

**ADVISORY NO. 8.2: LABORATORY AUDITS**

**PURPOSE AND PROCEDURE**

The laboratory, with all of the hazardous substances and electrical equipment contained in it, can pose a potential safety hazard if not properly maintained and if safe laboratory procedures are not followed. The potential for injury not only exists for those working in the lab, but also to people working nearby as in the case of a release of a hazardous substance or a fire.

To minimize the University's efforts to minimize the potential hazards in laboratories, the Office of Environmental Health and Safety is required to audit all laboratories and provide feedback to stakeholders (e.g. principal investigator, lab manager, etc.) on potential hazards and to provide technical assistance in eliminating/minimizing risks. To get the most out of the audit program and reduce interruptions of research programs, EH&S developed three types of audits, i.e., Project Specific Audits, common or emerging laboratory issues and develop target priorities. Referral Audits are used to follow-up on regulatory compliance issues or unsafe or unhealthy conditions. Announced Audits focus on a particular issue such as use and functioning of laboratory fume hoods.

The audit results are sent via email to the Principal Investigator responsible for the laboratory, usually within a week of the laboratory audit. It is the responsibility of the Principal Investigator to correct the issues identified. Resolution of the audit issues is tracked and the Principal Investigator is contacted regarding resolution of outstanding issues and to provide technical assistance, if necessary. The department Business Administrator or other senior managers in the responsible department may be alerted, where appropriate, if audit issues require further resolution.

**SCOPE**

A standard form will be used for all laboratory audits. The items, which will be checked, will include the following:

**Electrical**

If there is a fume hood alarm or another type of environmental alarm, is it working properly and has it been tested? Is there clear access to the electrical panel in case of fire or other emergency? Is all electrical equipment properly grounded? Do any electric cords have frayed or damaged insulation? Are there an excessive number of extension cords in use?

**Fire**

Is a fire extinguisher present in the lab or is there one nearby? Is the extinguisher being inspected on a monthly basis? Are all aisles clear?

**Housekeeping**

Are the bench top work areas, and the lab as a whole, kept clean? Is there evidence of eating or drinking in the lab?

**Chemical Storage**

Are all chemicals segregated and stored according to chemical class (e.g. acids and bases segregated, flammables separated from oxidizers, reactivities isolated, etc.)? Are flammables stored in flammable storage cabinets? Are there more than 10 gallons of flammables stored in the room outside of flammable storage cabinets? If there are ethers or other peroxide-formers stored in the lab for more than 3 months, have they been tested for the formation of peroxides? Are all bottles clearly labeled with their contents? Are all gas cylinders secured?

**Waste**

Is there a glass disposal receptacle present and labeled as such? If needles, razor blades or other sharp objects are used, is there a sharps container present for their disposal? Is all chemical waste properly collected and labeled? Is all infectious waste autoclaved before disposal or otherwise treated appropriately?

**Ventilation**

Are there any room vents which are blocked or obstructed in any way? Are there excessive amounts of bottles or equipment stored in the fume hoods? Are fume hoods properly installed and ducted to prevent cross contamination and exposure? Are the fume hoods working properly? During lab audits, all fume hoods in the room will be checked to see if they have an adequate face velocity.

**Emergency**

Is there an eyewash and shower in the lab or nearby? Does the lab have a spill kit adequate for a spill of any of the chemicals used there? Are emergency procedures for fire, chemical spills and other types of emergencies clearly posted in the lab near the door?

**Miscellaneous**

Is there any exposed friable asbestos in the room? Is the entrance to the room clearly labeled with applicable hazard warning signs such as the radiation hazard sign or the biohazard sign? Is there a laboratory file (or a central department file) containing Material Safety Data Sheets (MSDS) for all chemicals used?