CASE

Safety Services Program

Annual Report
Fiscal Year

2004-2005

12/1/2005

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INTRODUCTION

This report is submitted to the President and appropriate members of the senior administration 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 &

LICENSES/ REGISTRATIONS

Case maintains certificates of registration through:

- US EPA (Ohio EPA) RCRA- 6 sites
- The Department of Transportation (DOT)
- The Ohio EPA 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 – 6/30/2006	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 and CDC Select Agent Program	Expires – 11/18/2007	Animals/ Plants and Humans/ Bovine Spongiform Enchemlopathy (Prospective)

waste: 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 June 17, 2003, the Ohio Environmental Protection Agency (OEPA) Hazardous Waste Division inspected the facilities and found no violations.

OSHA COMPLAINTS

The following OSHA complaint was administratively addressed in 2004/2005.

2/2/2005 – COMPLAINT # 308-564-160

Notice of safety and health hazards complaint: The complaint alleged Asbestos Fiber Release. This complaint was investigated with no findings or citations requiring program adjustment or special response. The matter was closed on 2/9/2005.

- Institutional Biological Safety Committee (Recombinant DNA)
- IACUC Committee (Pathogen Safety in Animals)
- Carcinogen Use Committee (Carcinogen Safety in Animals)
- Select Agent Use Commity9(tee)5.T4tiologt UT-0.5610e5(t)imalT-0.561Plant-0.56sT-0.561

These subcomm-0.56ittees review chemical and biological protoee ols (IACUC for Carcinogens, ICARU for Biological Ma5.1(Uterials, or Animal))-5.1(for safe)5.8(t)-5.1(y)6.2( )-5

John Duree, DVM

SAFETY SERVICE OFFICE (SSOF)1ee RINCIPAL1ee ORS (PIs) Ass(p-0.8(f)5.3(e)-5.8(s)D0.3(so-0.8(

Yu-Chung Yang, PhD. Engineer

Laboratory safety is a shared reponsibility between the Safety Service Office and1ee incipal Investigators.1ee PI is responsible for ensuring safety programs in accordae56.1(ce wi)6.3(t)-4.8(h)1(Fe56.1(deral,)-5.2(State,)-5.2(and1Local)-5.2(appoints the voting mUembers5(1ee)5to this Committee. The committ9(tis)-5.1(al)5.7(s)-9.5(o)5

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 Construction
Renovation & Planning
Nord 310

AUDITS

The Laboratory Safety Committee conducts audits of Safety Services' activities throughout the year. Seven areas were subject to audit. These included:

- Bloodborne Pathogens
- Chemical Hygiene/ Exposure Control/ Hazard Communication Plans
- DOT/IATA shipping
- Hood Safety
- Indoor Air Quality
- Respirator Program
- Training

Major findings are summarized below.

BLOODBORNE PATHOGEN

LSC AUDIT COMMENT:

Bloodborne Pathogen training was given to 380 new hires and retraining to 390 individuals. Hepatitis B vaccination is given by Health Services, with no feedback to DOES on completed vaccination series or declinations for vaccination. It is recommended that a vaccination-status database be established.

SSOF RESPONSE:

Declinations are received at the time of Bloodborne Pathogen presentation. The remaining individuals are to be vaccinated and it is their responsibility to see that this is accomplished. The committee's recommendation will be implemented.

CHEMICAL HYGIENE/ HAZARD COMMUNICATION/ EXPOSURE CONTROL PLANS

LSC AUDIT COMMENT:

DOES monitors programs of 666 principal investigators, of which 512 have turned-in a Chemical Hygiene Plan. Random inspection of various plans on record revealed many examples of non-current plans, as well as the casinat 6

As recommended, the databases have been combined. Monthly reports will be produced. New program requirements for yearly updates instituted two years ago are maturing and compliance is more than 80%.

RESPIRATOR PROGRAM

LSC AUDIT COMMENT:

The audit performed in May 2005 found the management of this program to be excellent, with appropriate training and retraining. During the past year, 74 individuals have been trained and are authorized to use respirators. Some individuals have been slow taking the required physical.

TRAINING

LSC AUDIT COMMENT:

Training was given to 4444 individuals, in-class 2181, and the remainder on-line. Of 10 personnel files audited, required training or retraining in 8 separate areas

SAFETY SERVICES OFFICE (SSOF)

All Specialists receive job specific training under the auspices of experienced personnel. Specialists also attend training programs offered by outside experts that provide required certification for a number of areas covered by our programs.

Training and conferences attended in 2004-2005 included: 24 hour Basic Hazardous Materials Technician Training, Mold Prevention, Assessment, and Elimination Seminar, Asbestos Management Planner, First Responder Operations Training, Hazardous Materials Customer DOT Training Seminar, and the NASA Ventilation Seminar.

All staff members received an 8-hour RCRA Hazardous Materials Manager Refresher Certification, 8 hour National Incident Management System & IMS Practical Drills, and 16-hour Incident Command

- BSL3 Online Retraining for Select Agent use

DOES NEWSLETTER

The DOES newsletter is designed to keep the campus community informed of safety issues and concerns. It covers the latest government regulations and addendums, issues found during laboratory inspections, as well as answers to questions frequently asked by laboratory personnel. Safety Services related articles published in the newsletter included:

- Keep D.O.E.S. Informed if you Work with Select Agents
- Minors and Volunteers in the Labs
- Mercury Thermometers; Radiation News
- Closed Door Policy: Three Reasons to Keep Your Lab Door Closed
- Moving Out: Research Laboratory Relocation and Termination Procedures for Chemical Inventory
- The Danger of Wearing Contact Lenses around Hazardous Chemicals
- Putting Trash Cans in Its Place: Some Key Reminders fo
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BSL3 facility to use these agents. Thirty-nine employees received BSL3 Safety Training.

DOT/IATA SHIPPING TRAINING

Training of personnel planning to ship materials is required every 3 years for each specific type of material. Twenty-six employees were trained in the

- Workplace Cleanliness
- Hot Work

These sessions are scheduled so that all shifts can be accommodated. Three training sessions were developed and offered for Plant personnel every month, training an average of 70 personnel.

FACILITIES AND EQUIPMENT

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

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
Wood Research Tower (RT)	Wolstein Research Building (WRB)	

LABORATORIES

Approximately 1200 laboratories were monitored, either partially or fully, by Case safety service programs. These laboratories are located in four hospitals, the Case Quad and the Medical and Dental School facilities. All laboratories are equipped to use hazardous material and specialized equipment. Laboratories typically include chemical hoods, meters, analytical detection and measurement equipment, waste receptacles, and decontamination supplies.

SAFETY SERVICES OFFICE

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

MILLIS WASTE FACILITY

This waste facility is located on the ground floor in Millis G35. It is directly across

PhD Ultra Atmosphere Monitor (Combustible Gas Meters)	02-30102N	10406	Annually	11/17/2004
PhD Ultra Atmosphere Monitor (CGM)	02-30102N	10389	Annually	7/6/2006
CMS-Analyzer Unit	640-5050	ARKH-0164	Annually	12/11/2005
Accuro (Hand Pump)		ARSE-FO23	Annually	Out of Service
Accuro (Automatic Pump)	2000		Annually	Out of Service

SAFETY SERVICES PROGRAMS

GENERAL COMMITMENTS AND SERVICES

The SSOF is meeting its commitments to conduct programs in compliance with local, state, and federal regulatory programs. 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 and Exposure Control 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.

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

CASE has more than 677 Principal Investigators (PIs) authorized to use chemical and biological materials in 1158 laboratories. 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 UH, Metro Health, and Veterans Administration (VA) Hospitals. Squire Valleevue Farm, a University owned property, was also inspected. 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. Repeated 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	92
BRB	493
DeGrace (Biology)	22
Bolwell	1
Clark	0
Dental	588
Glennan	268
Hanna Pavilion	47
Health	43
KHS	206
Wearn	76
White	180
Wickenden	144
Wood	352
UCRC II	57
MacDonald	24
Mather	0
Med East	592
MetroHeath Hospital	70
Millis	237
Morley	23
Nursing (Bolton)	288
Olin	0
Pathology	189
Rad Waste	11
RBC	52
Research Tower	90
Rockefeller	182
Sears Tower	6
Squire Valleevue Farm	2
Strosacker	0
AW Smith	230
VA Hospital	17
Lowman	4
Wolstein	547
Walker	0
Total	4502

In the table, “Rooms Inspected” includes laboratories, closets, mechanical room, offices, classrooms, dark rooms, cold rooms tissue culture facilities, and animal

rooms. All areas are inspected to ensure proper storage and maintenance as well as to document changes in use of a room.

SPECIFIC SAFETY PROGRAS

chemical questionnaire was revised and sent to more than 1000 PIs. Of the 1000 questionnaires, 233 were returned. A follow-up questionnaire will be sent.

Of the three IAQ complaints, two were discontinued due to no response from the original complainant. One area required further action that included correction of the HVAC system resulting in IAQ improvement. All of these measures were coordinated with Plant Services and Customer Services.

ENVIRONMENTAL SAMPLING

One complaint of dust exposure was analyzed and reports were sent to the concerned parties. A total of 3 respirable dust samples were collected. No exposures above standards were observed.

ASBESTOS MONITORING

The Asbestos program was updated due to regulatory changes. The inventory of Asbestos areas was evaluated for follow up sampling and converted to a

LEAD MONITORING

The inventory of Lead areas is presently being evaluated for follow up sampling and conversion to a searchable electronic format. This inventory was released to Plant Services. Training of all Plant, Custodial, Security, and other administrative groups to the Awareness Level will take place upon completion of the electronic inventory and subsequent sampling.

Lead monitoring is addressed on a per case basis. The DOES sampled one lead-based paint project (for a total of two lead-based paint samples). No samples contained lead above the EPA regulations, but both samples did contain lead. For all projects positive for lead-based pai465ai3taibove TJ15.0.9357 TD0.0001 Tc0.17

chemical fire extinguishers. The water was removed using flood abatement equipment and discharged to the sanitary sewer. Based on further investigation after the clean up, it was determined that the cause of the fire was the failure of the refrigerator, which allowed the materials to warm and burn.

CUSTODIAL SERVICES INJURY – 5/12/2005 AT 4:45 PM

A custodial services employee was injured while placing trash in the trash compactor behind a university building. The employee was in the process of placing trash in the side compartment when a gust of wind blew the door closed, striking him on the head and causing a laceration. The employee was treated at University Hospitals. Upon further investigator it was determined that the door was unable to be secured and the electrical safety interlocks on the door were disconnected. The unit has been repaired and is in safe operating condition.

EMERGENCY RESPONSE PROGRAM

Following the 911 tragedy in 2001, the Federal government put into place a National Security Alert System 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.

Currently the Emergency Response Specialist is certified in Homeland Security-Level 5, Emergency Planning for Schools, and Bioterrorism for Responders. Collaboration with Cleveland Fire and Hazmat as well as Summit County Hazmat in live scenario trainings has improved communication and allowed the units to become familiar with the University campus. DOES has coordinated its response with the Risk Management Department to reduce the FM Global Insurance recommendations concerning the safety of the University. Follow up of specific safety concerns were completed and documented.

During the Vice Presidential Debate on October 5, 2004, DOES assisted Federal, State, and Local officials to ensure the emergency preparedness of the University. The Emergency Response Specialist along with several members of the DOES staff coordinated with Cleveland Fire and Hazmat, Center for Disease Control, Ohio 52nd National Guard Unit, and the United States Secret Service Liaisons for Case Western Reserve University. They assisted in inventory and removal of high hazard chemicals and gases in selected buildings. Coordinated pre and post sweeps of many campus buildings for decontamination procedures, emergency response, site survey, and air monitoring by the Secret Service were also needed. There were no incidents or injuries documented and compliance was excellent.

EMERGENCY RESPONSE PLAN

The DOES Emergency Response Plan was reviewed and revised 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 911 and the events that have taken place at CASE, the need for full-scale emergency response compatibility 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 Police and Fire Departments, and Emergency Services. 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).

RESPONSE EQUIPMENT

All emergency response vehicles and response equipment are checked and maintained regularly. One additional vehicle was purchased in 2004/2005. An action plan for maintaining proper readiness was developed using equipment as follows:

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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 that 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

SELECT AGENT COMMITTEE

The Select Agent Committee is comprised of Select Agent Users, the Case Biosafety Officer, the Operational Assistant RO 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, develops procedures, and guides researchers in use and disposal of Select Agents.

An initial inspection of both facilities was conducted in April 2004 and correction of the violations was completed in July 2004. The SSOF was on track for execution and approval of initial experiments for the Select Agent Samples of BSE and BASE in July 2004. Conversations with APHIS were initiated concerning clarification of program procedures. These programmatic issues were resolved, and the program was approved.

SSOF Staff designed the procedures. Required procedural support included forms for registration, forms for inventory of select agents, guidelines for provision of necessary equipment and supplies, and procedures for decontamination/ destruction and security in handling of select agents. The general BSL3 safety-training program was 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 is available online. Distribution of the manual is carried out through direct contact with investigators during inspections, publication of the DOES website, and by promotion 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 this fiscal year (once each semester). Eighteen Emergency Evacuation Plans have been updated and placed on the DOES Website.

Adelbert Hall
School of Dentistry
Dively Building
Allen Memorial Medical Library
Case Quad West/Center/East
Mather Quad

MSASS Building	School of Medicine
Physical Education and Athletics	Peter B. Lewis Building
Thwing Center	School of Nursing
School of Law	Bookstores/Barnes & Noble (Located in Thwing Center)
University Health Services	University West
Veale Recreation Center	Wolstein Building Underground

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. The building monitor reports were sent quarterly to the facility managers of each building. During the Annual Fire Extinguisher Training for the housing group, 75 students and supervisors were trained.

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

The DOES in cooperation with Property Management inspects University-owned rental properties annually. The DOES inspects Underground Storage Tanks (UST) that may be found on properties owned by the University. No property assessments were completed this year. One UST on the West Quad (formerly Mt. Sinai) will be completed by October 2005 and the issue will be closed as an environmental problem. 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 such as 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 completed the employees are advised on implementation of good ergonomic work practices

and given information to help them understand these practices. Many times new furniture is purchased because existing arrangements do not allow good ergonomic practices.

NOISE LEVEL MONITORING

In a new attempt to identify and resolve possible noise hazards on campus, sound level monitoring is addressed on a per case basis. The DOES sampled two areas for noise level. One project exceeded OSHA's regulatory limits for noise and one did not. For the project that exceeded regulatory levels, pipe insulation was recommended to reduce the noise level to acceptable levels.

The Hearing Conservation Audiometric Testing and Training Program was formerly established this year. The se

training. One hundred and sixty short-term permits were issued. Twenty-one long-term permits that extend over one month were issued that required weekly inspections.

CONTRACTOR OVERSIGHT

Both Plant Safety Specialists carried out on-site inspections and monitoring of contractor safety practices and programs. Contractors completed more than 181 projects with oversight by a DOES representative. Contractors utilized by the University for large projects include the Movers, Painters, Carpenters, Plumbers, Packers, Apprentices, Helpers, Drivers, Electricians, Pipe fitters, and Roofers. Case Plant personnel respond to small projects and maintenance issues. 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.

Contractor Safety Awareness training was reviewed and revised to include all types of contactors and personnel that carry out construction on Case Western Reserve University property. Two hundred seventy three contractors were trained in this program.

EXHAUST FAN MAINTENANCE

There were 28 shutdowns of the fan exhaust in Medical School, BRB, RT, and WRB. 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. No regulatory exposure levels were exceeded.

CONFINED SPACE PROGRAM

The Confined Space program was reviewed and revised this year including permitting, signage, and training. Thirty-two permits for entry were issued this year.

EPA AND WASTE DISPOSAL PROGRAM

ENVIRONMENTAL RELEASES

The Northeast Ohio Regional Sewer District (NEORSD) requires semi-annual reports as part of Best Management Practices (BMP) for minimization of mercury discharge from 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

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 SSO. As part of the Waste Minimization Program, researchers are encouraged and instructed in how 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 presently has six sites. These are located at the Cedar Avenue Service Center (CASC), DOA990 (Medical School), Millis Science Center (Formerly Morley Hall 105), The Greenhouse, University West (UCRC I), and the WRB. Case also operates 90-day waste accumulation areas that are inspected on a weekly basis. The accumulation areas are located at DOA990, Millis G35, and WRB 1103.

The hazardous waste disposer was Chemical Analytics for Hazardous Waste, PCB material, Batteries, Non-PCB Ballasts, Mercury, and RQ Solutions (Polychlorinated). The disposer for Hazardous Solid Waste such as Lead and chrome was Michigan Disposal Waste Treatment Plant. Metallic Resources was the disposer for Computer Monitors and Office Equipment, while Heritage Waste

DISPOSAL SITE WASTE DISTRIBUTION

WASTE TYPE	DOA 990	MILLIS	GREEN HOUSE	NUTRI-TION	WOL-STEIN	UCRC	CASC	MISTLE-TOE	MED EAST B50
Bottles <1 gal (gal)	6495	1300		39	43	403	169		632
Bottles>1 gal (gal)									

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.

APPENDIX