

## Enterprise Risk Management Report – Lab Safety

### BACKGROUND

In March 2016, the Executive & Audit Committee approved a model for developing action plans to mitigate the top risks that may hinder OSU's ability to achieve the objectives outlined in its strategic plan. Each of the identified top risks was assigned to a Board committee based on alignment with the committee charter and workload. Through this process, the university identified lab safety as a top risk for the university. The Academic Strategies Committee provides oversight of the university's action plan for mitigating this risk.

### STATUS UPDATE

The safety of employees and students within Oregon State University's lab spaces is of paramount importance to the university. Environmental Health & Safety continues to improve the laboratory safety program, with the goals of increasing safety within laboratories, improving compliance with state and federal regulations, and strengthening collaboration among key university partners. The improved risk controls are designed to ensure student and employee safety, research continuity, and protection of research property and buildings.

Between 2013 and 2018, lab safety trainings increased by over 700 percent. Major accomplishments of 2019 include a successful unannounced hazardous waste inspection by the Oregon Department of Environmental Quality, with substantial progress made since an inspection in 2013, when OSU received significant findings and fines from the federal Environmental Protection Agency. Environmental Health & Safety staff report significant increases in lab safety, strengthened hazard assessments and research safety procedures, faster and more efficient removal of hazardous waste from labs, and better collaboration with laboratory staff.

### PROGRESS REPORT AND NEXT STEPS

Although significant laboratory safety progress has been made at OSU, more can and will be done. Universities across the country are working to change the culture of lab safety in higher education, which has generally trailed corporations in terms of professional and coordinated lab safety programs. This includes addressing the most common threats to laboratory safety: improper/lack of use of personal protective equipment (PPE), failure to follow appropriate safety protocols, and inappropriate/lack of use of engineering controls such as chemical fume hoods or biological safety cabinets. Complacency can lead to accidents and injuries. The vision for the future is to implement at OSU the applicable recommendations in "A Guide to Implementing a Safety Culture in Our Universities" developed by the Association of Public and Land-grant Universities (APLU) Council on Research Task Force on Laboratory Safety (<https://www.aplu.org/projects-and-initiatives/research-science-and-technology/task-force-laboratory-safety/>). This guide provides a roadmap for a university-wide effort to strengthen a culture of lab safety.

At the October 2019 meeting, staff will provide a progress report on efforts to mitigate lab safety risks (Attachment 1) and discuss focus areas for the coming year.

Attachment 1

Oregon State University  
Enterprise Risk Management  
2018-19 Priorities  
Lab Safety

Board Oversight Committee	Risk Topic	University Goal	Type(s) of Risks to be Prevented	Risk Owner(s)	Primary Risk Mitigation Strategy(ies) <sup>1</sup>	Risk Mitigation Team
Academic Strategies Committee	Lab Safety	A safe learning and research environment	Operational (safety), Compliance, Financial, Reputational	Provost, VP for Finance and Administration, VP for Research	Reduce, Avoid, Share/Insure	Director of Environmental Health & Safety (EH&S)
<b>Mitigation Plan</b>						
Objectives to Achieve		Actions to Satisfy Objectives		Status Report		
1. Deliver effective training programs regarding lab safety and protocols		a. Evaluate the completeness and systems used for providing safety training to deploy more efficient and effective programs		<b>Completed:</b> <ul style="list-style-type: none"> <li>EH&amp;S Director and Hazardous Waste Officer were hired.</li> <li>Purchased new Online Safety Association Training Program, which is administered via learning management system. This system replaced the need to hire a Lab Training Manager.</li> <li>Developed a streamlined Lab Safety training module, which combines three separate trainings into one. The training is required at time of initial assignment to the laboratory, whenever new hazards are introduced, and as a refresher every three years.</li> <li>Regular Department Unit Safety Coordinator (DUSC) seminars were revived to provide training and peer networking. DUSC representatives assist deans, directors, unit heads, and principal investigators (PIs) to meet their</li> </ul>		

<sup>1</sup> Definitions of mitigation strategies:

Avoid: Discontinue the activities that present unacceptable risk  
Share/Insure: Transfer the risk through insurance programs or 3<sup>rd</sup> party

Reduce: Implement controls, practices, programs to lessen the risk  
Accept: Proceed with the activity because the benefit outweighs the risk

		<p>responsibilities for safety and compliance in areas such as laboratory safety and fire inspections, obtaining special use authorizations, hazardous waste pickups and scheduling ergonomic evaluations.</p> <ul style="list-style-type: none"> <li>Developed a matrix to improve tracking of lab safety training completions by OSU lab employees.</li> </ul> <p><b>In-Progress:</b></p> <ul style="list-style-type: none"> <li>In order to have accurate information about lab employees needing required training, working on improving a university-wide system to identify employees who are new or have transferred into new positions, to whom they report, and what types of hazards they are handling (e.g., chemical, biological or radiation).</li> </ul>
<p>2. Perform safety inspection validations</p>	<p>a. Improve and update short- and long-term lab safety requirements, procedures, and policies governing labs</p>	<p><b>Completed:</b></p> <ul style="list-style-type: none"> <li>Hazardous waste assessments were combined with lab safety assessments for increased efficiencies.</li> <li>Increased frequency of lab safety assessments and routine visits to laboratories to at least once every 18 months.</li> <li>The laboratory safety coat program is free to the laboratory/research community. It has been enthusiastically received, with approximately 4,500 lab safety coats now in circulation, provided free of charge by EH&amp;S.</li> <li>In January 2019, a new fume hood testing procedure was developed and an enhanced testing schedule implemented. All fume hoods are now tested on an annual basis.</li> </ul> <p><b>In-Progress:</b></p> <ul style="list-style-type: none"> <li>Renew commitment to improve the culture of safety by implementing regular communications to deans, directors, and PIs emphasizing that safety is a critical component of scholarly excellence and responsible conduct of research.</li> </ul>
<p>3. Improve and update inventory of hazardous materials and lab supplies</p>	<p>a. Evaluate current inventory procedures  b. Develop more efficient and effective inventory process  c. Update inventory using new processes</p>	<p><b>Completed:</b></p> <ul style="list-style-type: none"> <li>Labs with biohazards were assessed according to risk-based criteria to inform inspection frequency by the Biological Safety Officer.</li> <li>Completed initial review and identification of suitable vendors for chemical inventory and reporting system.</li> </ul> <p><b>In-Progress:</b></p> <ul style="list-style-type: none"> <li>Conduct feasibility and OSU technology integration study for suitable vendors for chemical inventory and reporting systems.</li> </ul>

<p>4. Ensure compliant storage and disposal procedures for chemical inventories and waste</p>	<p>a. Conduct routine EH&amp;S in-person lab assessments, with reporting of discovered non-compliant situations to senior administration to ensure facilities and standards are in compliance</p>	<p><b>Ongoing:</b></p> <ul style="list-style-type: none"> <li>In-person lab assessments prioritized by risk categories per lab, are scheduled and performed across all OSU lab spectrums (chemical, biological, radiation, shops, and animal use) and property holdings (Main Campus, Bend, Hatfield and all Experiments Stations). An annual calendar ensures the prioritization and completion of lab assessments.</li> <li>Hazardous waste assessments have been combined with lab safety assessments to achieve efficiencies.</li> <li>Communicated non-compliant findings and escalation process to all laboratory employees.</li> </ul> <p><b>In-Progress:</b></p> <ul style="list-style-type: none"> <li>Develop streamlined refresher training that emphasizes the requirement for proper labeling and closure of hazardous waste containers.</li> </ul>
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**Performance Metrics**

Metric	Current Measure	Goal	Comments
<p>1. Percentage of labs inspected according to inspection schedule</p>	<p>FY 2017: 99% FY 2018: 88% FY 2019: 99.6%</p>	<p>100% completion of scheduled inspections</p>	
<p>2. Number of inspections escalated to Office of Audit, Risk and Compliance</p>	<p>FY 2017: 1 FY 2018: 1 FY 2019: 0</p>	<p>Zero</p>	<p>There were zero lab issues that required escalation in FY2019. Escalation procedure is scheduled for review and update in FY 2020.</p>

**Plan Review and Report Schedule**

Action	Oversight Group	Completion Date or Frequency of Action	Comments
<p>Provide status report</p>	<p>Compliance Executive Committee</p>	<p>Annually</p>	
<p>Discuss annual progress report</p>	<p>Cabinet and Council</p>	<p>Annually</p>	
<p>Review annual progress report</p>	<p>Academic Strategies Committee</p>	<p>Annually</p>	