

ENVIRONMENTAL HEALTH AND SAFETY

Case Western Reserve University, Department of Environmental Health and Safety
Annual Report 2016-2017

*Annual Report
2017-2018*

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Mission Statement

Case Western Reserve University Department of Environmental Health and Safety

We protect the Environment and the university by acting in a regulatory responsible manner that both respects personnel and the research objectives of the community

We protect the Health and Safety of the CWRU community by providing the support and knowledge required to maintain a healthy and safe workplace

Notable Accomplishments 2017-2018

ACCOMPLISHMENTS

Began Implementation of Electronic Inventory Program
Enhanced Regulatory Inspection Program
Began Campus Machine Shop Safety Program
Enhanced Summary Reporting of Safety and Environmental Issues to Chairs and Deans
Enhanced Integrity of EHS Training Database
Began Enhanced Training Notification Program
Added EHS Course Catalog to Website
Worked with Medical School to Purge 200k worth of Excess Chemicals from Laboratories
Worked With Chemistry to Audit and Implement a Robust EPA RCRA Program
Worked with BWC to Audit all Machine Shop Areas.
Continued Policy Review of All EHS Documents and Policies

PROGRAM CHANGES:

Added new Machine Shop Safety Position

Moved Facilities, Construction, Life Safety-Fire Programs to its own division under Assistant Director of Facilities, Construction, and Life Safety-Fire. This is now a standalone division of EHS.

AGENCY INSPECTIONS

Cleveland Department of Health Quarterly: No issues

CDC BSL3/ABSL3: No Issues

NEORSO Mercury Program: No Issues

BWC Machine Shop Inspection: Large Punch list generated. In process of hiring new person to cover this need.

BUSTER-Underground Storage Tank inspection: No issues

Many miscellaneous project inspection by ODH/EPA for Asbestos and Lead paint

MISCELLANEOUS

Began process for new Medical School and Dental School opening

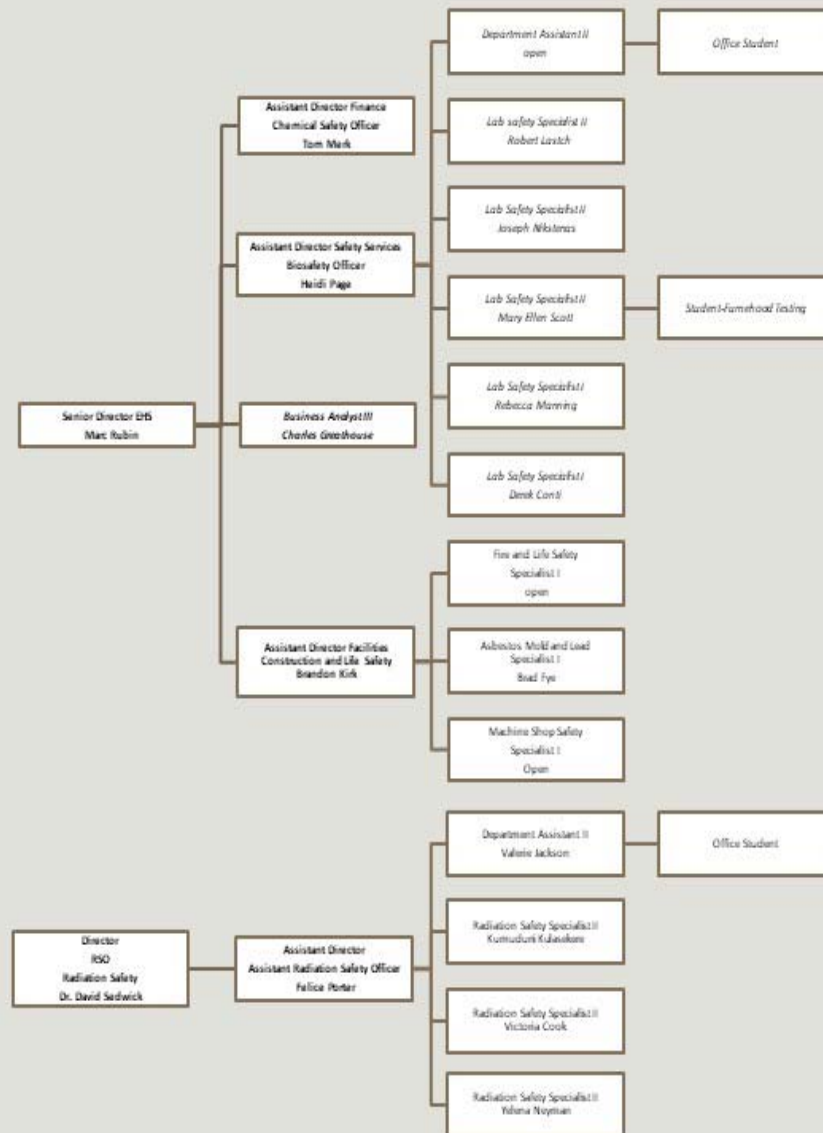
Completed with Assistance of School of Medicine a clean out of the entire school including equipment and chemicals. Chemical waste removed exceeded 200k and totaled 15k bottles removed.

OBJECTIVES 2018-2019

EHS Objectives: Each year EHS strives to develop a portion of the many programs for which it has responsibility. The follow global objectives are set for the calendar year 2018-2019

- 1) Maintain Regulatory Compliance
- 2) Implement Summary Reporting to PIs, Chairs, and Deans
- 3) Continue Rollout of Inspection Enhancements
- 4) Continue Collection of Electronic Chemical Inventories
- 5) Implement Campus Machine Shop Safety Program
- 6) Continue Hazardous Materials Review of Campus

EHS Organizational Chart 2018-2019



DEPARTMENT DESCRIPTION

The Department of Environmental Health and Safety is charged with maintaining a safe work environment for more than 6,000 employees and 10,000 undergraduate and graduate students who work and/or live in over 100 buildings at CWRU and at 5 other major Northeastern Ohio research locations. In addition to the Ohio-based research, EHS shares safety responsibility for its personnel in locations worldwide.

EHS works to balance federal, state and local safety regulations with the requirements of research. At times, these tasks appear to conflict with each other and require innovation to achieve the needs of both a safe work environment and productive research community. EHS's customer service approach distinguishes its activities from the strict regulator approaches of yesteryear.

Dissemination of safety information is accomplished through cooperative interactions with its customers (faculty, staff and students) through, formal training, consultation, and safety document creation and maintenance, inspection and oversight activities that are encompassed in the activities of the EHS department. Audit through inspection acts as the feedback mechanism used to measure the level of compliance and the level of community understanding achieved through departmental education and consult efforts.

In a complex environment, however, accidents sometimes occur. In these cases, EHS is called upon for emergency response, mitigation of hazardous situations and forward planning where possible to avoid similar future incidents. Departmental services in and following emergencies include in house hazmat response as well as planning with external agencies for larger emergency situations. EHS works closely with internal emergency management, plant, police and security departments as well as with external agencies to generate cooperative plans and responses. Part of this effort with external agencies is directed toward familiarizing governmental regulatory and response organizations with our institutional resources and response workers. This effort provides needed groundwork for synergistic responses during emergencies.

EHS is staffed by six main sub-groups that encompass Biological, Chemical, Facilities, Fire/Life Safety, Construction, and Radiation safety concerns

Biological Safety

The Biosafety program at CWRU employs a multifaceted approach to ensure safe and responsible laboratory practices while maintaining compliance with the various Regulatory agencies to whom we are responsible. The program consists of the following areas:

Maintain compliance with NIH, OSHA, CDC, USDA, DOT, FAA, DHS and DEA regulations as they pertain to training, handling, transporting, and shipping biological materials and DEA Controlled Substances.

Work with laboratories to prepare for USDA and CDC permitting inspections

Review of Exposure Control Plans, IBC protocols and IACUC protocols for the use of biohazardous materials and to ensure proper controls and procedures are in place to protect researchers as well as the greater University community.

Educate investigators on the biological hazards in their laboratories, current Best Practices, post exposure measures and changing Regulations.

Collaborate with University Health Services to provide a robust Occupation Health Monitoring program including recommended prophylaxis and post-exposure treatments based on specific biohazards.

Provide personal consultations on best work practices, engineering controls and personal protective equipment based on specific biological hazards.

Ensure proper function of and decommissioning of the High Containment (BSL-3) Laboratories on Campus.

Maintain an up-to-date inventory of the Biohazardous Materials on the CWRU campus.

Provide specific training and work practice recommendations to the Animal Resource Center staff who will come in contact with contaminated materials.

Develop written policies on the handling of specific Biohazardous materials

Specifics for 2017-2018:

- ☐ Created BSC UV-Lamp policy to be implemented in future. The usage of UV-lamps in BSC is no longer recommended by the NIH, CDC, NSF, ANSI, or ABSA. This policy will be used to protect lab workers from UV-rays and ineffective decontamination methods by eliminating the usage of UV-lights in BSCs in CWRU laboratories.

Chemical safety

With over 1,500 campus locations designated as hazardous material use areas, chemical safety is by far the largest program incorporated under EHS. Areas that fall under the chemical safety program include medical research labs, chemistry and engineering labs, construction and maintenance sites and clinical areas such as dental, nursing and Health Services.

Maintains campus wide compliance with OSHA, EPA, TSCA, ODH, DOT, IATA, FAA, EAR, ITAR, DHS, DEA, DOD, NFPA, BOCA, as well as local and state agencies

Assists with APHIS, CDC, USDA, FDA and other drug and biosafety agencies

Conducts safety training for all students, faculty and staff

Conducts laboratory inspections annually

Provides on-one-on consultation with laboratories regarding safety plans

Provides environmental testing and occupational testing support

Provides facilities with air testing equipment

A review of all chemical safety protocols for the use of hazardous materials, to ensure that proper controls and procedures are in place to protect researchers as well as the greater University community

Education of campus students, faculty, and staff in the chemical and physical hazards associated with their daily routines, and the proper hazard controls used to protect themselves

Collaborates with University Health Services to provide a robust occupation health-monitoring program including recommended treatment and post-exposure treatments based on specific chemical and physical hazards

Provides consultation on best work practices, engineering controls and personal protective equipment based on specific chemical and physical hazards

Assures proper function and decommissioning of all hazardous work environments on campus

Verifies up-to-date chemical or hazard communication plans, unique to each hazardous material use area, are current. This includes inventory of hazardous chemicals and annual site-specific training and review date

Providing specific training and work practice recommendations to specific campus departments including, but not limited to, police and security, facilities, contractors, custodial and athletics

Assures compliance with all hazardous waste regulations and facilitates the removal of all hazardous waste

Provides respiratory protection training, and fit testing

Provides advice on the use of hazardous materials in laboratories and construction sites

Conducts indoor air quality and other IH assessments

Reviews upcoming legislation and provides senior management compliance advice

Works actively with local, state, and federal agencies to provide preplanning for Emergency Response

Provides limited hazmat response to small releases of materials

Provides HVAC controls testing for engineering controls such as fume hoods

Specifics for 2017-2018:

Created regulated carcinogen written program that covers all regulated carcinogens listed in CFR 1910.1001 through CFR 1910.1053 for better application to CWRU industry, increased simplicity, and reduction of redundancies in previous individual chemical programs.

Created Formaldehyde Monitoring SOP using OSHA method 52.

A search for a more streamlined, on-line CHP is being reviewed. On-line programs from UH are available, as well as an improved model from ACS.

An SOP template for chemical processes is in place.

Continue to use pre-inspection notification with summary of CHP requirements

Chemical Fume Hoods:

Student Assistant Pilot Program: This program has been a complete success in continuing the front line determination of the safe working conditions for one of the most important engineering controls in our laboratories. Two part-time student employees and one newly minted doctoral student have learned the behind the scenes technical aspects of fume hood testing and provided EHS with on-the floor input of employee use and status of our laboratory fume hoods. Most importantly, the needed follow-up on the repairs for the fume hoods have been tracked and retested. From the later valued input not only have several long-standing issues have come to the forefront (need for fume hood monitors, efficient and focused decreased of higher velocity fume hoods across campus and a need for better education of fume hood usage, but the pathways to improving these conditions are implemented.

Metrics on repairs are in place listing the reason for hood failures and turnaround time for repair comparing 2016 to 2017.

A new approach to safer hood use was completed by simply changing the style and message of the fume hood sash sticker, resulting in a major paradigm shift to a safer and lower sash position being used by the researchers with the added bonus of energy savings.

Assistance provided from the pilot program allowed focused attention with long standing issues in other areas of safety and the resulting collaboration with both IH and support from safety management improved conditions of formaldehyde-phenol exposures in the anatomy labs which is on-going, improved ventilation in basement of pathology, inspection related cleanup of cold room issue in biology, and cleanup of ancient storage areas in Rockefeller.

ASHRAE of new hoods is current. On-site utility program for fume hoods has streamlined data analysis and fans systems are now being added to data.

Ergonomics program:

The field of ergonomics is defined as an applied science concerned with the design and arrangement of work environments in order to mitigate the possibility of hurt in the workplace. The goal of ergonomics here on campus focuses the implementation of administrative and engineering controls to prevent physical discomfort for Case Western Reserve University faculty, staff, and students. The ergonomics specialist, Rebecca Manning, has developed a comprehensive and user-friendly ergonomics program that is centered on the needs of the CWRU member.

The ergonomics specialist has revised and fashioned a new ergonomics assessment protocol that focuses primarily on how risk factors can be avoided in the workplace. Risk factors are consistent modes of work that lead to strain. These can include: repetition, static work postures, and over extension. The current ergonomics assessment includes a risk factor assessment, which is completed by the CWRU member in order to gauge specific risk factors associated with the employee's work environment. In addition, The risk factor assessment offers the requester an opportunity to be hands-on in documenting their pains and discomforts.

After obtaining this information, research is completed to determine what recommendations need to be made. Recommendations can include office supplies or equipment, desk stretches, or desk organization modifications. Recommendations are offered in the post-assessment summary, which provides suggestions to improve the ergonomics of the workstation, follow-up scheduling, and goals to complete before the next follow-up. The requester's supervisor also receives a copy of the post-assessment summary for signature, along with a detailed email explaining why each item is recommended. EHS always recommends that every CWRU member consultant with their personal physician regarding the reported issues recorded in each ergonomics assessment. In addition, EHS does not endorse a specific brand of ergonomic equipment.

Due to the repetitious nature of various positions on campus, aches and pains can arise gradually from everyday work practices. The ergonomics assessment program is a fundamental resource available to the CWRU community, serving as an educational tool as well as a standard for identifying potential work risks.

Shipping Hazardous Material and Export Control

Our shipping program is expanding in the area of awareness of the need for compliance to federal regulations in proper transporting of hazardous materials and for screening materials, hazardous and nonhazardous, for export.

Improvement in tracking the shipments from the University is needed. Additional efforts in spreading the word through lab safety training has been in progress.

Retraining process could be improved by a class focused on updates and adding summaries of labeling, packaging and documentations.

Coordination with other shipping centers on campus would be beneficial in assisting researchers in procuring shipping supplies.

Respiratory protection

EHS works closely with various departments to develop or maintain respiratory protection programs in compliance with current OSHA regulations. An understanding of the hazard, job requirements, and potential exposure is evaluated to ensure that the appropriate regulatory standard is followed. The department provides training, medical evaluations and respirator fit testing for personnel who require respirators during their work. We have also worked closely with various departments to evaluate the risks and potential exposures to employees.

The department continues to provide medical evaluations, training, and fit testing of medical students who are required to wear N95 respirators during their away rotations, typically in the third year. EHS is reviewing suggestions that the medical students receive their initial respirator training and fit testing during their 2nd year prior to their clinical core rotations. This will be evaluated with medical school staff in the near future. The need for respirators for the new PA program will need to be evaluated.

EHS continues to support the excellent respirator program in place for the Animal Resource Center personnel, including researchers using the BSL3 facilities. The department works closely with researchers and ARC staff to determine the appropriate level of respiratory protection based on a review of potential hazards, job responsibilities, and working conditions. Use of other personal protective equipment has been evaluated by EHS and ARC staff and some modifications to donning and doffing procedures were implemented for BSL3 users last year.

- ☐ Updated respiratory protection program from previous 2005 version.
- ☐ Created SOPs for QLFT and QNFT fit testing to ensure compliance with fit-testing methods described in CFR 1910.134

Construction Safety

The construction safety program at CWRU focuses on keeping all employees safe while construction projects occur on campus. The principal responsibility of this program is to monitor construction sites and contractors to ensure compliance with state and federal regulations pertaining to health and safety standards in the workplace. This objective is achieved by using the following disciplines:

- Provide regulatory support and assistance for the control of hazards on the job site that might affect the CWRU community.
- Provide the removal, to the extent possible, of hazards prior to handing over job sites to contractors except as detailed in contract agreements.
- Ensure workers from both the host and contract employer are informed about the hazards present at the worksite and the hazards that work of the contract employer may create on site.
- Organize, schedule, and perform required right-to-know safety training for all contractors prior to working on campus.
- Ensure all contract employers coordinate on work planning and scheduling to identify and resolve any time issues that could impact safety or health.
- Provide support to the project by maintaining a visible presence in the field and to have continued availability to assist the project manager with safety related issues.
- Communicate and assist the project managers to ensure all safety expectations are understood and met.
- Regularly review and be familiar with all applicable legislation and standards to ensure compliance.
- Participate in the investigation of incidents on campus to determine root cause, and to put effective actions in place to help ensure repeated incidents do not occur.

Goals achieved fiscal year 2017:

- Managed all environmental issues in the successful demolition of the old Cleveland Institute of Art building.
- Conducted safety oversight on the 6 successful re-roofing projects across campus.
- Managed the renumbering and signage project for the Service building.
- Managed the environmental clean-up (Asbestos, Lead, Mold) of the Guildford basement.
- Coordinated the environmental clean-up in the CWRU radio studio to ensure an uninterrupted broadcast.

Goals for 2018-2019

- Continue Contractor RTK Training to ensure workers from both the host and contract employer are informed about the hazards present at the worksite.
- Organize, schedule, and perform environmental support for or Planning, Design, and Construction group.
- Ensure all roof contract employers coordinate pre-construction meeting to discuss safety plans before the jobs begin.
- Provide expertise and support to the 125 asbestos, lead, and mold projects throughout the year.

Facilities Safety

The facilities safety program at CWRU is responsible for the health and safety of all plant and maintenance staff members. The facility safety program must ensure those members are in compliance with local, state, and federal health and safety standards while performing their daily work tasks. This program includes:

- Providing OSHA, EPA, DOT, and other training as required by law. This includes right to know, confined space entry, drivers training, lock-out tag-out, fall protection, injury prevention, and many other topics annually.
- Provides lift truck and powered industrial equipment training.
- Provide training in hazardous materials handling such as asbestos, lead, mold, and chemical waste.
- Conducts inspection and remediation for lead, asbestos, and mold.
- Conducts Job Safety Analysis of all facilities worker functions
- Providing in-the-field assistance to all maintenance personnel regularly as well as when a safety concern arises.
- Conducts accident and injury investigations and performs root cause analysis to prevent reoccurrence of the incident.
- Provide respiratory and hearing protection training and equipment selection.
- Supervises the entry of facilities personnel into confined spaces.
- Reviews MSDS sheets of materials used on campus for safe application
- Conducts crane inspection and foundry inspection annually to maintain compliance with the OSHA crane and hoist standard.

Goals Achieved Fiscal Year 2017

- Conducted Safety Awareness training for all summer housing - student workers.
- Investigated a long standing grease issue in The Jolly Scholar. It was determined that the issue was still a problem and new duct work would be necessary. They are looking to obtain funding in next year's budget.
- Completed Zone 2 and Zone 3 chemical inventories. Over 120 product SDS's were collected for each zone.
- Retrained 20 grounds and maintenance employees in tow motors and scissor lifts.
- Conducted noise monitoring in collaboration with the Bureau of Workers Comp on 5 custodians across campus. The goal was to have their 8Hr. TWA come back below the OSHA action level of 85dB. The study was conducted and the results came back well below the action level. The highest recording was on 70dB.

Goals for Fiscal Year 2018

- Complete Zone 1 and Zone 4 chemical inventories.
- Conduct Mock OSHA audits for all maintenance zones.
- Conduct a Fall Hazard Analysis of the roof systems of all buildings on the main quad.
- Continue to provide in-the-field consultation to all maintenance personnel regularly as well as when a safety concern arises.

Fire Safety

The Fire and Life Safety Program at CWRU is tasked with the following:

- Hot Work Inspections: brazing, cutting, grinding, soldering, torch applied roofing, welding, etc.)
- Red Tag: anytime fire protection equipment is taken out of services for any reason a red tag permit must first be issued by the Fire and Life Safety Specialist
- Fire Safety Training: All Resident Advisors go through a fire prevention safety course
- Fire Extinguisher Training: Training is available free of charge for any university employee. All maintenance workers are required to attend once per year
- Fire Drills: Four fire drills occur yearly for all resident halls and Greek Life houses. During the summer semester a variety of campus academic buildings will also have a fire drill
- Clery Act Reporting: The Fire and Life Safety Specialist is responsible for all Clery reporting on the CWRU Campus in the fields of arson and fires that occur in resident areas. The Clery Act requires all colleges and universities that participate in federal financial aid programs to keep and disclose information about crime and safety practices on and near their respective campuses
- Fire Inspections: All resident halls and Greek Life houses common areas are inspected two times per year for fire code violations by the Fire and Life Safety Specialist. All other University buildings are inspected on rotation. Any time a member from FM Global, the University insurer carrier, or a member of the Fire Department wishes to inspect a building the Fire and Life Safety Specialist will accompany them
- Special Events: Any time a special event is planned on campus that requires a building to change its everyday floor layout/occupancy, when outdoor tents are being used, or hazardous materials (propane for grilling/heat, fireworks, etc.), the Fire and Life Safety Specialist is involved in the planning process

Goals Achieved Fiscal Year 2017

- Met with FM global and the facilities manager at The Triangle Towers. FM global is now the insurer of the towers and its occupants are 100% CWRU students. The Triangle Towers are now subject to 4 fire drills throughout the year.
- Updated the university's furniture rating policy. We must follow the R-2 classification of the fire code. It is also clearly stated that all new furniture must be "Cal 133" rated furniture throughout all CWRU owned residence halls if the building does not have a sprinkler system. The Ohio Fire code does give exceptions to the rule. CAL 117 rating can be used in areas where CWRU has automatic sprinkler systems with written approval from the city of Cleveland fire division and our insurer FM Global.
- Spent the week in Boston with Fm Global, our insurer, at their training facility. Trained for 3 days on suppression systems and other fire related hazards and equipment. All training was hands-on.

Goals For Fiscal Year 2018

- Conduct the bi-yearly campus walk through with FM Global.
- Hire the new Fire and Life Safety Specialist.
- Update and publish the annual Fire report.
- Continue to meet the demand for hot work permits.

**Laboratory Safety Committee Audits
Safety Services Laboratory Programs
2017-2018**

Assignments:

CHP/ECP	Kathy Howard	Heidi Page
Fumehoods/BioHoods	Thomas Gray	Mary Ellen Scott
Incidents	Emily Pentzer	Tom Merk
Respirators	Andrea Romani	Derek Conti
Protocols	John Durfee	Heidi Page
Clearances	John Protasiewicz	Rebecca Manning
Waste Facilities/Program	Greg Tochtrop	Robert Lastch
Licenses	Clive Hamlin	Marc Rubin
Training	Kathryn Howard	Tom Merk/Heidi Page
Website	Raul Juarez	Joe Nikstenas
Inspections	John Durfee	Heidi Page
Biosafety Program	Greg Tochtrop	Heidi Page
Shipping	Andrea Romani	Mary Ellen Scott

LSC Audit Summaries and Senior Directors Response

CHP/ECP

Kathy Howard

Heidi Page

Findings: No Significant Issues.

Senior Director Response:

The ECP CHP forms are the backbone of the EHS programs for chemical and biological safety. These forms contain the requirements in each laboratory with regards to safe practices. These documents are the primary source for employees and students to learn what safety practices are required for the work to be conducted. Further, these plans are contain the laboratory specific training required by OSHA.

The ECP/CHP document template has been in use for many years and has undergone extensive revisions. EHS is moving to place these forms into an interactive online portal where Investigators, staff, and students can go to create, review, and obtain these forms.

Fumehoods/BioHoods

Thomas Gray

Mary Ellen Scott

Findings: Audit not received. EHS Person unavailable

Senior Director Response:

Fumehoods are a first line of defense engineering control for minimizing exposures to chemicals. A full audit of all chemical fumehoods on campus is completed each year culminating in a complete state of the campus report. This report details the status of the air systems in each building and tracks the condition of each fumehood as well as the HVAC systems associated with the fumehood. A copy of the report is shared with Facilities and Deans for planning purposes.

Incidents

Emily Pentzer

Tom Merk

Findings: No Significant Issues.

Senior Director Response:

Incident reports are read by the Senior Director for closure. If there are safety related item left open, the report remains open until it is resolved. Analysis of the reports does not indicate any new or significant types of incidents are occurring that need address.

Respirators

Andrea Romani

Derek Conti

Findings: No report received

Senior Director Response:

The respiratory program is well established and meets the requirements for OSHA 29CFR1910.134 as well as EPA asbestos, and CDC/NIH requirements.

Training, medical, and fit test are completed in sequence for all users of respiratory protection including facilities, lab workers, students, and medical residents.

Findings: No Significant Issues.

Senior Director Response:

68 new protocols were reviewed and 114 additional safety protocols were reviewed for IACUC.

Protocol review is an important compliance step as it assures that not only the animal but also the human aspects of the protocol are reviewed. Additionally, these reviews allow EHS the opportunity to work with investigators to solve issues before the work starts.

Clearances

John Protasiewicz

Rebecca Manning

Findings: No report Received

Senior Director Response:

The Clearance program is designed to vet all materials leaving the campus, clear a space for contractors to safely work, clear a space previously occupied for a new occupant, and to assure spaces that are vacated remain clear of unassigned personnel and equipment. A total 1574 clearances were processed in 2017-2018.

Findings:

Senior Director Response:

EHS is responsible for the handling and removal of hazardous waste, biological waste, and radiological waste on campus. Responsibility for non-hazardous construction waste and some biological waste is shared with facilities. Approximately 7000 containers of hazardous waste were removed from the laboratories through the standard hazardous waste removal process. An additional 20000 more were removed as part of a clean-up of the medical school and as a result of laboratory closures.

Biological waste is processed through several methods including landfill, autoclave, incineration, and onsite autoclaving. CWRU maintains a certified autoclave and process a significant portion of the biological waste from the medical school that otherwise may have required incineration.

Radiological waste is handled through the radiation safety portion of EHS.

Licenses

Clive Hamlin

Marc Rubin

Findings: No Significant Issues.

Senior Director Response:

A review of all EHS safety licenses shows that all licenses are current.

Findings: Continued advances in retraining compliance are needed**Senior Director Response:**

A very hard push over the last two years has dramatically helped to clean up the training database. Previous to this cleanup, it was uncertain if all the delinquent retraining was due to actually delinquency or personnel that had left but never been purged from the database. Further, volunteers, youth programs, and contractors have been separated from the main database. A large number of these types of people accounted for the persons listed as delinquent and subsequently purged. With the completion of the cleanup EHS is very confident who works for whom, if they are still here on campus, and what their training obligations are.

As part of this cleanup, notification was made to all supervisors asking for verification of the data in the EHS database. A second mailing after corrections were made was sent again to each supervisor listing the training requirements and due dates/status of each of their workers. They were then asked to follow-up with their employees to finish outstanding training obligations.

With this level of confidence and notification, a look at retraining delinquency was conducted for the Biosafety and Chemical safety courses as a benchmark. A non-delinquency rate of 5% or less was found for all employees 2 years or older falling to 1% as far back as 7 years. Delinquency rates for the previous year are around 11% and expected to drop quickly with the notification effort.

With full notification, designation of supervisors, and designation of requirements, the EHS training policy was updated and a course outline created. The policy was sent to Legal, Compliance, and HR for review. No reply was received and the policy was put into place.

Since we now can say with certainty that all employees, students, staff have been notified of their obligations, the final step will be defining the enforcement of training. Several options are being explored to bring delinquency in retraining to as close to zero as possible.

Website

Raul Juarez

Joe Nikstenas

Findings: No Report

Senior Director Response:

The EHS website was completely relaunched in 2017 and has remained relatively static. Plans to expand content exist pending resources and time.

The training section of the website redirects to CANVAS which has had extensive upgrades. EHS has spent the majority of time working on training aspects of web content.

Findings: No Significant Issues.

Senior Director Response:

The laboratory inspection program is a central piece of the EHS compliance program. Through inspections, EHS is able to see the types of issues and needs that arise in research. Further, through inspection we are able to offer feedback and first hand assistance with safety issues in the laboratory.

The inspection program database was migrated from Filemaker to HP Assist this year. This new system has vastly better tracking scheduling and report capabilities.

The inspection program was expanded to include more separation between the fields of safety being inspected. This keeps the perspective of the inspectors better in line with each separate facet of the inspection.

Findings: No Significant Issues.**Senior Director Response:**

The Biosafety program at CWRU employs a multifaceted approach to ensure safe and responsible laboratory practices while maintaining compliance with the various Regulatory agencies to whom we are responsible. The program consists of the following areas:

Maintain compliance with NIH, OSHA, CDC, USDA, DOT, FAA, DHS and DEA regulations as they pertain to training, handling, transporting, and shipping biological materials and DEA Controlled Substances.

Work with laboratories to prepare for USDA and CDC permitting inspections

Review of Exposure Control Plans, IBC protocols and IACUC protocols for the use of biohazardous materials and to ensure proper controls and procedures are in place to protect researchers as well as the greater University community.

Educate investigators on the biological hazards in their laboratories, current Best Practices, post exposure measures and changing Regulations.

Collaborate with University Health Services to provide a robust Occupation Health Monitoring program including recommended prophylaxis and post-exposure treatments based on specific biohazards.

Provide personal consultations on best work practices, engineering controls and personal protective equipment based on specific biological hazards.

Ensure proper function of and decommissioning of the High Containment (BSL-3) Laboratories on Campus.

Maintain an up-to-date inventory of the Biohazardous Materials on the CWRU campus.

Provide specific training and work practice recommendations to the Animal Resource Center staff who will come in contact with contaminated materials.

Develop written policies on the handling of specific Biohazardous materials

Specifics for 2017-2018:

- ☐ Created BSC UV-Lamp policy to be implemented in future. The usage of UV-lamps in BSC is no longer recommended by the NIH, CDC, NSF, ANSI, or ABSA. This policy will be used to protect lab workers from UV-rays and ineffective decontamination methods by eliminating the usage of UV-lights in BSCs in CWRU laboratories.

Shipping

Andrea Romani

Mary Ellen Scott

Findings: No Report. EHS personnel unavailable

Senior Director Response:

EHS assists laboratories with shipping of hazardous materials. 136 shipping packages were processed in 2017-2018. This program also produces training course to allow laboratories to self-process some types of packages such as infectious materials not requiring licensing, dry ice shipments, and repeat regular sample shipping.

EHS METRICS

2017-2018

CHP/ECP SUBMITTED	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
CHP	40	102	28	74	244	134
ECP	31	104	28	74	237	134
TOTAL	71	206	56	148	481	268

ORIENTATION	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
TOTAL	160	152	150	149	611	605

TRAINING	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
TOTAL	2907	1876	1874	1618	8275	8271

LABORATORY INSPECTIONS	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
TOTAL	125	746	122	490	1483	2672

CRANE INSPECTIONS	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
Total	0	0	18	0	18	17

RESPIRATOR USE	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
Physical	17	53	182	39	291	218
Train (In Person)	15	32	182	30	259	215
Fit Test	15	47	87	32	181	151

BIOHOOD REPORTS	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
Total	98	315	125	98	636	487

FUME VELOCITY HOOD TESTING	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
TOTAL	103	158	112	180	553	693

CLEARANCES	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
TOTAL	124	142	451	857	1574	1196

ERGONOMICS	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
Ergonomics Assessment	0	3	5	6	14	15

0

CHEMICAL PURCHASE APPROVALS	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
Purchase Approvals	79	98	145	174	496	254

HAZARDS MATERIALS SHIPPING	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
TOTAL	58	34	6	38	136	103

REPORTED FIRES	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
TOTALS	0	0	1	0	1	4

FIRE SAFETY REPORTS	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
TOTAL	204	95	149	0	448	634

ASBESTOS AND LEAD ISSUES	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
TOTAL	48	33	38	70	189	226

OTHER MONITORING	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
TOTAL	10	7	8	10	35	51

COMMITTEE AUDITS	Quarter 1	Quarter 2	Quarter 3	Quarter 4	FY18	FY17
Total	111	73	158	125	467	524