols	X
Infectious Material Shipment/ DOT Shipment	
Chemical/ Biological Laboratory/ DOA & Wolstein Waste Facilities Inspections	X

These audits were conducted at various times throughout the fiscal year. This process resulted in an examination of the program areas noted above during the past year.

PROGRAM AUDIT REPORT SUBMITTED BY THE CHAIRPERSON

The Laboratory Safety Committee conducted its annual audit of the Safety Services Office throughout the year. Nine areas were subject to audit. These were:

- Respirator Program
- Clearances Program
- Regulated Chemicals Program
- Hazardous Chemical Waste Program
- Incident Reports
- Website Accuracy
- Inspection Reports
- Research Protocols
- On-Site Laboratory/ Waste Facilities Inspections

The major findings are summarized.

RESPIRATOR PROGRAM

LSC AUDIT COMMENT:

This program runs well with good records for training and usage. However, at the time of the audit it was not clear who, in DOES, was administering this program to ensure required activities continue to occur. Also there are currently laboratories on campus that have stored emergency respirators without appropriate training for their lab personnel.

SSOF RESPONSE:

This program currently has an assigned staff member and backup. We continue to seek out through inspection those that are using or need respirators and ensure that they have the appropriate training. There is no restriction on storage of respirators only on their use without fit testing and training.

CLEARANCE PROGRAM

LSC AUDIT COMMENT:

Clearances include relocation, disposal, and repair. There were 1,157 clearances carried out during the first ten months of the last academic year. This aspect of the Safety Office is well run with good records and timely response. The Standard Operating Procedure was being up-dated and re-written at the time of the audit.

REGULATED CHEMICAL PROGRAM

LSC AUDIT COMMENT:

The regulated chemicals used currently on campus are Formaldehyde, Benzene, Methylene Chloride, and Vinyl Chloride. This program is fragmented with records not centralized. A new regulated chemical training program was implemented this year to begin tracking the use of regulated chemicals and to keep the training up to date. The number of trainees this year were: Formaldehyde 264, Benzene 39, Methylene Chloride 29, and Vinyl Chloride 3. An additional 37 trainees were given specialized training in the use and handling of other hazardous chemicals. There were no reported spills or accidents involving regulated chemicals during the past year. Overall this program is evolving and will require continued improvement.

SSOF RESPONSE:

Records were in the process of being centralized at the time of this report.

HAZARDOUS CHEMICAL WASTE PROGRAM

LSC AUDIT COMMENT:

This operation is well organized and efficiently run. One improvement underway involves tracking recycling of materials by departments other than DOES. Examples of recycled materials in this category include fluorescent lamps, computers, and paints.

INCIDENT REPORTS

LSC AUDIT COMMENT:

There were 207 incidents, none involving injuries. Overall, the files were found to meet requirements, although some did not document required follow-up, including required reporting to outside agencies.

SSOF RESPONSE:

All reports needing outside agency reporting were attended to promptly and are well documented in the file. Such reporting, however, is rarely required and, therefore, is not likely to appear in a file.

WEBSITE ACCURACY

LSC AUDIT COMMENT:

The website was found to be very user-friendly. However, some features were found not to be operational. Also, some database files did not match paper files, with one case of a complete mismatch

SSOF RESPONSE:

The web site is a large and relatively complicated living document, and thus, is in a constant state of review and updating. Since new features are constantly being added, it is not uncommon to find some areas under construction when reviewing the DOES website.

LABORATORY INSPECTION REPORTS

LSC AUDIT COMMENT:

Thirty inspection reports were audited. Reports were well detailed and thorough with regard to violations, non-compliance activities, and recommended corrective actions. However, there is no documentation on file of PIs' acceptance of reports or agreements to correct problems. Also, there is no mechanism for recording follow-up activities related to non-compliance issues.

SSOF RESPONSE:

Documentation of PI response to inspection reports is kept in the PI files. PI's are required to sign off on inspection reports, which are kept on file.

RESEARCH PROTOCOLS

LSC AUDIT COMMENT:

This area was maintained less than optimally. Protocols have dates of submission, but do not always include dates of initiation or termination. No record exists to document site visits by DOES personnel to verify compliance with protocols as written, and procedures are not always listed for disposal of hazardous chemicals or contaminated animal carcasses.

SSOF RESPONSE

The Research Protocol serves to provide the SSOF with the ability to evaluate whether the laboratory incorporates the proper safety procedures into their research protocols. All protocols are required to be reviewed on a yearly basis by the laboratories. This review, in turn, requires a sign off by laboratory personnel that is kept on-site in the laboratory. Part of each DOES inspection includes on-site review

of these files to ensure that laboratories are staying current with this requirement for protocol review. This process is documented on the laboratory inspection forms sent to each laboratory after yearly inspections are completed.

LABORATORY/ WASTE FACILITIES INSPECTIONS

LSC AUDIT COMMENT:

Three laboratory areas were audited and one, The Wolstein Building waste facility, was not operational at the time of audit. The areas were found to be in good compliance and were generally well maintained. Isolated problems included: a hood not operative, a gas-cylinder not secured, a spill-kit needed, emergency phone needed in office located in high risk area, and Chemical Hygiene Plan plus Laboratory Safety Manual not available in one area.

SSOF RESPONSE:

The compliance issues found during the inspection were corrected on the day following the inspection.

SUMMARY

SSOF RESPONSE:

The Safety Services Office thanks the Laboratory Safety Committee for the careful audit of its safety activities over the past year.

DOES INTERNAL AUDITS

Two layers of audit are utilized on an ongoing basis to ensure that the Safety Services programs and procedures are working smoothly. In addition to audits conducted by the Laboratory Safety Committee, the Department's Quality Assurance specialist reviews all programs and Departmental records on a periodic basis and assists with resolving

compliance issues in the Safety Services Office.

The DOES Internal audits address program effectiveness and efficient operation. These audits have resulted in administrative modifications throughout the past year.

INTERNAL AUDITS

Chemical Hygiene Plans	Exposure Control Plans
Training	Chemical Hoods
Biohoods	Bloodborne Pathogens
Hazard Communication Plan	Industrial Hygiene
Indoor Air Quality	Respirators
Clearances	Regulated Chemicals
Hazardous Waste	Incidents
Website Accuracy	Inspection Reports
Research Protocols	Infectious Material Shipment
DOT Shipments	Laboratory/ Waste Facility
Select Agents	License/ Registration
Liaison Program	Physical Safety Programs
Plant Safety Programs	SOP Reviews

This year, in response to audit queries, the Safety Services Office has moved forward with implementation of the following changes to its procedures and programs.

A Select Agent Program internal Audit was added this year. Internal audits of the Select Agent Program revealed minor problems such as Termination of Facility Access Form being filed incorrectly. Corrections to the files were made promptly. The SSOF receives monthly inventory information from both BSL3 facilities to monitor its receipt and use of the select agents.

The Inspection Program was improved to include a summary of unresolved violations that would be sent to the department chairperson for corrections. Standard Operating Procedures (SOP) Reviews were added also with the addition and revision of DOES

Program Procedures documenting that program alterations were promptly made to ensure currency.

SAFETY SERVICES OFFICE (SSOF)

STAFFING

The SSOF operates under University approval as part of DOES with the following staff positions:

Director (1)	Associate Director (1)
Engineer (1)	Loss Prevention Specialist (1)
Specialist Positions (4)	2nd shift Specialist (1)
Department Assistant (1)	Student (1)
Specialist Position (2) – future	Plant Safety Specialist (1)

The DOES infrastructure continues to recruit individuals to Specialist positions to improve the Department's knowledge base and provide for more flexible response to emergencies and other issues. The SSOF Staff is qualified to support and maintain the Safety Services Program. Reorganization of the SSOF led to the hiring in 2003 of three individuals in a manner consistent with the Department's goal. A 2nd shift Specialist, joined DOES over the past year with a medical and Environmental & Occupational Health Specialist background. He meets the University night service and security needs. DOES was also joined by an asbestos and environmental safety Specialist, and a plant safety specialist with a strong background in Emergency Response who is currently servicing the Plant Safety Programs for the University. Our Safety Services Engineer has also assumed responsibility for construction and contractor safety.

A specialist who maintains the Departmental Homepage and databases also augments the Safety Services programs. Further, Safety Service operations are carefully monitored by the DOES Quality Assurance Specialist through a system of audits that examine the portfolio of Safety Service programs. This individual also administrates the DOES liaison program that provides a direct personal connection between DOES and all research laboratories.

TRAINING AND PROFESSIONAL DEVELOPMENT

All new specialists and specialists in our ongoing programs receive job specific training in new areas through work under the auspices of experienced personnel. These specialists also attend training programs offered by outside experts that provide necessary certification for a number of areas covered by our programs.

Training and Conferences attended in 2003-2004 included certifications of Asbestos Hazard Evaluation, Lead hazard training, Bioterrorism, Respirator Fit test training, DOT Hazmat Refresher, ASHRAE Ventilation Testing, RCRA Training, training in Transportation of Infectious Substances, Center for Domestic Preparedness Live Nerve Agent Training, and COBRA technician level training. All staff members received 8-hour Hazardous Materials Refresher Certification and 16-hour Incident Command Certification. Moreover, selected staff members received training in Domestic Preparedness. Seminars attended by various staff members in 2003-2004 also included Biomedical Lectures, The Basics of Writing Policies and Procedures, Fundamentals of Industrial Hygiene, OSHA Compliance Update, and Auditors Roundtable.

Further, the DOES staff was involved in Refresher sessions given in-house that included training, response activities and exercises. It should be noted that cross training is an important element of DOES programs that provides each of our responders with a broad range of response capacities in case of emergency and for handling day-to-day challenges presented by Safety Service's operations.

Notably, cross training efforts have allowed the Radiation Safety Staff to become involved in the laboratory standard inspection program, providing an expansion in the knowledge base of our radiation safety personnel and bringing a different perspective to the Safety Services inspection operations. In addition, presentations at DOES by campus researchers promoted connection to our customers and their research for all staff members. For example, one colloquium brought our staff up-to-date on new imaging techniques that are becoming increasingly important to Case research efforts.

Diverse training is central to Departmental philosophy where professional development is encouraged to broaden the knowledge base of the department and to ensure development of the diverse set of skills required to respond to safety incidents and regulatory mandates. To this end, several of the SSOF Staff have gained certifications this year which include:

- National Membership in American Conference of Government Industrial Hygienist (ACGIH)
- National Membership in American Industrial Hygiene Association (AIHA)
- Local Membership in Northeastern Ohio AIHA (NEOAIHA)
- NEOAIHA Board of Directors Member
- Homeland Security Certification at Highest Level (3)
- Domestic Preparedness Trainer
- Steering Committee member of Northern Ohio Chapter of the Health Physics Society (NOCHPS)

To encourage staff participation in these training initiatives, an internal method of evaluating and setting goals for employees was established to augment and extend human resource procedures for annual reviews. This evaluation aids management in making proper assignments and work loading to DOES personnel. The new method involves identifying goals, steps required to complete the goal, obstacles and resources needed, measurable milestones based on key driver issues, and agreed upon timetables that includes periodic reviews of personal professional development plans within the context of work responsibilities.

SAFETY LIAISON PROGRAM

As part of a Safety Liaison Program, staff members visit all University laboratories to offer them Department services and stimulate productive relationships between DOES staff members and the research community. This effort allows the Department to review and

improve performance through direct interface with faculty staff and students. Responsibilities under this program include quarterly visits to laboratories and Plant Service zones by individual DOES Staff members. Several inquiries and concerns are addressed through this avenue. For example, installation of Safety Rails on the roof of the Research Tower was initiated by SSOF staff after a dialogue with the 2nd Shift Plant Maintenance personnel concerning personal safety and laboratory personnel increasingly utilize dialogue with their liaison representative to expedite compliance with DOES programs. Broad use of the DOES E-mail hotline has been stimulated by relationships forged through these contacts.

The forging of lasting communication channels is vital to the continued success of DOES programs. The DOES has also established communication with administrative departments by assigning personnel on a semi-permanent basis to work directly with a department. This process gives personal attention to specific safety areas to achieve regulatory goals required by DOES administered safety programs. In this regard, departmental experience has shown that most of the regulatory problems encountered or safety goals that have been difficult to achieve resulted from a lack of understanding of the requirements or benefits of specific regulatory programs. Further, through collaboration with other departments in these efforts, DOES gains a fundamental understanding of the issues, facilitating development of more tailored and appropriate customer service based responses.

DOES EMAIL

The DOES Email hotline **(**does@case.edu**)** has become a heavily used safety resource. Since implementing this form of communication with our researchers, the number of inquiries and safety concerns from CASE personnel has tripled to an average of 18 emails per day. This increase in email communication has allowed DOES personnel to rapidly respond to concerns and helped to ensure follow-up on the safety issues raised by their customers.

DOES WEB SITE

The DOES home web site (http://does.case.edu) provides integrated web-based access to DOES services. Information on training classes, retraining, and safety manuals are all available on-line. All information on the DOES web site is updated on a regular basis. Over the past year, using this resource, the SSOF has provided researchers with:

- An updated template for the DOES web site
- An updated link of the Service Building Picture to CASE campus map
- Laboratory Coat Laundering Service information
- BSL3 laboratory and Select Agent Information
- Construction Project MSD sheets
- Emergency Evacuation Plans
- Laboratory Standard Online Retraining
- Updated BioSafety Hood Service Request Form
- Revised Regulated Chemical Safety Training
- New BSL3 Retraining
- A Revised the Chemical Hygiene Plan
- A Revised Exposure Control Plan
- A New Hazard Communication Plan
- Access to the DOES Newsletter

DOES NEWSLETTER

The DOES newsletter is filled with articles that are designed to keep the campus community abreast of safety issues and concerns. It covers the latest government regulations and addendums, addresses concerns that are found during laboratory inspections, and answers questions frequently asked by laboratory personnel. Articles that were submitted during this year included:

- “Lab Volunteers must register with HR”
- “Workplace Violence: Are you safe?”
- “Power Failures, What’s in your kit?”

- “Renew your Safety Training”
- “Safety Questions: Log on to: does.case.edu “
- “New regulations for working with Select Agents “
- “Lotion and Latex gloves”
- “Safety Plan: Does you laboratory have a HCP, CHP, or ECP?”
- “Has your lab posted the appropriate caution signs?”
- “Labeling Regulated Chemicals”
- “Guidelines for Packaging and Labeling Infectious Substances and Clinical Specimens”

The Newsletter is available to all campus faculty, staff, and students on-line and is distributed as a hardcopy to all principle investigators in research programs at Case and to all new employees at orientation.

EMPLOYEE COMPLIANCE COMMITTEE

The SSOF formed the Employee Compliance Committee which includes representatives from departments that hire laboratory personnel (Human Resources, Student Employment, Spherion Temporary Employment, Health Services, and Medical School). The Committee’s first concern was to improve tracking of University employees but it has also been instrumental in helping the University avoid liability concerns. For example, through working with Human Resources (HR) the Committee has helped to draft policies for Volunteers and Minors that work in the laboratories, a definite liability for the University. Following these efforts, volunteers and minors must currently register with HR and minors under 18 years must attain parental consent before working in laboratories. It recommended that minors under 16 years no longer work in laboratories unless they are matriculated at the University.

A Medical, Environmental, and Training Subcommittee also was formed to evaluate and conduct risk assessments of campus facilities. These assessments will determine potential for specific medical and environmental exposure in campus facilities as well as define training requirements for each job classification of workers in these facilities. Through the Subcommittee, an Indoor Air Assessment Committee was also formed to aid in determining

potentials for detrimental indoor air exposures in these campus facilities.

ORIENTATION PROGRAM

The Orientation Program was established with Human Resources to ensure that new employees at CASE have a general awareness of the services that were provided by DOES. This program determines the safety training classes that employees must attend to promote safety in laboratories and other work place sites. The program addressed 7155 new employees at 50 Staff Orientations sessions held every Monday. Thirty-two CASE faculty were contacted on an individual basis and presented with information concerning safety. The intent of this program is to emphasize the importance of safety on the campus for each faculty and staff member in order to promote and advocate safe working practices from the onset of their employment at Case.

TRAINING

A major effort has been placed on increasing and modifying the training programs of the SSOF. The SSOF has made excellent strides over the past year in its ability to contact individuals requiring new and annual training. The SSOF has also re-evaluated and rewritten the examinations used in training and has identified new areas and methods of training. Appropriate paperwork and record keeping has been maintained for all training presentations and sign-offs on declination statements for the BBP Standard.

Training was offered in the Laboratory Standard and a number of specific chemical standards included Formaldehyde, Methylene Chloride, Vinyl Chloride, and Benzene. This training was internet-based or lecture-based using PowerPoint presentations in the SSO or on-site at various campus locations.

Both initial and retraining classes were offered on a weekly basis. During the past year, the SSOF held classes in the following major areas: Laboratory Safety, Right-to-Know, Plant, Respirator, DOT, and BBP. More than 3004 individuals were trained in various safety areas over the year. Most retraining was accomplished over the Internet. More than 1421 individuals or 47% of all training increasingly utilized online training in BBP, Regulated Chemical, Laboratory Safety, and Respirator Safety. The SSOF also presented State Medical Waste classes for four employees, and Contractor Right-To-Know classes for 80 employees.

SPECIFIC TRAINING PROGRAMS

RIGHT-TO-KNOW TRAINING (RTK)

The Right-To-Know (Hazard Communication) Training was revised to be more effectively targeted to the concerns of the groups on which it was focused. The largest target groups for Right-to-know training are Housekeeping, Maintenance, ARC, Plant, Security, and Shipping/Mailroom personnel. A total of 104 employees in these groups were trained over the past year. Groups receiving this training may only occasionally enter research areas but may face hazardous situations or face possible hazardous materials exposures if not properly alerted. Fifty Plant personnel and 32 Grounds workers were given RTK training. The CASE Temporary Hiring Company, Spherion, also trained a total of 86 temporary employees for CASE using SSOF training documents for laboratory safety and Bloodborne pathogens. Contractor Right-To-Know Training was also revised this year, and a total of 110 contractor personnel were trained.

CHEMICAL SAFETY AWARENESS TRAINING

Several general awareness classes for target groups such as the Animal Resource Center (ARC) and Housekeeping were conducted.

These groups may enter a specialized laboratory on a daily basis and thus required specifically tailored safety training.

LABORATORY SAFETY TRAINING

Revisions to the Laboratory Safety and Regulated Chemical Training course were completed. Laboratory Standard Classes were given for 557 employees. Several specialized Laboratory Safety classes for specific target groups included presentations for medical and dental students (138), training of 58 Summer SPUR and SURP students, and Macromolecular Science and Chemical Engineering personnel.

BLOODBORNE PATHOGEN TRAINING (BBP)

Materials likely to contain Bloodborne Pathogens are widely used in Case laboratories. BBP training of 490 employees included monitoring of compliance and required vaccination and health monitoring programs. BBP and tuberculosis exposure training was also carried out for 176 medical students, 44 Plant personnel, 109 Custodial personnel, and 40 Spherion temporary personnel.

Select Agents now used on Case's campus also require extensive specific training and record keeping. Therefore, a training course was created for individuals that enter the BSL3 facility to use these agents. Forty-nine employees received the BSL3 Safety Training and 1 employee received the ABSL3 General Safety Training.

DOT/IATA SHIPPING TRAINING

Training for personnel that plan to ship materials is updated every 3 years for each specific type of material. Eleven personnel have been trained in the shipping of DOT/IATA infectious substances. Training in non-flammable gases, and aviation-regulated materials has also been conducted. SSOF promoted participation of 6 members of the university community for in-house DOT/IATA/ICAO infectious

substance shipping training. Increased training in hazardous material shipping for involved campus personnel is an important goal for the coming year.

RESPIRATOR TRAINING

Special training sessions for Plant Services, Animal Resource Center (ARC), and BSL3 Facility employees were conducted. Fit testing sessions were also carried out. 40 Plant workers, 41 BSL3 users, 9 Contractors, and 28 Laboratory workers completed the medical evaluation, were respirator trained, and then fitted for respirators.

DRIVER SAFETY TRAINING

Driver Safety Training is presented as needed when individuals/ groups needing this training are identified. About 20 sessions covering approximately 135 employees/ students were presented.

FIRE EXTINGUISHER TRAINING

Live fire hands on Fire extinguisher training was provided for 60 members of the Housing and Residence Life Staff.

PLANT SAFETY TRAINING

Training for Plant service personnel continues on a scheduled basis. Topics included:

- Slips, Trips, and Falls/ Ladder Safety – 24 personnel
- Personal Protective Equipment – 29 personnel
- Confined Space Entry – 53 personnel
- Radiation Safety – 54 personnel
- Lockout/ Tag out – 54 personnel
- Cleanliness - 25 personnel

- Hot Work – 43 personnel

These sessions are presented three times on a scheduled day so all Plant shifts can be accommodated. Training sessions for the Plant 2nd shift personnel have been conducted every month since the beginning of 2004.

FACILITIES AND EQUIPMENT

The CASE administration and the LSC ensure that all facilities, equipment, and personnel are available and adequate for safe operation, storage, and disposal of material. The SSOF is also responsible for the review of regulated safety infrastructure and inspection of all facilities, equipment, and personnel that use chemical and biological material. The facilities that are available at CASE for the use of hazardous materials include:

AW Smith	Bingham	BRB
Bishop	Bolwell	DeGrace
Glennan	Hanna Pavilion	HG Wood
Kent Hale Smith	Med East	Millis
Olin	Pathology	RBC
Rockefeller	Service	Wearn
White	Wickenden	UCRC II
VA Hospital	MetroHealth	CCF- Walker

NEW BUILDINGS

Two new buildings were opened this year, the Wood Research Tower (RT), an extension of the Medical School, and the Wolstein Research Building (WRB). The WRB is approximately the same size as the Biomedical Research Building (BRB), and will house 70-100 Principal Investigators.

LABORATORIES

There are approximately 778 programs involving laboratory-based research that are serviced fully or partially by CASE safety programs. These laboratories are found in 4 hospitals, the main campus and the Medical and Dental school facilities. All of these laboratories are equipped to use hazardous material and equipment. The laboratories typically include chemical hoods, meters, analytical detection and measurement equipment, waste receptacles, and decontamination supplies.

SAFETY SERVICES OFFICE

Safety Facilities and equipment are located in the Service Building (1st Floor), Medical School (DOA990), Millis Science Center (G35) and the Wolstein Building (1103).

PROGRAM OFFICE:

Service Building (1st Floor)-Program offices (Clerical, CSO, & staff) & Conference Room:

Updating of computer hardware and software is crucial to handle the amount of data required to be accumulated and to ensure efficient and quick access to records in the SSOF. To this end, we have purchased a Dell Power Edge 2600 Server to support the Filemaker Pro database, which is the SSOF main resource for data collection of safety services information. Nine Palm Pilots were purchased to use when conducting inspections. Also a Smart Board System was purchased for use in all in-house training programs.

New software from Filemaker Pro and Intervideo WinDVD was also purchased to update old software and to increase computer memory. Filemaker Pro 6 was updated to Filemaker 7 for the computers. Filemaker Mobile 2.1 was updated to Filemaker Mobile 7 for the Palm

Pilots. The training programs were converted from video to DVD using the Intervideo WinDVD creator.

Chemical Laboratory:

Service Building (1st Floor):

The SSOF is located in the Service Building on the 1st Floor at 2220 Circle Drive. Safety Services operates a Safety laboratory equipped with industrial hygiene and chemical hood sampling equipment and cylinders, mercury vacuum equipment, respirator fit-test equipment, and spill and emergency response supplies. Currently 10 chemical hoods can be ASHRAE tested using one gas cylinder. Equipment also includes instruments for the quantification of contaminants in air samples for odor responses, EPA audits, and identification of unknown chemicals.

HAZARDOUS WASTE FACILITIES:

Both facilities contain a processing area and a storage area. The facilities are located in the 1st floor parking area of the CASE School of Medicine and on the 1st floor of the Wolstein Research Building.

MEDICAL SCHOOL WASTE FACILITY (DOA990)

This facility has a separate office and process/storage room for chemical material and disposal activities. This room has a filtered air exhaust system. It also has a chemical and walk-in hood, air monitoring equipment, and emergency response equipment.

MILLIS WASTE FACILITY

This waste facility is located on the ground floor in Millis G35. It is directly across the hall from the Fisher Scientific Chemical Stock

Room. The waste facility has an office, a processing area, and a storage area. The waste storage area has shelving and flammable storage cabinets. The processing area has a walk in hood, chemical hood, and emergency response equipment. The office also has an emergency phone.

WOLSTEIN WASTE FACILITY

This facility has an office and process/ storage area for material and disposal activities. This area maintains negative pressure relative to the adjacent hallway. The Wolstein Waste Facility is fully operational. It was decided to have one room be the central room for Chemical as well as Emergency Response for the Wolstein Building. This room contains spill supplies and a computer. This equipment will allow us to access our web-based databases in the event of a chemical or biological spill. It also has a chemical hood, walk-in hood, and meters.

ANIMAL RESOURCE CENTER (ARC)

The animal care facilities are located in the Med East, Bolwell and Wolstein Research buildings. Conventional animal care facilities are available in the Animal Resource Center and are used by researchers to conduct animal studies with radioactive materials. A variety of animals (mice, rats, hamsters, rabbits, ferrets & large animals such as sheep, dogs, pigs) are housed within the facilities. The Bolwell and Wolstein Facility predominantly house mice. Contaminated items are stored in the ARC freezer until disposal. The ARC contains a BSL-3 laboratory that is used for prion research with a Select Agent and the Wolstein Building contains an ASBL-3 facility that is not yet in use.

INSTRUMENT CALIBRATIONS

Properly calibrated instruments are necessary for Industrial Hygiene (IH) and hood certifications in laboratories, to perform accurate surveys and to provide results for regulatory documentation with proper measurements. Annual factory calibrations of 32 industrial hygiene, respirator, ventilation, noise, and lighting instruments were maintained.

Instrument	Model	Serial #	Frequency	Next Due
High flow impactor pump	10-709	1298-2617	Annually	11/15/2004
Mini-Buck Calibrator	M-30	M-5648B	Annually	8/24/2004
Mercury Vapor Analyzer (Jerome)	431-X	1835	Annually	11/21/2004
PhD Ultra Atmosphere Monitor (Combustible Gas Meters)	02-30102N	10406	As Needed	11/30/2004
PhD Ultra Atmosphere Monitor (CGM)	02-30102N	10389	As Needed	8/13/2004
CMS-Analyzer Unit	640-5050	ARKH-0164	Annually	2/18/2004
Accuro (Hand Pump)		ARSE-FO23	As Needed	Out of Service
Accuro (Automatic Pump)	2000		As Needed	Out of Service
HCHO 7000 Series	7162	811647	Every 2 years	Out of Service
Airchek Sampler	224-PCXR7	523142	Annually	Out of Service
Airchek Sampler	224-PCXR7	523121	Annually	Out of Service
Airchek 2000	210-2002	00529	As Needed	Out of Service
Airchek 2000	210-2002	00820	As Needed	Out of Service
Airchek 2000	210-2002	00870	Annually	2/27/2005
Airchek 2000	210-2002	00503	Annually	2/27/2005
Airchek 2000	210-2002	00868	As Needed	Out of Service
Pocket Pump	210-1002	07413	Annually	2/27/2005
Miran Sapphire (ASHRAE)	205B	205B-67068-357	Annually	11/15/2005
Miran Sapphire (UV Analyzer	205B	205B-79375-398	Annually	3/25/2005
Shortridge Instrument (Velocity Meter)	ADM-870C	M04132	Annually	3/8/2005
Extech (Light Meter)	407026	Q102498	Annually	4/25/2005
Quest Technologies (Noise Meter)	OB-100	CDD0-10048	Annually	3/15/2005
VelociCalc Plus	8360	40110	Annually	1/24/2005
VelociCalc Plus	8360	603016	Annually	1/23/2005
FitTester 3000 Quantitative		0189	Annually	3/24/2001

Respirator Leak Rate Analyzer				
MultiRae Personal Multigas Monitor	PGM50-5P	095-512273	As Needed	11/2003
Rotameter	MMA-25		Annually	7/12/2005
Pulse Check Pump Module	710466	G1-5713-F99	Annually	12/2004
Pulse Check Pump Module	710466	G1-5712-F99	Annually	12/2004
Pulse Check Pump Module	710466	G8-15922-L01	Annually	12/2004
Pulse Check Pump Module	710466	G1-5709-F99	Annually	12/2004
Pulse Check Pump Module	710466	G1-5710-F99	Annually	12/2004

SAFETY SERVICES PROGRAMS

GENERAL COMMITMENTS AND SERVICES

At present, the SSO is meeting its commitments to conduct various programs necessary for maintenance of compliance with present local, state, and federal regulatory programs. These commitments include waste pickups, inspections, incident responses, and training. The programs have had significant impact through provision of safety compliance, education, and awareness to all student, faculty, and staff.

Regulatory compliance areas managed include DOT and IATA for transport of goods, all EPA RCRA programs for environmental chemical releases and waste disposal, all OSHA programs for employee safety, and NFPA fire code audit and program development. Program compliance has varying requirements at the local, state, and federal levels. Faculty responsibilities are aided by training in Chemical Hygiene Plan development for their laboratories.

INSPECTIONS

Inspections are conducted annually to address chemical and biological concerns and to measure the progress and depth of compliance in the University laboratories. Each researcher is contacted at the time of inspection. Concerns and violations are summarized on the inspection report and mailed to the researcher. Researchers are asked to address and correct their safety issues by a specified date. Some issues represent repeated items from the previous year.

A standardized form for laboratory audits was prepared that addressed all facets of OSHA, NFPA, RCRA, Medical Waste, and any other special hazard that may exist in the laboratory.

This computer program has aided in correcting many items of non-compliance as well as disposal of many pounds of waste chemicals

to achieve compliance. Non-compliance in laboratory settings is dropping significantly. Corrections in most cases were achieved due to the staff perseverance with the investigators to work out reasonable methods to eliminate deficiencies.

CASE has more than 683 Principal Investigators (PIs) authorized to use chemical and biological materials in 1971 laboratories. Laboratories are inspected by the SSO annually. Inspections include physical inspections, verification of training records, verification of correction of previous violations, and follow-up. Audits are more frequent if there are particular concerns in a laboratory.

Inspections were conducted at outlying sites including UH, Metro Health, and Veterans Administration (VA) Hospitals. These outlying sites were inspected because CASE personnel are working in these areas. The Inspection Program for Chemical Safety compliance also investigates and resolves biological safety compliance and hazards. As noted, cross training of the Radiation Safety specialists has complemented and aided the Safety Services laboratory inspection program.

Responses to the majority of inspections are received within 30 days of the inspection. Outstanding inspections are sent to the department chairperson for follow up. Repeat issues that are not addressed by the investigator or chairperson are passed on to the Deans or Provost for further action.

Building	**Rooms Inspected**
Bingham	78
BRB	493
DeGrace (Biology)	22
Bolwell	1
Clark	0
Dental	206
Glennan	164
Health	43
KHS	71
Wearn	76
White	180

Wickenden	144
Wood	352
UCRC II	57
MacDonald	24
Mather	0
Med East	592
MetroHeath Hospital	51
Millis	237
Morley	23
Nursing (Bolton)	14
Olin	0
Pathology	189
Rad Waste	11
RBC	52
Research Tower	13
Rockefeller	62
Strosacker	0
AW Smith	230
VA Hospital	17
Lowman	0
Wolstein	0
Walker	0
Total	**3408**

SPECIFIC SAFETY PROGRAMS

OSHA LABORATORY PERFORMANCE STANDARD

Compliance with the OSHA Laboratory Performance Standard requires attention to a number of specific programs and procedures.

MATERIAL SAFETY DATA SHEET (MSDS) PROGRAM

The MSDS program is available through Chemwatch as a hard copy printout for the laboratory staff to reference at the DOES Website. MSDS information continues to be accessed for chemical information.

Communication methods were evaluated with regards to Right-to-Know issues related to construction. To this end, DOES has developed an electronic posting board on the DOES website for MSDS sheets for each construction project as required by OSHA.

CHEMICAL HYGIENE PLANS/ EXPOSURE CONTROL PLANS

All laboratories working with chemicals and/or Bloodborne Pathogens are required to generate, keep on-file and educate their personnel in the contents of their Chemical Hygiene Plans (CHP) and Exposure Control Plans (ECP). Instructions and example forms for these plans are currently on-line at the DOES website. CHPs for this program are kept in the PI's laboratories and copies are sent to DOES for review and recording of compliance with this OSHA requirement. PIs at CASE were 95% compliant with annual documentation of awareness and development of plans for this program. A PI packet was created for new faculty members. The packet is a compilation of all safety information that is needed for establishment of safety laboratories at CASE. DOES staff members have also assisted in updating CHPs for the Chemistry Department teaching programs and an ECP for Protective Services.

HAZARD COMMUNICATION PLAN

Development of the Hazard Communication Plan was made specifically for non-chemical laboratories that use commercial products such as solvents and cleaning solutions. The Plan includes a chemical inventory, MSDSs, an employee list, safety precautions, and a training log and outline. A Standard Operating Procedure was also developed to aid the researcher in completing the Plan.

REGULATED CHEMICALS

Initiation of a new assessment technique for regulated chemicals consists of a questionnaire attached to a quiz for new training programs. All new employees must attend initial Regulated Chemical Training and any employee using a regulated chemical must take the annual online retrain.

Completion of a sampling plan for anatomy laboratories included 99 formaldehyde vapor samples, which reduces the sampling frequency to less than three sessions per semester. This plan is in place for the medical, dental, biology, and nursing anatomy laboratories. The results of formaldehyde sampling were summarized in 42 reports that were distributed to the facility coordinators of involved departments.

INDUSTRIAL HYGIENE

INDOOR AIR QUALITY (IAQ) MONITORING

The IAQ monitoring protocol ensures that concerns are addressed using the appropriate techniques in a timely manner. Air monitoring is done when necessary and an assessment is carried out through sampling and analysis. Follow-up is done when the analyses is complete. A report is written assessing the results and given to the complainant and the immediate supervisor.

Six IAQ complaints were investigated in the Baker, Dental, Kent Hale Smith, Service, Sears Library, and Guilford buildings. Follow-up included assessing questionnaires, performing monitoring, contracting with EA Group to do in-depth monitoring, analyzing results, and summarizing reports.

ENVIRONMENTAL SAMPLING

Twenty-seven miscellaneous samples from several buildings were analyzed and reports were sent to the concerned parties. The miscellaneous sampling was for such items as iron, arsenic, barium, cadmium, carbon monoxide, and carbon dioxide. **RESULTS??**

ASBESTOS MONITORING

The Asbestos program was evaluated and found to require major updates due to regulatory changes. The inventory of Asbestos areas is presently being evaluated for follow up sampling and conversion to searchable electronic format. This will be completed earlier next year and released to Plant Services at that time.

Training of all Plant, Custodial, Security, and other administrative groups to the awareness level is expected to take place upon completion of the electronic inventory and subsequent sampling.

Asbestos monitoring is addressed on a per case basis. Seven cases of Asbestos concerns were sampled for Crawford, DOA990, Pathology, Thwing, University West, Wade Common, and Wood. A total of 174 Asbestos samples were collected. A contractor handles asbestos Abatement. HOW MANY REQUIRED ABATEMENT? **RESULTS??**

BIOAEROSOL MONITORING

Coordination of the air-monitoring program with EA Group for semi annual Bioaerosol monitoring was done in October 2003 and May 2004. More than 250 samples were taken and analyzed for the campus buildings and dormitories. Reports on this program were sent to facility coordinators. 20 additional samples were taken and analyzed for mold content in mainly water-damaged materials such as ceiling tiles. **RESULTS??**

LEAD MONITORING

The Lead program was evaluated and found to require major updates due to regulatory changes. The inventory of Lead areas is presently being evaluated for follow up sampling and conversion to searchable electronic format. This is expected to be completed earlier next year and release to Plant Services at that time.

Training of all Plant, Custodial, Security, and other administrative groups to the awareness level is expected to take place upon completion of the electronic inventory and subsequent sampling.

Lead monitoring is addressed on a per case basis. Sampling of areas in the Med East and Thwing buildings were done this year collecting 69 samples for analysis. The Lead Abatement is contracted out to private companies. HOW MANY REQUIRED ABATEMENT? **RESULTS??**

RESPIRATOR PROGRAM

An inventory of respiratory protection equipment was carried out including cartridges, filters, face pieces, wipes, and valves. Approximately six cartridges and four face pieces were used monthly. There are currently four Self-Contained Breathing Apparatus (SCBAs) in inventory, two are new and two will be recycled.

Implementation of PAPR use in the ARC BSL3 facility was instituted in lieu of the full-face respirator due to the length of time individuals

are required to working the facility. PAPR's though expensive, are much more comfortable that respirators and provide a higher degree of protection from inhalation hazards. ARC staff supervisors have assumed the responsibility of respirator training, arranging medical evaluations, and fit-testing personnel within the facility. No fit testing is required for PAPR use.

An assessment of Respiratory Hazards was carried out for the campus community. The assessment included employment of written methodology, assessment forms and questionnaires, employee interviews and evaluations, and exposure estimate calculations. All elastomeric face pieces and SCBAs were recycled to improve visibility and comfort. This allowed cost savings for the SSO through negotiation of credit for old elastomeric face pieces at approximately $2 X 14 half-face respirator mask and $7 X 12 full-face respirator mask.

The Respiratory Protection Plan was rewritten and the training, questionnaires, medical review forms, and fit testing procedures were revised. Fit testing equipment and software were also upgraded.
The Respirator Protection Plan includes:

- Physical Evaluations
- Respirator Training
- Fit-Testing
- Annual Questionnaire

HOOD CERTIFICATION PROGRAM

Following the release of the latest ANSI/ AIH Standard for laboratory ventilation, ventilation test methods and procedures for the chemical hood testing was updated. Based on this new procedure the ASHRAE test is performed on each chemical hood once every four-years and velocity testing is carried out every year to ensure mechanical operation of the hoods is not compromised. A decrease in average face velocity below 90% or an increase in average face

velocity above 120% of the benchmark velocity results in corrective action.

As a newly developed procedure, the safety department has conducted several on site ASHRAE tests for new chemical hoods before they are purchased for new projects. This procedure has been developed to ensure that all new hoods will meet the requirements of the latest standards and guidelines of the University.

The chemical hood approval methodology was evaluated and the standard operating procedure for evaluating new hoods was implemented. Existing low flow chemical hood testing procedures were evaluated and changed from a minimum face velocity of 60 fpm to 70 fpm based on previous ASHRAE tests of 500 chemical hoods.

Hood testing was done in all laboratories that were occupied or used by CASE personnel. The response of Plant Services in repairing those hoods failing the fume hood certification has been good. Each year our target will be to test one-third of the chemical hoods using ASHRAE 110 testing and two-thirds using face-velocity testing only.

During fiscal year of 2003-2004, a total of 480 hoods were tested, among which 58 hoods were tested using the ASHRAE 110 method and more than 442 hoods were tested using face velocity method. 339 chemical hoods passed the ventilation test, 102 passed at a restricted sash height of 15 inches and 39 chemical hoods failed the ventilation test. Of these 39 failed chemical hoods 6 will be replaced in the future.

BIOSAFETY CABINETS AND LAMINAR FLOW HOODS

Biosafety cabinets and Laminar Flow hoods were certified through a contracted company, Laboratory Certification Services (LCS). The laminar flow hoods are recertified at a cost of $95/ hood and the biohoods at a cost of $110/hood. Annually, PIs are notified through inspection and department notification to re-certify their hoods. A revised online database was created on the DOES website that

allowed the researcher to sign up for re-certification or repair of the hoods. One hundred and ninetynine Biosafety cabinets and Laminar Flow hoods were recertified or repaired last year.

CLEARANCE/ RELOCATION PROGRAM

The implementation of the Clearance Program centralizes the process of equipment and maintenance surveys. More than 1200 clearances were conducted for PI's that moved to the Wolstein, Wood, Research Tower and for laboratory relocations and PI's departures. For the Wood building move into the RT, 88 decommissionings were organized. There were a total of 782 clearances associated with these moves. In the SSOF, 474 general clearances were submitted including room and building clean out, room repair, equipment, and maintenance.

Management of the safety clearances and moves coordinates activities concerning disinfection and decontamination process for equipment and Biosafety cabinets, chemical and biological waste disposal, and communication with professional movers and researchers.

Revision of Laboratory Relocation and Termination Procedures was completed and used for moves from Wood, Wearn, and Metro to Research Tower or Wood (5), as well as BRB to Wolstein (20), departure from CASE (5), and Safety Clearances for 75 pieces of equipment.

DOT/ IATA SHIPPING PROGRAM

The SSOF facilitates and expedites the shipping of Hazardous Packages for departments. The DOT/IATA Shipping Program was established to provide employees with instruction in the shipping of hazardous materials according to DOT, ICAO, and IATA requirements. The Department of Transportation (DOT), through regulations found in the Code of Federal Regulations (CFR) 49, The

International Civil Air Organization Regulations (ICAO), International Air Transportation Association Regulations (IATA), specific carrier restrictions, and regulations particular to countries involved with international shipments, governs the shipment of regulated hazardous materials. The regulations are very precise as to how such materials must be packed, labeled and transported and, therefore required specific training reinforcement for involved employees. This program also required creation of the University Security Plan for hazardous material shipments under HM 232 that will become a legal requirement in the coming year. ChemTrek has been contracted as the emergency responder for shipments originating at the University.

AFTER HOURS SECURITY CHECKS

Security checks are also carried out on the weekends. Special sweeps were also carried out at increased frequency during National orange and red alert periods. These inspections included all buildings, with special emphasis on BSL3 facilities, and irradiator facilities. After Hours Security Checks of 15 buildings on the campus are conducted every month. A total of 135 security checks were carried out during this fiscal year. Violations were documented and reported to the researcher to prevent occurrences in the future. Security compliance was generally excellent during the past year.

INCIDENT/ INQUIRY PROGRAM

An Incident/ Inquiry Program was established to ensure that all incidents and inquiries were handled in a timely manner and appropriately documented. This program included all incidents involving Emergency Response, Indoor Air Quality, and other types of non-standard assignments. There were a total of 243 incidents, which occurred more frequently during September, January, March, and April, with the highest volume occurring in March and April. This increase possibly correlates with the beginning of each school

semester or break and at the end of the school semester as well as the. This may be partial explained by the tendency of Plant Services and laboratories to inventory and dispose of chemicals during these hiatus periods.

The SSOF responded to five major incidents, 100 odor complaints, 23 of which evolved into IAQ assessments involving sampling and analysis reflective of possible safety problems. There were also 38 incidents involving spills and 23 incidents involving mold/ fungus in campus buildings excluding the West Quad. The complete spectrum of incidents is listed below:

- Indoor Air Quality - 23
- Odor Complaints – 100
- Contractor Complaints – 21
- Mold/ Fungus – 23
- Regulated Chemical Monitoring – 23
- Nitrite/ Nitrate Testing – 5
- Plant – 2
- Spills – 38
- Fire – 6
- Injury – 2
- TOTAL - 243

MAJOR INCIDENTS

POWER FAILURE IN EASTERN STATES - 8/14/2003 AT 4:15 PM

During the blackout on the East Coast last summer, the Service Building Conference Room could not be used as the communication hub because there was no emergency power generator for this area. This problem is currently being remediated. During the power outage, several states were without electric power for more than 12 hours. Therefore, DOES has added to its emergency inventory since the blackout to aid in the Department's response if there is a reoccurrence of this problem in the future. DOES now stores

emergency dried food, bottled water, glow sticks, walkie-talkies, and a battery-operated radio on site in the DOES Office suite.

GAS RELEASE – 10/6/2003 AT 2:00 PM

A malfunctioning component of the Master Flow control (MFC) was removed from a gas line and the toxic gas alarms sounded when the unit was disconnected. The building was evacuated and the fire department was called. The fire department cleared the building for reentry. The total gas volume released was no more than one cubic centimeter. The laboratory was instructed to wear respirators or SCBA when repairing this apparatus in the future.

FIRE IN LABORATORY – 1/11/2004 AT 6:15 PM

A fire occurred while using a dry chemical extinguisher on an unknown chemical. The chemical bottle was not labeled. The remnants of the bottle were placed into a glass container, purged with nitrogen, wrapped in parafilm, placed into a glove, and sealed with a copper strip. This item was removed to the DOES Waste Facility and placed in the walk-in hood for disposal. Cleveland Fire cited Case for improper storage of flammable materials, improper fire stopping, and misplacement of fire sprinkler heads. The laboratory damage included a burned wooden cabinet, smoke and fire damage to the wall.

FIRE ALARM – 2/4/2004 AT 9:45 PM

Protective Services reported a gas leak at a Case Building. The fire department was called. Plastic was burning due to an over-pressurized air compressor running in a laboratory. A plastic container on the compressor had burned. The air compressor was turned off. There was no damage to the laboratory. The PI was informed by SSOF that poor housekeeping practices caused the incident.

PLANT SAFETY INJURY – 3/18/2004 AT 10:00 AM

A Grounds worker fell off a ladder on to a concrete floor and sustained head, face, and leg trauma. The ladder was positioned improperly and lacked proper skid pads. The worker had not attended ladder safety training, lacked the proper personal protective equipment, and did not exercise the proper choice of tools for the task. The ladder was removed from service, a new door closure was ordered, and the incident was review at a Plant Safety Committee Meeting.

CHEMICAL SPILL – 4/21/2004 AT 10:00 AM

A Hazardous liquid bottle was broken when struck by another bottle. The broken bottle was not noticed at the time and began to leak into its Polycoat secondary containment within the flammable storage cabinet. Entry into the room was achieved safely by wearing a respirator with organic vapor cartridges, laboratory coat, and butyl rubber gloves. The major concern was the low explosion range of the chemical. The PHD Combustible Gas meter readings registered explosion level readings between 3-5%. The material was absorbed with pigs and spill pillows then over-packed into a five-gallon HDPE over pack. The SSOF addressed concerns about chemical labeling practices with the laboratory.

EMERGENCY RESPONSE PROGRAM

Following the 911 tragedy in 2001, the Federal government put a National Security Alert System into place that codes the level of security required on a daily basis. When the level is raised from red to orange, the DOES staff increases its on-call schedule to 24-hour status. The DOES Conference Room has been designated as the emergency headquarters should the need arise. If the DOES site is compromised, a reciprocal arrangement for housing emergency services has been established with General Electric in Nela Park.

EMERGENCY RESPONSE PLAN

The DOES Emergency Response Plan was developed and designed to integrate with the Campus Incident/Emergency Management Plan. This DOES plan was distributed to University staff, Cleveland Fire Department, Cleveland Police Department, and Hospitals. With the heightened security levels of post 9-11 and the events that have taken place at CASE, the need for a full-scale emergency response is mandatory. A committee has been assembled to plan exercises leading to an emergency scenario involving Case personnel and its City and regional partners in Fire, Emergency Services and Police Departments. Working with Protective Services, DOES has begun to assemble a collaborative network with Cleveland Fire, Cleveland Police, University Heights Police, University Hospitals, and the County Emergency Medical Association (EMA).

Emergency Response to all incidents leading to possible biological agent exposures was investigated. This year there were several responses to bio-terrorism-related mailings but investigation proved that the materials involved were not hazardous.

RESPONSE EQUIPMENT

Response equipment was reviewed and an action plan for maintaining proper readiness was developed. The annual usage for each type of response equipment is as follows:

400-500 pairs of thin Nitrile gloves
10-12 pairs of other glove types over 12 mils
4-5 Tyvek suits
8-10 Tyvek QC suits
12 pairs Tyvek polycoated booties
30 lbs. Mercury absorbent and kit
10-12 lbs. of various other absorbent for solvents, formaldehyde, acids, etc.
20-25 spill filter strips

Other forms of response equipment have been incorporated into the inventory such as tack cloth for powder clean up and mercury

thermometer containment tubes. Personal Protective Equipment (PPE) has also been evaluated for adequacy and the types of materials kept on hand were augmented to increase response capabilities. Equipment on hand includes:

North Silvershield glove liners
Butyl, Viton, Polyvinyl Acetate (PVA), Kevlar, and Neoprene gloves
Saranex suits
Hazmat boots
Drum leak kit
Mercury Vacuum
Spill-X Guns

BIOLOGICAL SAFETY

BSL-3 FACILITIES

In the aftermath of September 11, 2001, the Patriot Act was enacted to protect against bio-terrorism. Two federal agencies are under its auspices, the Center for Disease Control (CDC) and the US Department of Agriculture (USDA). The Departments of Health and Human Services (HHS) and the USDA have promulgated rules in the Federal Register governing facilities that possess, use, or transfer select biological agents or toxins became effective on February 7, 2003.

SELECT AGENT PROGRAM

Currently there are two Biological Safety Level-3 (BSL-3) facilities for prion research (one for molecular and biochemical research, and one for animal research); a specifically equipped BSL-2 facility for prion research, as well as one BSL-3 facility for other potentially dangerous agents including HIV and Mycobacterium Tuberculosis. Biannual Select Agent Questionnaires were received from 18 PIs that use

Select Agents and 1 PI that uses a select agent in a regulated quantity.

With the introduction of the variant prion (Bovine Spongeform Encephalopathy agent, BSE), a specific Biosafety Committee was formed as an oversight committee. The Committee's Responsible Operational Official is the Associate Director of DOES. The one select agent to be used on campus, BSE, has been registered with the CDC and USDA. Thirty individuals who are involved in this program underwent background checks and fingerprinting carried out by the Federal government. The BSL-3 laboratories in which BSE will be used are in the Institute of Pathology and the ARC (BSL-3) facilities. There are three levels of security controlling select agent access in these facilities:

1. Card swipe entry security at the entrance of the laboratory
2. A second card swipe system for the isolation laboratory
3. A third locked location for storage of BSE materials within the laboratory.

BSE material is stored only in the Pathology BSL3 Facility and only amounts of BSE required for injection of the animals are transported to the ARC Facility when required.

SELECT AGENT COMMITTEE

The Select Agent Committee is comprised of Select Agent Users, the CASE Biosafety Officer, and the operational Responsible Official from the DOES the Director of Animal Facilities and the ARC Veterinarian. This Committee is charged with the responsibility of maintaining regulatory compliance with regard to use, handling, and disposal of Select Agents within the University and associated facilities. This committee reviews applications and develops procedures and help to guide researchers in use and disposal of Select Agents.

The Select Agent Committee initially met in November 2003 to discuss the security of both BSL3 facilities, inventory control of

equipment and materials, and computer issues. Installation of security for both facilities was completed in January 2004 as well as the fingerprinting and authorization of BSL3 personnel. An initial inspection of both facilities was conducted in April 2004 and correction of the violations was completed in July 2004. Three mock runs to prepare for handling of select agent were conducted in the facilities to evaluate procedures, design the program, and yield suggestions for improvement. The SSOF was on track for execution and approval of initial experiments for the Select Agent Samples of BSE and BASE in July 2004.

SSOF Staff designed the procedures and forms for registration, inventory of select agents, necessary equipment, and supplies, and decontamination/ destruction and security in handling of select agents. The general BSL3 safety-training program was also designed and implemented as a Powerpoint presentation and as an online training document. Manuals for both facilities were completed with final edits performed by the SSOF.

PHYSICAL SAFETY

PHYSICAL SAFETY MANUAL

The Physical Safety Manual was made available online. This manual has also been promoted through direct contact with investigators during inspections and in the DOES Newsletter. Laboratories that do not have an emphasis on chemical use can find many applicable safety recommendations in the Physical Safety Manual.

FIRE INSPECTION PROGRAM

Fire evacuation drills were conducted in all University owned residence halls and Greek houses twice (once each semester). Emergency Evacuation Plans, with the exception of two areas, have been upgraded and placed on the DOES Website. Input is still needed from two areas in order to complete this upgrade. One area

must update their evacuation plan due to changes to the facility. Through inspections of University owned buildings, residence halls, houses, and areas that need fire extinguisher installation or recertification are documented and the proper department is notified.

FACILITY INSPECTIONS

The DOES participates in the scheduled building walkthroughs each week. Under this program each building, excluding residence halls is inspected twice a year. The DOES focuses on possible safety/ building code violations as well as life safety (means of egress) and fire protection/ prevention issues. Ninety buildings were inspected this year.

The DOES in cooperation with Property Management inspect university-owned rental properties annually. These inspections address potential code violations as well as fire/ life safety hazards and general liability issues. Recommendations for correction/ improvements are made as necessary and response is timely.

REMEDIAL SERVICES

The Physical Safety Specialist incorporates on-site problem solving in all areas of physical safety. The DOES received many calls for help in solving on site problems: means of egress issues, ergonomics, noise problems, and lighting problems. These issues are addressed as needed.

ERGONOMIC EVALUATIONS

Ergonomic issues are addressed as identified. There were 12 evaluations made, all relating to computer-based workstations. Once the evaluation is done the employees are advised as to good ergonomic work practices and given information to help them understand these practices through helping them to determine what

works for them. Many times new furniture is purchased because the existing layout does not fall within good ergonomic parameters.

NOISE

In a new attempt to identify and resolve possible noise hazards on campus, a full-scale noise management program was conducted at the Animal Resource Center. This program included an initial noise measurement, noise dosimetry by an outside contractor, training, managing audiometric tests for 21 employees, PPE selection consulting and PPE use training, OSHA compliance, and providing engineering control methods to reduce noise levels. To improve the quality of noise measurements, a new sound pressure level meter (Quest) with noise analyzer was purchased and used. Several other noise complaints were also responded to that did not require any action.

LIGHTING

The Safety department is now able to conduct primary lighting measurements to evaluate lighting quantity in work environment with the purchase of a new instrument. There were two complaints regarding quantity of light in the workspace. In both cases, measurements were conducted and were compared to the OSHA/ ANSI standards. Recommendations were made to improve lighting quantity and quality.

PLANT SAFETY

PLANT SAFETY SPECIALIST

A solid relationship between DOES and Plant Services is required to accomplish safety services goals. Productive monthly meetings have resulted in safe conditions for transport of biological hazards and refuse. Timely disinfection of mold contamination, and address of various other issues has benefited from this relationship. The DOES

Plant Safety Specialist meets bi-monthly with each zone and monthly with all of Plant. These meetings address unusual problems and individual problems and concerns. They also help identify areas in which personnel need additional training and/ or required equipment. Several pieces of safety equipment are distributed to plant personnel as needed. Also a protective shoe vendor has been utilized that has given a significant discount to CASE employees. More up-to-date training materials also have been purchased.

The Plant Safety Specialist is fully accessible to Plant personnel during all hours of the day or night. Means of communication have been broadcasted utilizing a pager, cellular phone, and radio. Training with the Cleveland Fire Hazmat Unit enhances knowledge of fire department procedures and protocols.

PLANT SAFETY MANUAL

A Plant Safety Manual has been compiled and published by DOES. that will be distributed this coming year. This manual includes safety considerations pertinent situations and topics regularly faced by plant maintenance workers.

PLANT SAFETY INFRACTIONS

Plant Safety Infractions are now documented in the incident database for such actions as lack of personal protective equipment and horseplay during task executuion. Accident investigations are conducted and documented after accidents and proper reporting procedures are followed.

FACILITY INSPECTIONS

Inspections were carried out on an on-call basis before execution of any maintenance procedures that could result in hazardous exposures.

CONTRACTOR OVERSIGHT

The Plant Safety Specialist carried out on-site inspections and monitoring of contractor safety practices and programs. Contractors completed more than 350 projects with oversight by a DOES representative. The types of contractors the University utilizes for large projects includes the Movers, Painters, Carpenters, Plumbers, Packers, Apprentices, Helpers, Drivers, Electricians, and Pipe-fitters, Roofers. CASE Plant personnel are utilized for small projects and maintenance. The interface between Plant, Construction Administration, technical assurance, and outside contractors on safety related issues has aided in the efficient and safe conclusion of projects.

EXHAUST FAN MAINTENANCE

There were 28 shutdowns of the fan exhaust in Medical School, BRB, Research Tower, and Wolstein Research Building. All exhaust fans were monitored by the SSOF 2nd shift Specialist to ensure safe air quality for Plant personnel before maintenance and filter replacements. This operation occurred after work hours on a quarterly basis.

CONFINED SPACE PROGRAM

The Confined Space was rewritten, a new permit was created, and proper signage was created and posted.

HOT WORK PERMITS

OSHA requires hot work permits for soldering, welding, and any type of heating operation. DOES administers this program for Plant personnel and the Contractors. The permit is attained from the SSOF

after an inspection of the site to check for adequacy and security places a fire watch on the site. The permit is required to be posted near the site. The permit is issued for a certain time period, which is normally no more than one week at a time. An SOP has been written for the program. Fifty-eight permits were issued during the year.

PROGRAMS

Various job functions were reviewed within Plant Services leading to the introduction of the Job Safety Checklist. This checklist will allow the Plant skilled tradesmen to be more efficient and safety oriented.

EPA AND WASTE DISPOSAL PROGRAM

ENVIRONMENTAL RELEASES

The Northeast Ohio Regional Sewer District (NEORSD) requires semi-annual reports on Best Management Practices (BMP) for minimization of mercury discharge for dental offices to the Cleveland sewer system to a regulatory level of 25 parts per trillion. CASE's sewer releases were in compliance with both federal and state regulations. In the past fiscal year, the report for January through December 2003 was filed on 2/24/2004.

Semi-annual water testing for nitrates and nitrites were performed in the dormitories on the southern half of the campus. The assessment included collection of 74 samples, summarizing of results, and distribution of reports to the facility coordinator for the dormitories. Regulatory levels were not exceeded.

Amounts of waste collected at CASE continued to increase during the 2003-2004 fiscal year. The ability of the Chemical Analytics contractor to perform de-activation of Peroxides, Picric acid, and Perchloric acid reduces the intrinsic cost of disposing of this material and represents a significant cost savings. Most importantly, reduction

in hazard through on-site performance of waste handling complies with OSHA requirements.

A database assigns tracking numbers and facilitates accurate tracking of expenditure reporting. The database also facilitates evaluation of cost effectiveness of waste disposal. In addition, a regular audit of all manifests detects overdue manifests before the 42-day time limit.

STATE MEDICAL WASTE

A total of 1,550,047.5 pounds of Regulated Medical Waste was disposed this year and incinerated by the waste disposer, Stericyle (formerly BFI), through Regulated Medical Waste Treatment Disposal Shipping. This waste included Animals, Syringes, Needles, and potentially infectious materials. Due to the increase in the cost of incineration, prices were increased in April 2004 from $0.236/ lb to $0.490/ lb.

TREATED INFECTIOUS WASTE

Autoclave Certification was accomplished for disposal of biohazardous waste in November of 2003. Elements of this disposal program include Validation Testing and Quality Assurance Testing. Both tests involve running a test pack through the autoclave with six samples in the test pack. The samples are then incubated for 24 hours, 48 hours, and one week. Growth in any of the samples indicates failure of the decontamination process. In such cases, the autoclave is taken out of service for diagnosis and repair. Records of autoclave certification are kept both in a hard copy and electronic database on the DOES Server.

Quality Assurance Testing carried out once a month to ensure the unit is functioning properly. Validation is also carried out to verify that an out of service unit has been repaired. Validation testing will also be carried out at any time upon request of the Ohio EPA. Autoclaves

that do not apply an approved testing program are not considered sterilizers under state law. All materials treated in an uncertified autoclave are still considered to be infectious materials for disposal purposes.

In the past year, Safety compliance and equipment inspections were carried out and resolved for the University's bio-hazardous waste autoclaves. Programs for safe and compliant operation of the Sanipak Waste Sterilizer were written in 2001. The Sanipak is surveyed on a monthly basis and quality assurance checks are carried out on a quarterly basis.

A total of 24,300 pounds of Infectious Waste was treated in the SaniPak Autoclave this year and transported by Waste Management Industries (WMI) to the American Landfill. The cost of treating this infectious waste is $0.05/ lb. This volume, however, is less that 2% of the amount of waste that is incinerated by Stericycle.

RECYCLING PROGRAM

The Recycling Program for chemical solvents was terminated in October 2001; however, recycling of a number of materials continues to be carried out successfully for materials collected from the West Quad (Mount Sinai) and the main campus Complex. Currently the following are recycled on the campus:

- Lead
- Aluminum Cans
- Paint
- Batteries
- Computer monitors (weighs up to 30 pounds and contains 8 pounds of lead)
- Computer
- Equipment
- Fluorescent Bulbs

WASTE FACILITIES

The CASE Waste Facilities are used to segregate and prepare waste for disposal. The different waste streams include aqueous waste and dry solid waste. Reducing the volume of waste to be disposed remains a continuing aim of the waste program promoted by the DOES. As part of the Waste Minimization Program, researchers are encouraged to reduce the volume of waste generated in the laboratory.

WASTE DISPOSAL

Hazardous waste rooms are used as central collection points for what the EPA defines as a site. CASE has six sites presently which are Cedar Avenue Service Center (CASC), DOA990 (Medical School), Millis Science Center (Formerly Morley Hall 105), The Greenhouse, University West (UCRC I), and the Wolstein Research Building. The 90-day accumulation areas are inspected on a weekly basis. The accumulation areas include the DOA990, Millis G35, and Wolstein 1103. Ninety-nine manifests were collected for recycled material. Environmental Recycling collected the University's Computer Monitors, Flourescent Bulbs, Batteries, Non-PCB Ballasts, Mercury, and RQ Solutions (Polychlorinated). The hazardous waste disposer was Chemical Analytics for Hazardous Waste and PCB material and the disposer for Hazardous Solid Waste such as Lead and chrome was Michigan Disposal Waste Treatment Plant.

DISPOSAL SITE WASTE DISTRIBUTION

Waste Type	DOA 990	MILLIS	GREEN HOUSE	Wolstein	UCRC	CASC
Ballasts (PCB) (#)						9271
Ballasts (Non-PCB) (#)						6355
Bottles <1 gal				8	401	253
Bottles>1 gal	13467	3237				37
Unknowns (bottles)	39	109			8	
Incinerators (bottles)	293	91			20	6
Med East EB50 Cleanout ($)	8409					
Cylinders (large)	29	49				
Photo Drum	22	9	4			24
Batteries (#)						1204
Transformers (#)	132					
Pails (cans)	133	427				

Waste Type	Mt. Sinai	CASC Recycling
Ballasts (PCB) (#)	6673	
Ballasts (Non-PCB) (#)	197	
Bottles <1 gal	135	
Bottles>1 gal	5	
Photo Drum	19	
Batteries (#)	760	
Lamp 4 ft (tubes)	7031	47314
Lamp 8 ft (tubes)	645	1992
Lamp U (tubes)	686	5122
Lamp Other (tubes)	663	5149
Lamp Crushed (#)	1940	
Computers, broken electronics (#)	6504	1408
Computer monitors	384	284
Printers, copiers, typewriters, keyboards (#)		9473

MANAGEMENT CENTER WASTE DISTRIBUTION

Waste Type	Arts/ Science	Engineering	Dental School	Medical School
Total Cost	$51,961*	$37,952*	$2,335	$413,696

- Total costs only include receipts received before 7/1/2004.

SUMMARY

DEPARTMENTAL STRENGTHS

We have a staff with broad and diverse backgrounds that can address and resolve a wide range of issues faced in Chemical and Biological Safety at Case Western Reserve University. We have developed programs that meet or exceed regulatory requirements in most safety areas and proactively anticipate new safety requirements as new programs are promulgated. We also have excellent administrative support.

DEPARTMENTAL OPPORTUNITIES

Our programs continue to mature. We continue to enjoy an excellent interaction with other departments that are developing safety-related initiatives and outside agencies that are dedicated to improving the environmental quality in our facilities.

ACCOMPLISHMENTS FOR 2003-2004

Notable new accomplishments included:

Increased emphasis on posting of waste leakage logs in laboratories
Enhancement of safety programs concerning Plant Services.
Revision of Infectious Substance Training materials to reflect regulatory changes.
Creation of new Diagnostic Specimen training materials.
New security plan training for Select Agent and DOT programs.
Development of test questions for documentation of security plan awareness and general awareness after each DOT/IATA training.
Enhancement of emergency response capabilities.

GOALS FOR 2004-2005

Alignment with the educational and research goals of the University through training and training development continues to be the SSOF primary goal. Educational and programmatic interaction with local emergency responders continues to increase the SSOF impact in the community. Specific efforts will address:

Increased involvement of all Safety Services team members in emergency response to keep skills and knowledge current and to provide back up during outside agency responses.
Further collaborative interaction with our partners inside the University and in our surrounding community to augment the SSOF Safety programs.
Development of an IAQ Manual for CASE.
Encouragement of the staff toward completion of national certification to facilitate career development and productive participation in community safety training initiatives.
Enhancement of training materials for all SSOF programs.
Increased cross training with the Radiation Safety Group to enhance the breadth of SSOF laboratory inspection and emergency response capacities.
Increased emphasis on enhancement of critical chemical and biological inventory information.

Prepared by Felice Thornton-Porter on 10/22/2004.
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