

Standard of Care #2: Unsafe Engineering Control Equipment

Guideline

Revision Date: 10/04/18

Applies To: University of Michigan researchers using engineering control equipment.

Scope

EHS Biosafety Technicians occasionally identify unsafe conditions related to the engineering control equipment they certify. In these circumstances, the technician has the authority to remove the equipment from service. This document describes the procedure.

Definitions

Engineering control equipment	Refers to devices certified by EHS Technicians: laboratory fume hoods, biological safety cabinets (BSC), laminar flow hoods, and other local exhaust ventilation equipment (LEV).
Unsafe conditions	Indicate there is a reasonable probability that use of the equipment will result in serious physical harm, fire, or significant environmental impact if the equipment continues to be used.

Procedure

The technician responsible for the certification of the equipment will determine if an unsafe condition exists. The technician will confer with their supervisor, the responsible EHS Representative, or Program Manager if unsure whether a condition is classifiable as unsafe.

After it has been determined there is an unsafe condition, the technician must take the following actions.

1. Do not certify the equipment and remove or deface old certification stickers.
2. Post the equipment out of service using the Appendix A form "Out of Service".
3. Notify the on-site owner/operator of the equipment that this equipment cannot be used. Notification would typically be made to the lab manager, supervisor, or Principal Investigator (PI). If no one is present to notify, go to the next step of this procedure.
4. Upon returning to the office the technician will send an email notification to the PI, the EHS Representative for that area, and the appropriate contact responsible for maintenance of the equipment (if applicable). Typically fume hoods and LEV equipment notification is made to Facilities & Operations. For BSCs, laminar flow hoods, and other equipment owned by the laboratory, the lab is responsible for repair either through coordination with EHS or an outside vendor.

The responsible EHS Representative will work with lab managers or PIs to find solutions to their engineering control needs and ensure safe practices are followed until the situation is resolved.

The Biosafety Manager and EHS Director understand that these types of shut downs of fume hoods, LEV, and BSCs occur frequently and supports these procedures. They do not require notification for typical cases with some caveats below.

- If there is a question about the validity of taking a piece of equipment out of service the Technicians will notify their direct supervisor as well as the Biosafety Manager.
- Contacts with upper level management must be referred to the Biosafety Manager.
- Issues that may involve Deans, Directors, or Department Heads must immediately be brought to the attention of the EHS Director.

If possible, actions will be taken to remediate potentially unsafe conditions on site to avoid shutting down operations or removing equipment from service.

Commissioning Equipment

Upon receiving notification that the equipment has been repaired, the Technician will attempt to certify the unit. If certification is achieved, the equipment will be put back in service and the posting will be removed.

DO NOT USE – OUT OF SERVICE

This equipment has been placed out of service by EHS due to unsafe conditions.

Unsafe conditions indicate there is a reasonable probability that use of this equipment may result in physical harm, fire, or the significant environmental impact.

EHS found this equipment to have:

- Unacceptable Air Flow _____ Mechanical Hazard _____
 Electrical Hazard Flow _____ Other _____

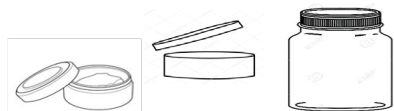
Facilities Service Center (647-2059) has been contacted about this repair. Please reference the following W.O.# _____ for any questions.

EHS Representative _____ Date posted _____
Contact EHS Office at 647-1143

FOR FUME HOODS ONLY

The laboratory staff must complete the following tasks before fume hood is repaired

CAP CONTAINERS



STOP REACTIONS



SHUT THE SASH



Information for Maintenance Technician

Certain conditions should be met before maintenance is performed on a laboratory fume hood depending on the scope of work. Maintenance that requires entering an exhaust system or contacting the interior surfaces of the hood or exhaust system must follow the “Servicing Potentially Hazardous Exhaust Systems” guideline. Work on a roof must follow the “Roof Access for buildings with Potentially Hazardous Exhaust” guideline.

The laboratory staff must perform the tasks listed above for any exhaust shutdown, roof access, or contact with the interior of the hood or exhaust system. If the issue with the fume hood does not involve inadequate air flow, and the repair would not disrupt the operations in the hood, then tasks 1 and 2 above can be waived by the maintenance personnel. If there are concerns regarding what you are observing in the laboratory or fume hood, discontinue work and ask laboratory personnel or building manager to address the situation. Contact your EHS Representative and notify the Asset Supervisor if there is no resolution.

Serviced by _____

Date Completed _____