When experiencing problems with laboratory fume hoods or other ventilated chemical storage or handling areas (i.e. low draw, no draw, sash operation problems, valve or fan problems) the appropriate Service/ Maintenance Department (S/M) and the Office of Environmental Health and Safety (OEHS) should be contacted immediately. Work requiring effective ventilation within these areas must be discontinued until the problem is resolved.

The severity and location of the problem will determine the level of safety attention needed during the repair. The following procedure outlines the steps required for both non-invasive and invasive work on a fume hood system. S/M will determine the cause of the problem, the method of repair, and, if necessary, the removal of the hood from service. OEHS will perform any necessary hood performance validation tests and assist, when necessary, in the clearing of the hood or area. Whoever finds or detects a fume hood that is running low or is out-of service should first ensure that all laboratory workers who may use this hood are made immediately aware that the hood is not running properly and it is not to be used until it is repaired. That person (or designee) must notify S/M and OEHS, who will verify that the hood is not functioning properly and post the hood with the attached warning sign (Fume Hood Safety Form 001).

Non Invasive Work
If the cause of the problem can be resolved without entry into the hood or without direct exposure to hood exhaust (such as fan belt replacement or bearing lubrication), the S/M staff should be able to repair it quickly and easily without the need for clearing the hood. After the work is completed, S/M will contact OEHS to measure the face velocity of the hood and certify that it is functioning within the desired parameters.

Invasive Work
When invasive repair work is required (i.e. requires entry into ductwork, exhaust ejector work, sheet metal work, and sash repair), specific procedures need to be followed to ensure the safety of both the lab workers and the workers doing the repair.

- All equipment in the hood which may impede or impair access shall be removed
- All hazardous materials shall be securely capped and removed from the hood. If safe removal of hood contents is not feasible, then OEHS will perform a risk assessment before any work begins, and establish any necessary additional safety requirements.
- OEHS and/or lab personnel will proceed, when necessary, with any needed decontamination of the hood interior.
- The S/M person (or other designee) will post and fill out an equipment/repair shut-down notice (Fume Hood Safety Form 002 – attached) prior to the start of work. Information completed on this notice will outline the anticipated work duration, person(s) performing the work, and any applicable safety requirements for the repair staff.

If the work takes longer than anticipated, the sign shall either be updated with the new information, or a new sign posted.

If it is determined that a lock-out system is warranted to ensure that chemicals or other hazardous materials are not inadvertently released into the airstream, then this lock-out device should be applied by S/M, in addition to the required posting. A chain and lock, sash lock, or cable and lock will be the first choice for such a device. If, because of the varying styles of fume hoods throughout the University, these types of lock-out devices are not feasible, other means to restrict access will be developed on a case-by-case basis. Only the service person who performed the work and had applied the lock is authorized to remove it.

After work is completed, OEHS will be contacted by S/M and will validate the hood performance and certify that it is functioning within required parameters. OEHS will then remove the warning notice and notify lab workers and S/M that the hood is back in service.
Summary of Responsibilities under this Procedure:
Service/Maintenance (including Yale employees and any outside service contractor)
- Ensure that workers in laboratory are notified when ventilation exhaust systems are going to be serviced or found to be working incorrectly;
- Communicate details about any anticipated shut-down with the appropriate facilities control center or dispatch office.
- Fill out the required information on the posting; including shut down date/time, anticipated completion date/time, and the service worker’s name and phone number;
- Post a completed Repair/ Shut-Down Notice (Fume Hood Safety Form-002) on the hood immediately prior to beginning work;
- Determine whether the need for an additional lockout device is necessary, and apply the appropriate lockout device immediately prior to beginning work;
- Remove the lockout device and Repair/Shut-Down Notice immediately after work is completed;
- Notify OEHS after completion of work, so that hood performance can be validated;
- Update the posted Notice or complete another Notice if anticipated completion date is changed.

Office of Environmental Health and Safety
- Assist lab personnel in determining how/ where equipment and hazardous materials can be moved from the hood;
- Perform any needed risk assessment on hoods and hood systems if hazardous materials/ equipment are not able to be readily or safely removed;
- Document any extra precautions or requirements that need to be in place as a result of the risk assessment;
- Validate the performance of the ventilation system after being notified by S/M that work is completed;
- Remove Fume Hood Safety Form(s) after certifying hood is working within required parameters;
- Notify S/M and lab workers that hood is back in service.

Lab Manager/ Lab Staff
- Safely remove all equipment and hazardous materials from hood, if possible;
- If not possible to remove the above, to secure all equipment and tightly cap all containers that cannot be removed, and participate in any resulting OEHS risk assessment;
- Comply with all OEHS requirements resulting from any risk assessment conducted;
- To never use a fume hood while either of the Fume Hood Safety Forms are posted;
- Ensure that no other laboratory workers use the hood while the warning notice(s) is posted;
- Notify S/M if anticipated completion date has passed and warning sign still posted or lock still on;
- Never attempt to defeat a lock out.

For Further Information, Contact:
Office of Environmental Health and Safety ……….785-3550
Central/ Science Campus Areas: Control Center…..432-6888
Medical School: Dispatch Office…………………785-4620

Prepared Jointly by Building Services & Operations, Physical Plant,
and the Office of Environmental Health & Safety
DANGER

THIS FUME HOOD IS NOT WORKING PROPERLY

• Do Not Use This Hood - It Could Subject You, Colleagues in Your Laboratory, or Repair Workers to Serious Danger

• Do Not Remove or Defeat Any Tags or Locks Attached to Hood Sash

• Repairs Will Be Made as Quickly as Possible

• Researchers: Depending Upon Nature of Repair Work, You May be Required to Remove the Contents of This Hood Before Work Begins

Notice Posted By: ____________________________ Date: ____________

Notifications Made:
To: ____________________________ Date: ____________
To: ____________________________ Date: ____________

Safety Staff: Please Remove This and Any Other Notices When Repair is Complete and Unit Returned to Proper Function

For Further Information, Contact:
☐ Central/Science Control Center: 432-6888
☐ Medical School Dispatch Office: 785-4620
☐ Office of Environmental Health & Safety: 785-3550
☐ Other: ____________________________

Fume Hood Safety Form 001
REPAIR/SHUT-DOWN NOTICE

This Hood is Scheduled for Repair or Shut-Down:
From: _______________ Until: _______________

Person Performing Work:
Name: ______________________ Phone: ___________

Do Not Use This Hood During Shut-Down Period - It Could Subject You, Colleagues in Laboratory, or Repair Workers to Serious Danger

Do Not Remove or Defeat Tags or Locks Attached to Hood Sash

Repairs Will Be Made as Quickly as Possible

Researchers: Depending Upon Nature of Repair Work, You May be Required to Remove the Contents of This Hood Before Work Begins

Pre-Work Safety Clearance for Invasive Work:
☐ Hood Cleared of Hazardous Contents?
☐ If Not, OEHS Must Perform Pre-Work Safety Clearance:
   Performed By: ______________________ Date: ______________
   Notification to: ______________________ Date: ______________
   Additional Requirements: __________________________________________
   __________________________________________

Service/Maintenance and Safety Staff: Please Remove This and Any Other Notices When Repair is Complete and Unit Returned to Proper Function

For Further Information, Contact:
☐ Central/Science Control Center: 432-6888
☐ Medical School Dispatch Office: 785-4620
☐ Office of Environmental Health & Safety: 785-3550
☐ Other: ______________________

Fume Hood Safety Form 002