

Table of Contents

1.	SCOPE	2
2.	PURPOSE	2
3.	RESPONSIBILITIES	2
3.1.	Principle Investigators (PI's)	2
3.2.	Laboratory Personnel	2
3.3.	Facilities Management Department	3
3.4.	Environment, Health & Safety Office	3
3.5.	KUMC Design and Construction.....	3
4.	CHEMICAL FUME HOOD SURVEYS	4
5.	USE OF HOODS	4
6.	REMOVING HOODS FROM SERVICE	5
7.	ROOF WORK WHERE CHEMICAL FUME HOODS ARE LOCATED	5
8.	CHEMICAL FUME HOOD SYSTEM MALFUNCTION	5
9.	HOOD SYSTEM DESIGN, SELECTION, AND INSTALLATION	6
10.	AIR FLOW INDICATOR DEVICE CALIBRATION.....	6
11.	Appendix A Fume Hood Warning Sign.....	7
12.	Appendix B Danger Sign for Fume Hoods.....	8

1. SCOPE

- 1.1. The Chemical Fume Hood Plan applies to all chemical fume hoods located on University of Kansas Medical Center (KUMC) property. It does not apply to biological safety cabinets.

2. PURPOSE

- 2.1. Chemical fume hoods are critical pieces of safety equipment used to protect laboratory personnel and research projects throughout KUMC. When properly installed, maintained and used, fume hoods can provide protection from many hazards. When not properly installed, maintained and/or used, the health and safety of laboratory personnel, maintenance personnel, and university personnel in general can be severely compromised and research efforts can be hindered.

3. RESPONSIBILITIES

3.1. Principle Investigators (PI's)

- 3.1.1. Ensure that lab personnel have been trained on how to use fume hoods safely and effectively.
- 3.1.2. Ensure that lab personnel know how to respond in the event that fume hood air flow has been compromised.
- 3.1.3. Ensure that hoods have been cleaned out and/or decontaminated prior to removing a hood from service.
- 3.1.4. Contact the Environment, Health & Safety Office to initiate a hazard survey of hoods that are going to be taken out of service.
- 3.1.5. Ensure that hoods are not being used when not functioning.
- 3.1.6. Ensure that hoods are not being used for storage of Hazardous Chemicals or Hazardous Waste.
- 3.1.7. Ensure that any airflow indicating devices on the fume hoods are working properly.
- 3.1.8. Ensure that Facilities is contacted if a fume hood is not working.

3.2. Laboratory Personnel

- 3.2.1. Report all fume hood deficiencies to their supervisors and to Facilities Management, immediately upon their identification.
- 3.2.2. Utilize proper and safe work practices as related to fume hoods.
- 3.2.3. Do not use hoods when posted with a danger label.
- 3.2.4. Do not use hoods for storage of Hazardous Chemicals or Hazardous Waste.

3.3. Facilities Management Department

- 3.3.1. Communicate pertinent information to all affected lab personnel and Facilities Management Employees related to compromised airflow or work on fume hoods.
- 3.3.2. Provide advanced notice to the residents of buildings which house fume hoods of regularly scheduled roof work being conducted by Facilities Management personnel.
- 3.3.3. Ensure that work required to correct fume hood deficiencies is completed in a timely manner.
- 3.3.4. Schedule routine work in a manner which is least disruptive to building occupants.
- 3.3.5. Notify the Environment, Health & Safety Office of any changes in hood risers that will affect air flow, or accuracy of riser database.
- 3.3.6. Ensure that all hoods are properly posted prior to working on fume hood exhausts systems or performing work that requires that one passes through fume hood exhaust streams.
- 3.3.7. Notify Environment, Health & Safety when a fume hood has been repaired so that the hood can be recertified for operation.
- 3.3.8. Coordinate with Environment, Health & Safety so that a Facilities representative goes with personnel when fume hoods are checked so that any deficiencies can be immediately rectified.

3.4. Environment, Health & Safety Office

- 3.4.1. Ensure that hoods are checked for adequate airflow on an annual basis and that each hood is marked appropriately with sash height requirements.
- 3.4.2. Post sign found in Appendix A for all hoods that do not have adequate airflow.
- 3.4.3. Report all fume hood deficiencies to Facilities Management in a timely manner.
- 3.4.4. Monitor the fume hood program to ensure compliance with policy and that the appropriate procedures are being performed.
- 3.4.5. Review and revise this policy when necessary.
- 3.4.6. Perform a radiation survey on hoods, where appropriate, prior to their removal when they are being decommissioned.
- 3.4.7. Maintain a database of fume hoods, lab contacts, and Principal Investigators and provide this information to Facilities Management when requested.
- 3.4.8. Coordinate with Facilities so that a Facilities representative goes with personnel when fume hoods are checked so that any deficiencies can be immediately rectified.

3.5. KUMC Design and Construction

- 3.5.1. Review all hazard control ventilation system plans/blueprints/change orders with the Environment, Health & Safety Office to ensure the safety of these systems.

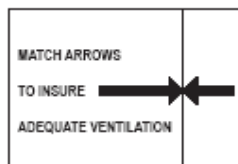
4. CHEMICAL FUME HOOD SURVEYS

- 4.1. All chemical fume hoods will be surveyed by the Environment, Health & Safety Office on an annual basis to ensure that adequate airflow is being provided and to ensure that the fume hoods are being properly used.
 - 4.1.1. This survey may be conducted by Environment, Health & Safety staff or may be contracted out by the Environment, Health & Safety Office.
- 4.2. Optimally, fume hoods have a face velocity of 100 linear feet per minute (lfm) with an acceptable range of 80 – 120 lfm.
- 4.3. Where it is recognized that hoods are deficient in a manner which could compromise the safety of the occupants of the lab, the Environment, Health & Safety Office shall notify Facilities Management immediately to initiate a work request.
- 4.4. Where deficiencies are recognized, but do not compromise the safety of the lab occupants, the Environment, Health & Safety Office will send notification to Facilities Management upon entry of this data into the Environment, Health & Safety Office fume hood database.
- 4.5. Below is an example of the EHS Lab Hood Survey sticker that should be replaced annually.

EHS Lab Hood Survey	
Identification	_____
Date	_____
Avg Airflow	_____
Sash Height	_____

5. USE OF HOODS

- 5.1. Fume hoods shall be used in a safe manner, in accordance with standard safe work practices and manufacturers recommendations. Safe work practices include, but are not limited to, the following:
 - 5.1.1. Always make sure that hood is functioning prior to using it.
 - 5.1.2. Keep sash height at or below the level at which air flow was determined to be adequate, as indicated by the sticker below.



- 5.1.3. Do not use hoods for storage of Hazardous Chemicals or Hazardous Waste.
- 5.1.4. Keep items in hood at least four inches from the front of hood.
- 5.1.5. Do not place large pieces of equipment in hood.
- 5.1.6. If equipment is to be placed in hood, place it on a stand which allows air to flow under the equipment.

6. REMOVING HOODS FROM SERVICE

- 6.1. When a chemical fume hood is going to be taken out of service, the Principle Investigator must first ensure that all hazardous agents have been removed and that it has been properly cleaned and disinfected.
- 6.2. If radioactive materials have been utilized in the hood, the fume hood must be surveyed for radioactive material by the Principle Investigator and by the Environment, Health & Safety Office to ensure that the fume hood has not been contaminated by radioactive material. Once the Environment, Health & Safety Office releases the fume hood, the fume hood can be removed.

7. ROOF WORK WHERE CHEMICAL FUME HOODS ARE LOCATED

- 7.1. In the event that Facilities Management employees need to conduct work activities on the roof of any building containing fume hood exhaust(s), these employees must notify all contacts for affected areas to inform them of the time frame of the work to be conducted.
- 7.2. The individuals completing the work will then post all fume hoods that lead to all risers producing airstreams through which they may pass while completing the work. The sign to be utilized can be found in Appendix B.
- 7.3. Once roof work has been completed, the Facilities Management employee who posted this information will remove these signs and notify all contacts for the affected areas that the work has been completed.

8. CHEMICAL FUME HOOD SYSTEM MALFUNCTION

- 8.1. In the event that a fume hood malfunctions, the person first recognizing this problem must contact Facilities Management immediately.
- 8.2. Facilities Management must treat these as high priority.
- 8.3. When Facilities Management is notified of a deficient fume hood, they must:
 - 8.3.1. Initiate a work request.
 - 8.3.2. Determine which riser the hood is on (based on the database) and contact the lab(s) that will be affected by the repairs. It is imperative that the necessary information be communicated in the event that the airflow of any hood be disrupted or compromised.
 - 8.3.3. Prior to any repairs being conducted, the Facilities Management employee performing the work will visit each lab to notify lab personnel of work and to post the hoods with the signage as seen below. Where no lab personnel are available, these signs will be posted on the door of each affected lab. The sign to be utilized can be found in Appendix B.
 - 8.3.4. Once repairs or maintenance has been completed, the Facilities Management employee who posted this information will remove these signs.
 - 8.3.5. Facilities Management will then notify Environment, Health & Safety so that the hood can be recertified for operation.

9. HOOD SYSTEM DESIGN, SELECTION, AND INSTALLATION

- 9.1. Design and Construction must notify the Environment, Health & Safety Office of any changes to be made in hazard control ventilation systems including fume hoods.
- 9.2. The proper type of hood must be selected to protect laboratory occupants from the hazards that they are working with.
- 9.3. Hoods must always be installed in a location away from doorways and ventilation registers to prevent disturbance from air currents.

10. AIR FLOW INDICATOR DEVICE CALIBRATION

- 10.1. Many fume hoods are equipped with air flow indicator devices.
- 10.2. Fume hoods are to be checked for air flow calibration accuracy and adjusted as needed on an annual basis.
- 10.3. It will be the responsibility of the Principle Investigator's department to coordinate with qualified contractors to calibrate these devices per manufacturer's specifications.

11. Appendix A Fume Hood Warning Sign

Attention!

Do Not Use!

**Fume Hood is Out of Service!
Air Velocity is _____
Facilities has been contacted on

Please contact EHS at 588-1081
if you have any questions.**

12. Appendix B Danger Sign for Fume Hoods

Danger!

Do not use the Chemical Fume Hood!

One of the following conditions currently exists:

- **Workers on roof and in hood air stream.**
- **Hood repairs are currently being conducted which will compromise the airflow to this hood.**

Repairs began on Date: _____ Time:

Repairs will be completed by Date: _____ Time:

If you have questions, please call Facilities Maintenance at 8-7928 for information.