



University of Utah Lab Safety Culture Task Force

Prepared by the **University of Utah Lab Safety Culture Task Force**
June 2019



Table of Contents

Executive Summary	3
Detailed Recommendations	5
Committees	6
Training & Communication	6
Roles & Responsibilities	10
Policies & Procedures	12
Resources	13
Key Performance Indicators	14
Appendix A:	A1
Appendix B	A2



Abbreviations

APLU: Association of Public & Land-Grant Universities

AUX/CS: Auxiliary Services/Commuter Services

BSO: BioSafety Office

EHS: Environmental Health and Safety

ELT: Executive Leadership Team

EM: Emergency Management

FAR: Faculty Activity Reports

FM: Facilities Management

HR: Human Resources

IACUC: Institutional Animal Care & Use Committee

IBC: Institutional Biosafety Committee

IRB: Institutional Review Board

KPI: Key Performance Indicator

LMS: Learning Management System

OEO: Office of Equal Opportunity

OGC: Office of General Council

OS: Occupational Safety

PI: Principal Investigator

RATS: Research Administration Training Series

RED MED: www.hr.utah.edu/RedMed/

RISK: Risk Management

RPT: Retention Promotion Tenure

SA: Student Affairs

StH: Student Health

UH: University Hospital

UUPD: University of Utah Police Department

VPR: Vice President for Research

WRC: Women's Resource Center

University of Utah Lab Safety Culture Task Force

The Lab Safety Culture Task Force

On June 8th, 2018, the Office of the Vice President for Research asked President Ruth V. Watkins to commission a **University of Utah Lab Safety Task Force**, in response to a call from the Association of Public & Land-Grant Universities (APLU) to form recommendations for lab safety culture best practices at public universities. President Watkins approved the formation of the Task Force, composed of cross-campus faculty with practiced experience in strong lab safety culture, and leadership from safety administration groups such as the Office of Environmental Health and Safety (EHS), and Research Education.

The primary objective of the Task Force is to provide President Watkins and Vice President for Research Andrew Weyrich with recommendations for continuous improvements in laboratory safety operations, and on optimal methods of fostering campus-wide culture and adoption of efficient and effective laboratory safety.

The specific responsibilities assigned to the Task Force include:

1. Evaluation of current campus laboratory safety programs, education, training, and oversight.
2. Assessment of campus policies, procedures, and best practices for lab safety – including hazardous materials, biological samples, sensitive data, etc.
3. Development of recommendations on how to enhance lab safety culture across all spheres of campus including training, messaging and communication, policy and procedure integration, resource creation, governance, etc.

The Task Force has been using the APLU Guide to Implementing a Safety Culture at Our Universities as guidance for their evaluations.



The members of the **University of Utah Lab Safety Culture Task Force** are:

- ◆ Cynthia Furse – Task Force Chair / Associate Vice President for Research
- ◆ Brent Hill – Director, Research Education
- ◆ Bryan Welm – Associate Professor, Huntsman Cancer Institute
- ◆ Dan Crowl – Associate Instructor, Chemical Engineering
- ◆ Darryl Butt – Dean, Mines and Earth Sciences
- ◆ Eric Eddings – Associate Dean for Research, Engineering
- ◆ Erin Rothwell – Assistant Vice President for Research Integrity & Compliance
- ◆ Fred Monette – Executive Director, EHS
- ◆ Holly Sebahar – Professor, Chemistry
- ◆ James Stubbs – Associate Director of Operations & Logistics, EHS
- ◆ Karen Wilcox – Department Chair, Pharmacology and Toxicology
- ◆ Michael S. Kay – Professor, Biochemistry
- ◆ Martha Shaub – Director of Operations & Logistics, EHS
- ◆ Matthew Lund – Reactor Supervisor, Center for Nuclear Engineering Program
- ◆ Michael Scarpulla – Associate Professor, Electrical & Computer Engineering

Schedule

Below is the full meeting schedule of the Task Force:

- ◆ September 5, 2018
- ◆ September 21, 2018 – supplementary meeting with Canvas LMS (Instructure)
- ◆ October 3, 2018
- ◆ November 7, 2018
- ◆ December 5, 2018
- ◆ January 11, 2019
- ◆ January 15, 2019 – supplementary meeting with Canvas LMS and Bridge (Instructure)
- ◆ March 8, 2019
- ◆ April 12, 2019

The Task Force also held three additional feedback sessions* for faculty, staff, post-docs, and students working in, or in coordination with, on-campus labs to provide their concerns, comments, and suggestions on enhancing lab safety culture across campus. Each session was one hour long with a mediated discussion by a third-party facilitator from University of Utah Human Resources (Mary Anne Berzins). Participants were also encouraged to engage in one-on-one dialogue with Task Force members, post-discussion. These sessions were held:

- ◆ January 25, 2019 | Town Hall on Main Campus | Open to all faculty and staff
- ◆ February 4, 2019 | Town Hall on Health Sciences Campus | Open to all faculty and staff
- ◆ March 18, 2019 | Open House | Open to all students and post-docs

*For those who could not attend the feedback sessions, an online survey was offered.

Review Materials

The committee reviewed the APLU Guide to Implementing a Lab Safety Culture:

www.aplu.org/projects-and-initiatives/research-science-and-technology/task-force-laboratory-safety/about-lab-safety-tf.html

Executive Summary

Findings

As one might imagine, the feedback sessions and online option for communicating with the Task Force and other document review generated a great deal of data and information. The Task Force has developed many recommendations and recognizes implementation will require commitment from the University research community. A brief summary of findings follows:

- 1. There are varying degrees of safety culture across campus.** University of Utah research groups do not function within a single laboratory safety culture. Culture is local and varies group by group, laboratory by laboratory, department by department. Students and post-docs who are still developing decision-making skills appropriate for the laboratory setting are dependent upon their PI's for support; challenging a PI's behaviors can be seen as detrimental to individual advancement. There are differences of opinion and perception regarding laboratory safety, with PI's often rating safety very high and laboratory personnel rating somewhat to much lower. Laboratory safety must be a core value in the responsible conduct of research starting with new PI training and continuing through regular performance reviews for all.
- 2. There are varying degrees of understanding of roles and responsibilities.** Roles and responsibilities are not always clearly understood by those working in research laboratories. Some PI's are often not in their laboratories on a day to day basis, relying on mid-level management staff to ensure expected safety performance is defined, implemented and upheld. These managers are not always prepared for this aspect of their duties. There is need for enterprise-wide policies, procedures, training and education, and operating structures to achieve defined goals. Additionally, the current structure of the Regulations Library makes health and safety policies difficult to locate. A new section of the regulations library containing all health and safety related policies and procedures would be prudent.
- 3. There is a need for improved documentation of efforts and communications.** Poor communication about safety is an underlying component of the safety concerns received by the Task Force. Laboratories conduct self-assessments and EHS conducts audits, but there is sometimes a lack of integrated and collaborative follow-up. Effective audit programs can be a leading indicator of incidents in a robust safety culture program. Additionally, departments are often better prepared to be of day to day assistance for safety issues (relevant expertise about operations planned, proximity to laboratories for observation, etc.) but do not always organize effectively to deliver that assistance. The University needs agreed upon goals and defined performance indicators and tools to support measuring efforts towards success. Further, because the institution is so large, a more effective distribution of duties and efforts is warranted. Safety committees prepared to support laboratory safety are not present at each department or college.
- 4. Continued improvement processes forestall stagnation.** There is a need for relevant performance indicators for the Institution, for Environmental Health and Safety, Colleges, Departments, and individual supervisors and PIs. EHS and the research community will require resources (financial and personnel) to support, enhance and promote the culture of laboratory safety needed.

Recommendations

Renewed Commitment to Lab Safety:

We recommend that the University (from the President on down) renew our commitment to lab safety. This should include review of safety as part of every primary university function (Retention/Promotion/Tenure (RPT), hiring, annual performance reviews, grant proposals, department, college, university budget processes, graduate thesis reviews, etc.)

Committees:

We recommend that the University should establish a committee structure that supports communication and review of safety policies and procedures from the faculty to the President. We recommend a committee structure based on the traditional management structure at the university (department-college-university), as shown in Figure 2. We believe this structure could and should be implemented in Fall Semester 2019.

Training & Communication:

We recommend the university provide a University-wide framework for mandatory laboratory safety training. This should serve Students, Staff, Faculty, Research enterprise. We believe that this framework should be developed and implemented as a partnership between EHS, Human Resources, and Research Education during FY19-20.

Roles and Responsibilities:

We recommend that the roles and responsibilities of everyone in the lab safety continuum be reviewed and clarified. We believe that this can be accomplished by the end of CY2019.

This includes:

- Lab personnel – students, post-docs, faculty, staff -- responsible for their own safety and safety of those around them
- Faculty – responsible for the personnel in their labs
- Chairs – responsible for ensuring the safety of labs in the department
- Deans – responsible for ensuring the safety of labs in their college
- EHS – services and oversight functions campus-wide
- VP for Research and Sr. VPs – responsible for ensuring the safety of labs at the university and compliance of all personnel.
- President – Ultimately responsible for lab safety at the university.

Policies and Procedures:

We recommend that university health and safety related policies and procedures, and how they are communicated to campus, be reviewed and updated by the new safety committee structure at appropriate levels on a regular basis (to be decided by the new safety committee structure). We believe that the review process should be started during Fall Semester 2019.

Resources:

We recommend that a full review of lab safety resources be undertaken. We recommend that lab safety resources should be part of regular budgeting processes at the department, college, and university levels. The department should collect the resource needs (for example Personal Protective Equipment (PPE) and technical resources such as chemical and laser safety) from the PIs in their department, and include them in the department budget requests. We believe this could and should be accomplished prior to the start of budget season for FY20/21.

Key Performance Indicators (KPIs):

1. **We recommend that both leading and lagging indicators be developed at the university level (by safety offices and university administration).**
2. **We recommend that these metrics be utilized at all levels in the committee structure (PI, department, college, university).**
3. **We recommend that procedures (dashboards and formal reviews of these dashboards) be developed to effectively communicate and utilize these metrics for review of the safety status of university labs, and also continual improvement.**

Detailed Recommendations

This section expands upon the summary recommendations from the Executive Summary.

Renewed Commitment to Lab Safety:

We recommend that the University (from the President on down) renew our commitment to lab safety. Lab safety culture should include review of safety as part of every primary university function including:

- Retention / Promotion / Tenure (RPT) / Faculty hiring
- Include a specific safety question on the Faculty Activity Reports (FAR) template.
- Staff Hiring and Job Descriptions
- Annual performance reviews
 - *Include a specific safety question on the human resources template for performance reviews.*
- Grant proposals
 - *Grant applications (in the eProposal/DSS application) should include a question about safety considerations for the activities outlined in the grant application.*
- Department, college, university budget processes
- Graduate student proposal and thesis reviews
 - *Include a specific safety question on the graduate school form for thesis and dissertation proposals.*
- Coursework (involving labs)
- Field work

Renewed Lab Safety as a Strategic Priority should be rolled out:

- President Watkins, SrVPs, VPR, Deans, Chairs should all simultaneously message the importance of lab safety roles, and expectations should be clarified through required trainings.
- Review that all personnel are meeting their safety expectations should be part of the annual review process, so within one year, all personnel should have had a safety review with their supervisor. This should be repeated annually.

Ongoing: The university needs to engage in more active lab safety outreach activities, such as:

- The U could have an annual Lab Safety Day, lab stand down days, cleanups, speakers, programming, etc.
- Lab Safety should be added to SafeU.utah.edu website, programs, and messaging.
- Lab Safety should be added to all messaging on campus (e.g. @theU, Researcher's Corner, College and Department faculty newsletters, Student communications as appropriate, etc.)

Committees:

We recommend that the university revitalize the Campus Health and Safety Committee by establishing a committee-based organizational structure that provides a solid line of communication from students/staff/faculty/chairs/deans/upper administration. The committee structure should support communication and review of safety policies and procedures from the faculty to the President. We believe this structure could and should be implemented in Fall Semester 2019.

We recommend a committee structure based on the traditional management structure at the university (department-college-university) this includes:

- Establishing a laboratory safety subcommittee (subcommittee to Campus Health and Safety Committee). At a minimum:
- The University Lab Safety Committee should be chaired by a faculty member.
- The College Lab Safety liaisons will be members of this committee.
- Directors of university safety offices (EHS, BSO, IACUC, IRB) should be ex-officio members of this committee, or assign designees.
 - This committee is not meant to, nor should it, supersede the activities and authority of any of the existing safety offices and committees. Rather, it is meant to fill a void where such structures do not yet exist (such as for chemical and laser safety), and to provide a communication structure for all lab safety.
- Senior Leadership should review university safety committee activities and recommendations at least annually.

Please view the Lab Safety Committee and Reporting Structure; Figures 1 and 2 on pages 7 & 8, and Appendix B.

Training & Communication:

We recommend the university provide a university-wide framework for mandatory laboratory safety training. This should serve Students, Staff, Faculty, Research enterprise.

We recommend the university continue to pursue a single learning management system for training. In the meantime, we recommend Bridge as the LMS for staff and faculty training, and Canvas as the LMS for faculty and student training. The content from both LMS systems needs to be maintained the same.

We recommend an incident and near miss reporting system should be implemented. Processing of incident and near miss reports should be as shown on page 9 in Figure 3:

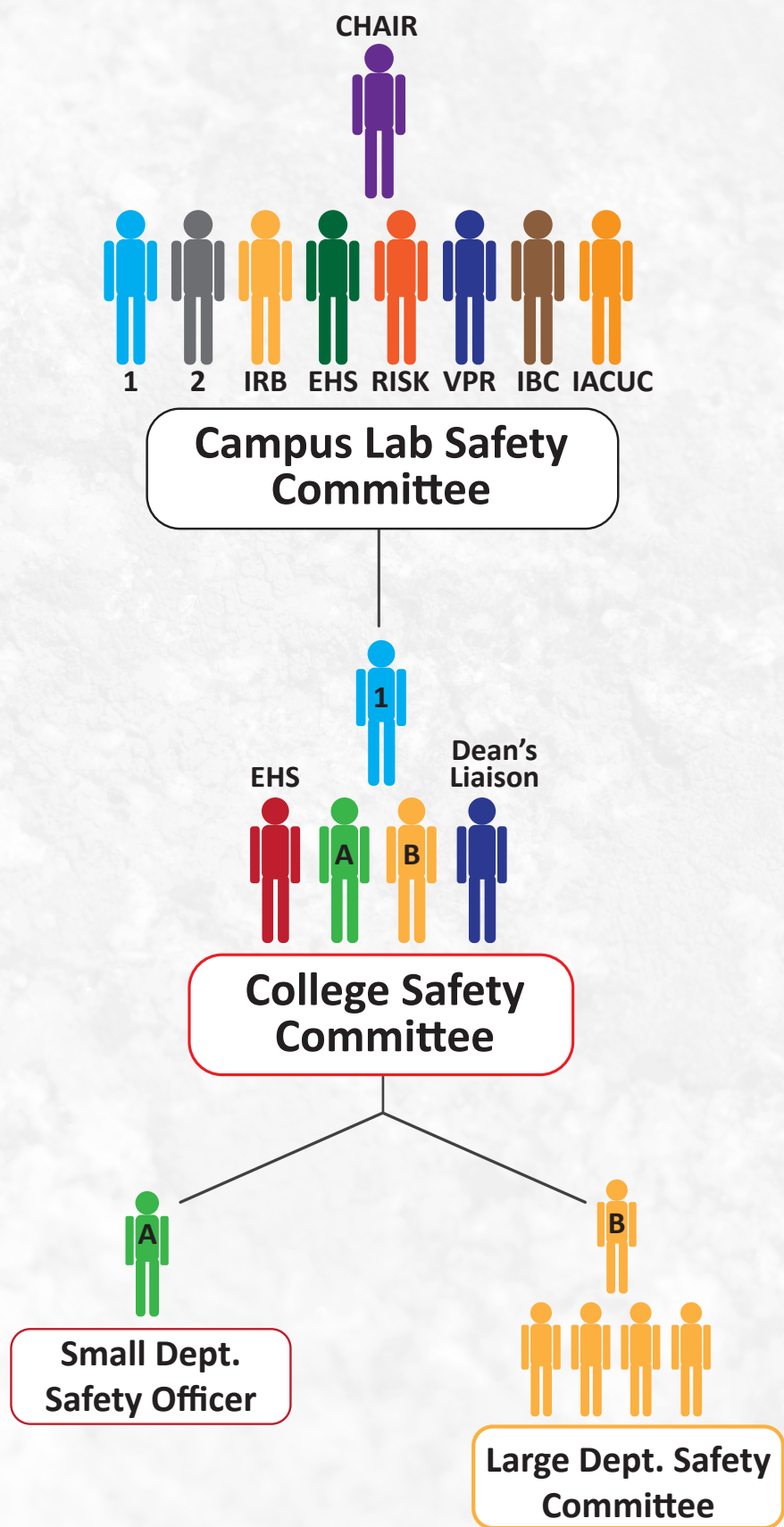


Figure 1: Structural Diagram of Recommended Lab Safety Committee

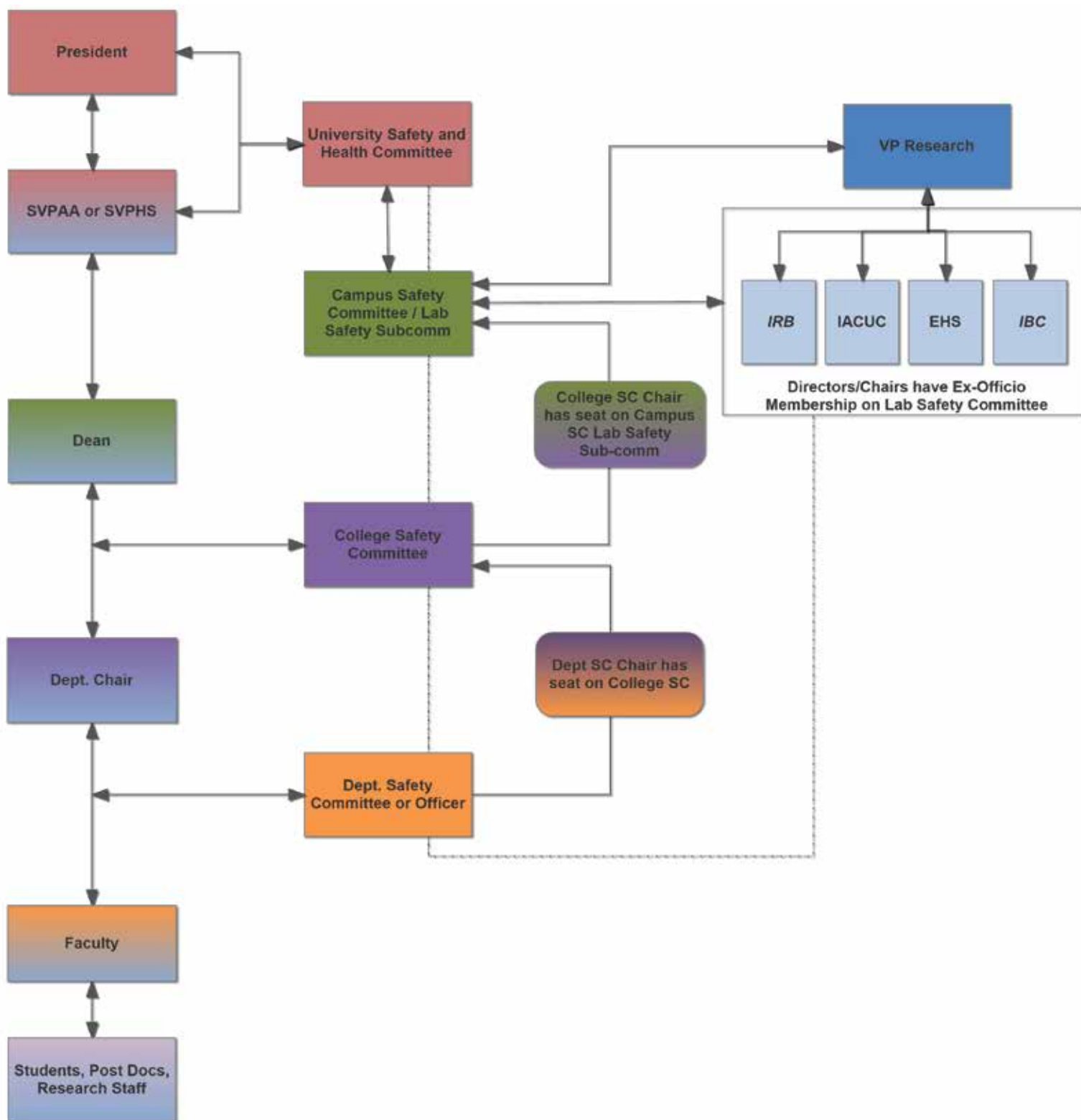


Figure 2: Functional Diagram of Recommended Committee Structure

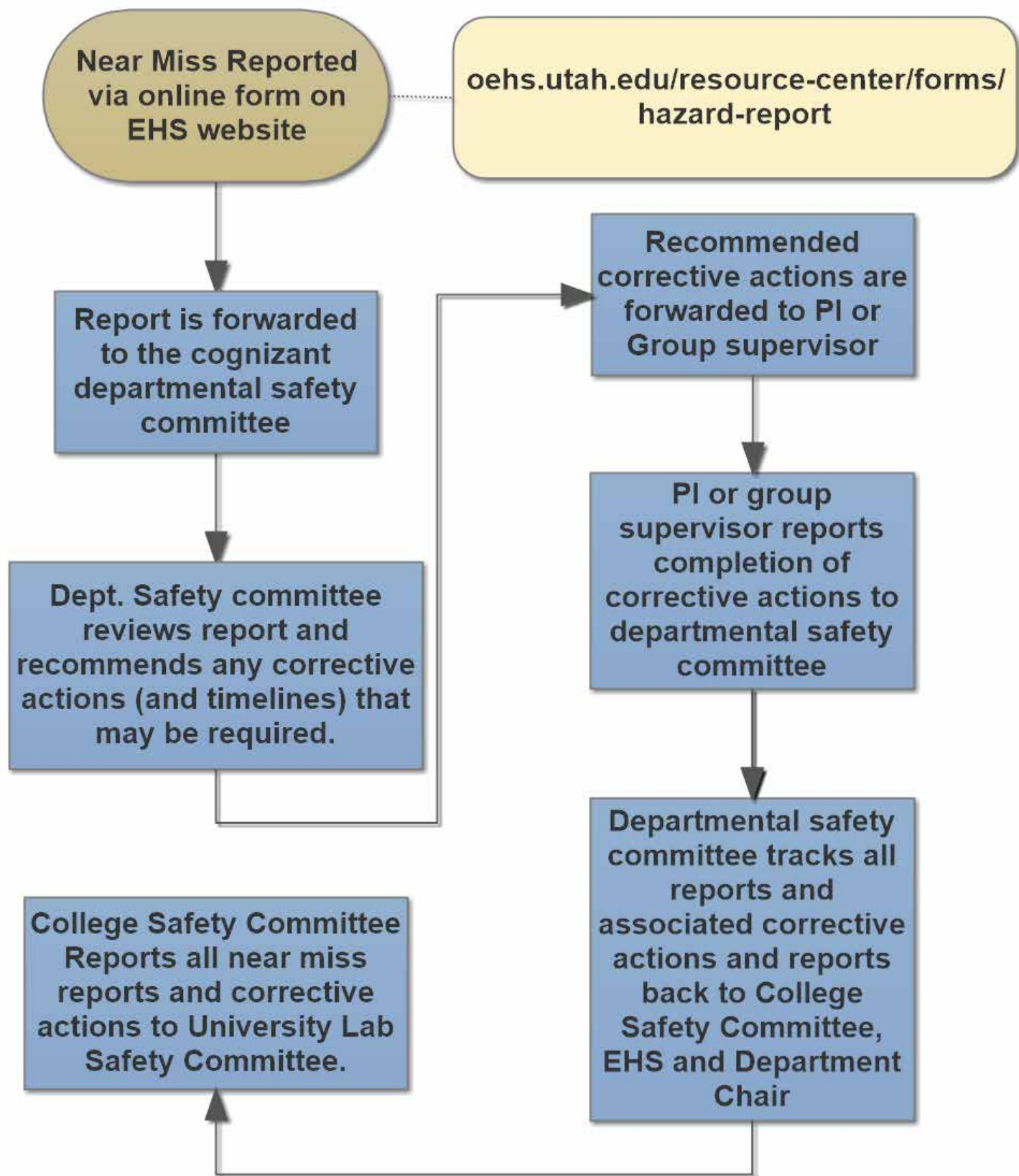


Figure 3: Near Miss Reporting System

Roles and Responsibilities:

We recommend that the roles and responsibilities of everyone in the lab safety continuum be reviewed and clarified. This includes:

- Lab personnel – students, post docs, faculty, staff – responsible for their own safety and safety of those around them
- Faculty – responsible for the personnel in their labs
- Chairs – responsible for ensuring the safety of labs in the department
- Deans – responsible for ensuring the safety of labs in their college
- EHS – services and oversight functions campus-wide
- VP for Research and Sr. VPs – responsible for ensuring the safety of labs at the university and compliance of all personnel.
- President – ultimately responsible for lab safety at the university.



According to University Regulation 3-300 Campus Health and Safety

Supervisors, Faculty, principal investigators, first line supervisors, and all other persons in authority are responsible to:

- Provide safe and healthy environments for those areas and personnel for whom they have supervisory or administrative responsibility, incorporate health and safety issues as an integral part of all activities at the University.
- Be continuously cognizant of the health and safety needs of all coworkers and employees for whom they are responsible.
- Initiate and enforce necessary preventive measures to control hazards.
- Ensure necessary support such as personal protective equipment, occupational medical examinations, local exhaust ventilation, etc. are in place.
- Ensure employees are trained prior to beginning new tasks.
- Report injuries and illnesses to Human Resources' Absence Management (Employee Health/Work Wellness Center for Hospitals & Clinics staff).
- Review accident and injury reports for their area(s).
- Serve as a focal point for health and safety concerns.
- Immediately notify Occupational and Environmental Health and Safety when they become aware of a violation of any University, local, state, or federal environmental health or occupational safety rule or regulations.
- Immediately notify Occupational and Environmental Health and Safety if contacted by local, state or federal occupational or environmental regulatory agencies.

Resources from EHS, IACUC, IBC, IRB, Risk Management, and others are available to assist with creation of a robust safety program.

The committee recommends that clarifying guidance (checklists) be established, similar to the checklists on the next 2 pages:

PI Responsibilities

Lead Researcher Roles and responsibilities of each Faculty/PI/Lead Researcher/Course Instructor:

Provide safe and healthy environments for the personnel for whom they have supervisory or administrative responsibility, by ensuring that their lab has a robust comprehensive lab safety program customized to the specific hazards of the lab (including, but not limited to chemical, biological, radiation, electrical, nuclear, physical) including written standard operating procedures for processes within the lab.

Designate a Lab Safety Advocate / Chemical Hygiene Officer (for groups working with chemicals) for their group. Ideally this would be the PI or other experienced personnel. PI to provide clear roles and expectations. Designated lab safety advocates are voting members of the departmental safety committee.

Conduct regular lab safety self-inspections at least annually.

Help evaluate and improve lab safety in peer labs.

Create a Training Program for their lab. As per Appendix.

- Instructors of laboratory courses are responsible for selecting appropriate safety training for all students and staff and documenting timely completion.
- The PI has primary responsibility for selecting, assigning, and monitoring the training of their students and lab personnel. A dashboard summarizing each personnel's current training status will be available to PIs in Canvas.
- Lab meetings should regularly include time for safety training, review of near misses or incidents.
- Contact EHS and arrange for a risk assessments consultation (this should be a train-the-trainer program).

Review PPE requirements for their lab and Ensure necessary support such as personal protective equipment, occupational medical examinations, local exhaust ventilation, etc. are in place. Such resources are infrastructure and will be provided by the university.

Department Responsibilities

Each Department is responsible for the safety of all labs under their purview.

The Chair should:

- Establish a system of peer-to-peer lab safety inspections within their department for example via regular walkthroughs (forms are available).
- Assign a Department Lab Safety liaison, officer, and/or committee.
- Incorporate discussion of lab safety into all Department meetings.
- Incorporate lab safety in formal faculty and staff review process (RPT, annual reviews, etc.) and budget process.

The Department Safety Committee or Officer or Liaison should:

- Meet regularly with PIs to ensure adequate provision of lab safety related resources for research and teaching laboratories.
- Meet regularly with PIs to ensure personnel working in research and teaching laboratories receive adequate lab safety training.
- Work with the department to develop best practices that incorporate lab safety discussions and reviews in the hiring, retention, promotion, and tenure processes.
- Ensure instructors embed lab safety considerations, requirements and/or communications into course materials and curriculum.
- Review results of formal inspections by EHS conducted within their department and ensure that corrective actions have been completed.
- Work with faculty to identify safety resource needs to include in annual departmental budget. Review completion of faculty and department lab safety committee responsibilities at least annually. Escalate any issues/non-compliance to the chair.

College Responsibilities

Each College is responsible for the safety of all labs under their purview. The Dean should:

- Create a College Lab Safety Committee, and designate a (faculty) College Lab Safety Liaison. The Department Lab Safety liaisons will be members of this committee. Additional faculty and staff may be, as well. The College Lab Safety Liaison will be a member of the University Lab Safety Committee. Participate as often as possible in College Lab Safety Committee activities and lab safety inspections.
- Include lab safety in all formal review processes and budgeting.

The College Safety Committee should:

- Review completion of chair and committee lab safety responsibilities, including lab safety training, at least annually and escalate issues to the dean.
- Incorporate discussion of lab safety into all College meetings.
- Work with department chairs to identify safety resource needs to include in annual college budget.

Campus Leadership Responsibilities

The Vice President for Research is responsible for the safety of all labs at the university. The VPR should:

- Assign a (faculty) Chair of the University Lab Safety Committee. The College Lab Safety liaisons will be members of this committee. Additional faculty and staff may be, as well. Directors of university safety offices (EHS, IACUC, IRB, etc.) should also be on this committee, or assign designees.
- Create a University Laboratory Safety Committee which should: Review completion of university lab safety committee responsibilities at least annually, and escalate issues to the VPR.
- Provide resources to support and communicate lab safety at all levels of the institution.
- Regularly report activities of the university lab safety committee to the Campus Health and Safety Committee and executive leadership team(VPR).
- Incorporate discussion of safety into all VPR group meetings

Executive Leadership Team (ELT), including, but not limited to the President and Sr. VPs are responsible to ensure completion of all faculty, chair, and dean responsibilities. The executive leadership team should:

- Review completion of VPR responsibilities at least annually.
- Incorporate discussion of safety into all ELT meetings
- Revitalize the University Safety Committee and provide necessary support. The University Safety Committee should be composed as shown in Appendix B.

Policies and Procedures:

We recommend that university policies and procedures, and how they are communicated to campus, be reviewed and updated by the new safety committee structure at all levels on a regular basis (to be decided by the university safety committee).

Safety Policies and Procedures: We recommend that the lab safety committees (department, college, university) review these within the first year, and establish additional individual lab/department/college/university-level policies and procedures as needed.

Organization of health and safety related policies: Current structure makes health and safety policies difficult to locate in the University Regulations Library. We recommend that a new section be added to the University Regulations Library and all health and safety related policies be moved into the new section.

Management Systems: Please see above for the recommended organizational structure. Methods should be developed to track inspection findings (self, peer, and formal), correction of deficiencies, exposure assessments, and other collected safety information, and share this with researchers and administration.

Metrics: Metrics for safety and compliance with policies and procedures should be reviewed by the safety committees and administration. Results of formal safety inspections should be shared with and reviewed by the committees, and metrics that focus on reducing safety deficiencies, increasing personnel awareness of safety and safe procedures, and willingness/comfort reporting safety concerns should be established and emphasized.



The University's Health & Safety Policy (3-300) is currently listed under the general heading of "General administrations and operations policies" under the subheading "facilities" and is difficult to locate.

www.regulations.utah.edu/administration

Recognition and Reward Systems: Safety reviews should be included in all normal student, faculty, staff, and administrator reviews. These include hiring, RPT, student thesis/dissertation processes, annual personnel reviews, etc. Lab Safety Resources should be discussed in annual budget meetings. A safety review should be required as part of the set-up process for all grants and contracts.

Specific policy changes:

- Modify Regulation 3-300 to include the overall safety committee structure.
- Promulgate/Revise policies as needed to implement task force recommendations at the College level.

Resources:

We recommend that a full review of lab safety resources be undertaken. We recommend that lab safety resources be part of the regular budgeting processes at the department, college, and university levels.

Departments should survey and identify resource needs from the PIs in their department, and include provision of identified resource needs in department budget requests. University administration should provide budget resources to department to fulfill identified needs. The task force does not have the formal benchmarking information, but our general sense is that there is a need for specialized expert level (PhD, MS+) technical resources for chemical safety and laser safety at either the college or university level. In the case of a chemical safety expert, it may make sense for this person to be housed in the Department of Chemistry, and provide expertise throughout campus.

Our recommendations are likely to result in the need for enhanced support for faculty and additional inspections, particularly at the start of this reinvigorated lab safety culture.

There is a need for additional knowledgeable staff resources, particularly for chemical safety and laser safety.

The University should:

- Provide resources to help support and communicate lab safety at all levels of the institution.
- Provide a comprehensive Occupational Health program for all university employees.
- Provide resources to track, document, and manage health and safety programs, performance, and compliance.
- Conduct a comprehensive evaluation of resources needed to accomplish goals.

Key Performance Indicators (KPI) (metrics):

1. We recommend that both leading and lagging metrics be developed at the university level (by safety offices and university administration).
2. We recommend that these metrics be utilized at all levels in the committee structure (PI, department, college, university).
3. We recommend that procedures (dashboards and formal reviews of these dashboards) be developed to effectively communicate and utilize these metrics for review of the safety status of university labs, and also continual improvement.

The University should:

- Require that Colleges incorporate safety review and performance in hiring, RPT, student thesis/dissertation reviews, and class/lab development.
- Evaluate methods to incorporate safety performance into the budgeting and appropriations process.

Inspections:

- Self and Peer-review inspection process should be established at all levels (group, dept., college, university).
- Inspection process and frequency should be reviewed and set by the Committee Structure, as well as administration (chairs, deans, etc.). Inspection reviews should include resource recommendations.
- PI, departmental safety committees, chairs, deans, SVP (both), VPR (entire administrative structure) should receive all lab inspection results (form of that reporting to be determined) and take on responsibility for ensuring corrective actions are completed, on time, and results are reported back to offices doing the inspections (EHS, etc.).
- EHS should establish a system to track, report, and document required exposure assessments. The process is underway to determine the costs associated with an electronic system to track exposure assessments.

The University should establish Key Performance Indicators (KPI). These should include leading and lagging metrics that assess the effectiveness of safety programs. Suggested KPI could include the following; found on page 15.



EHS is establishing an electronic system to track, report, and document identified safety deficiencies and corrective actions. The same system will be utilized to track and maintain chemical inventories, chemical hygiene plans, SOPs, and other required lab safety documentation.

Key Performance Indicators (KPI) metrics:

Institution (University Safety and Health Committee)

Leading

- Number of safety suggestions received/response time(create a mechanism to receive and review)
- Budget for safety
- Number of calls received by EHS, IACUC, etc. for preparatory help with lab safety requirements

Lagging

- Required training completed, university-wide (%)
- Committee Meetings occurring, canceled or postponed
- Number of observations in which behavior is inconsistent with policy expectations

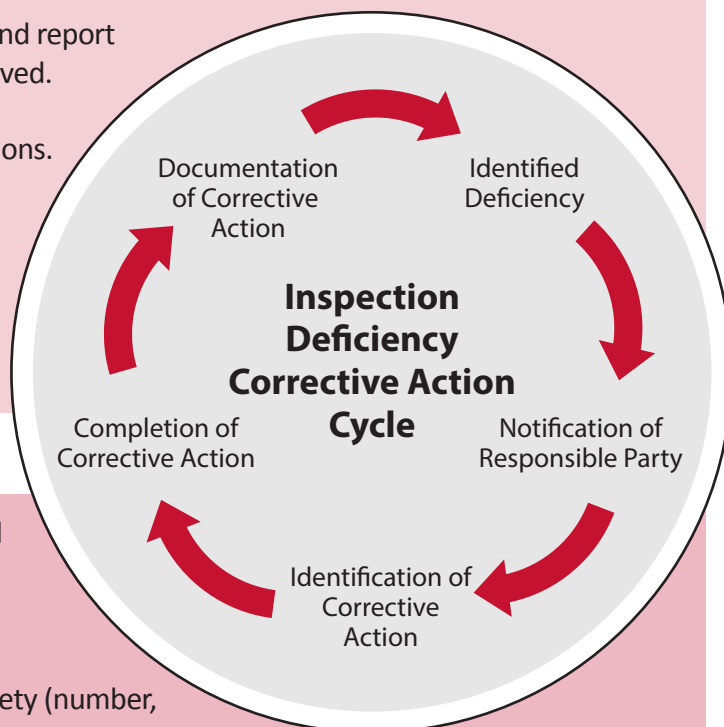
Safety Program (EHS, etc.)

Leading

- Budget for safety
- Time to complete an incident investigation and report
- Hazard/Near miss reports received and resolved.
- Number (and/or %) of observations in which behavior is inconsistent with policy expectations.
- Percentage of staff receiving professional development training.

Lagging

- Number of deficiency corrective action cycles completed
- Required training completed (%)



College, Department, Individual PI (these KPI should be assessed at each level)

Leading

- Budget for safety
- Group meetings and trainings addressing safety (number, content, participation)
- Attendance at required safety meetings
- Corrective actions for near miss incidents reported – supporting discovery of what could go wrong vs. what's going right
- Peer Inspection frequency and participation for Department labs
- Number of risk assessments conducted while organizing work/projects

Lagging

- Required training completed (%)
- Number of deficiency corrective action cycles completed for peer to peer inspections

Appendix A: Lab Safety Training

The Research Education Department proposes the following structure of Canvas/Catalog for lab safety education and training:

Resources and Training: A Lab Safety Canvas course template, created by Research Education, will be provided to each Dept. Admin. who can duplicate the class for PI's in their department. Resources will be populated in the Research Education Template that will include:

- Instructions for setting up the lab course
- A resource document with links to campus and public trainings such as EHS, RATS, Driver Training, and other existing safety training content.
 - Much of this content will be available in Bridge (which is easily accessed by faculty and staff). For students, we will need to work out either a way that they can easily access Bridge or replicate Bridge content on Canvas.
- A tips and best practices document/library of short videos.

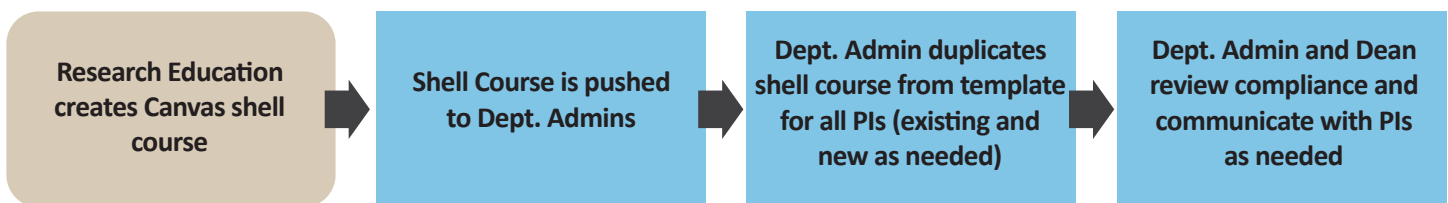


Figure A1: Lab Safety Setup Process

Dashboards: Research Education to create dashboards for faculty, chairs, deans, and senior administration in Tableau for data visualization and reporting. Data in the dashboards will include key performance indicators related to training.

PIs Create Assignments to populate their Canvas lab course instances.

University safety offices and lab safety committee should create recommended / required lists of training, and frequency of repeat training. College and department lab safety committees may also create recommended / required lists of training.

Content will be mainly provided by university offices, colleges and departments. Remaining site-specific

- or highly specialized content should be created by the PI.

This content will be linked to Canvas Catalog to allow easy selection by PI.

- PI's select appropriate training/courses for their lab personnel (staff and students, and possibly visiting researchers, etc.) and create assignments.

Onboarding of new lab personnel (including the PI) should include training. Repeat training should also

- be planned and included.

Lab personnel complete the assignment, and a record is maintained in Bridge and/or Canvas.

- Department lab safety committee should review choice of content with each PI, and should regularly re-review this (probably annually).

Roll Out Plan

- July 2019 - Develop Canvas Lab Safety course template and training materials with select staff and faculty in the Electrical Engineering Dept.
- August 2019 - Pilot with the College of Mines & Earth Sciences.
- September 2019 - Kick-off announcement at Research Leadership Luncheon.
- September 2019 - Implementation in Colleges/Departments prioritized by the Lab Safety Committee.

Appendix B: Relationship of Lab Safety Committee Structure to University Safety Committee

The University Safety Committee should be part of the University Safety Committee as shown in the graph on the next page.

University of Utah Administration

President, Senior VPs



VP for Research

Campus Health & Safety Committee

Students, Staff, Faculty, Sub Committee Chairs, EHS, RISK, HR,OEO, UUPD, OS, FM, OGC

Campus Lab Safety Committee

College SC Chairs, IRB, EHS, VPR, IBC, IACUC

Safety Committee (each College)

College SC Chair, EHS,
Dean's Liaison, Dept. SC Chairs

Injury/Illness Prevention Committee

Sub Comm Chair
UUPD
RISK
EHS

Safety & Security Committee

Sub Comm Chair
UUPD
RISK
EHS
HR
OGC
OEO
WRC

Environmental Safety Committee

Sub Comm Chair
UUPD
RISK
EHS
HR
FM
OS
EM

Occ Health & Clinical Safety Committee

Sub Comm Chair
StH
UH
EHS
HR
RED MED

Transportation Safety Committee

Sub Comm Chair
UUPD
RISK
EHS
HR
AUX/CS
SA

Small Dept.
Safety Officer

Large Dept.
Safety Committee

Facility Ops
Safety Committee
Chair
EHS
Mgmt. Liaison

HS Student
Safety Committee
Chair
EHS
Mgmt. Liaison

Relevant UHealth Committees

Chair, EHS, Mgmt. Liaison

*SC = Safety Committee




THE
UNIVERSITY
OF UTAH