

Environmental Health & Radiation Safety Policy

Local Exhaust Ventilation: Commissioning

Document#: OCCo25.01	Distribution: External
Section: Local Exhaust Ventilation	Effective Date: February 2022
Total Pages: 4	Revision Date:

PURPOSE

To establish procedures for the commissioning of newly installed or relocated ducted fume hoods at Temple University. All newly installed or relocated ducted fume hoods at Temple University must be commissioned prior to use by laboratory personnel to ensure that all systems function properly, and the hood operates as designed. Specialty fume hoods (ex. perchloric acid fume hoods) may have additional requirements for commissioning.

DEFINITIONS

- **ANSI**: American National Standards Institute.
- **ASHRAE**: American Society of Heating, Refrigerating and Air-Conditioning Engineers.
- **Face Velocity**: Velocity of the air at the opening of a hood.
- **Flowrate**: Air volume through an exhaust hood over a period of time (e.g. cubic feet per minute).
- **Fume Hood (Hood)**: A shaped opening designed to capture or control hazardous emissions.
- **Hood Performance Monitor**: A device to provide the hood user with continuous information (visible and audible) about the hood's performance.
- **Operational Check**: A survey to ensure that the hood is operating at the designed face velocity at the designed sash opening area.
- **Sash**: A movable glass panel that acts as a barrier between the User and operation. The

sash can be horizontal, vertical, or a combination. Adjusting the sash operating area will affect the hood's face velocity and flowrate.

RESPONSIBILITIES

Environmental Health & Radiation Safety (EHRS)

- Policy development.
- Upon notification from PDG, EHRS performs an initial operational check of the fume hood and approve the hood for use.
- Notifies the Supervisors, Principal Investigator (PI), Department Heads, Managers, or Designees once the fume hood has been approved for use.
- Maintains a fume hood database.

Operations & Maintenance (O&M)

- Assists PDG with the commissioning of fume hoods when requested.
- Maintains all design, installation, and commissioning reports/documentation.

Project Delivery Group (PDG)

- Verifies that the installation of fume hoods is done in compliance with manufactures instructions and project design criteria.
- Arranges for the commissioning of fume hoods by a qualified vendor in accordance with this document prior to the transfer of ownership to the laboratory occupants.
- Provides all design, installation, and commissioning reports/documentation.
- Notifies EHRS once a fume hood has been properly commissioned and is ready to be used by laboratory personnel.

Supervisors, Principal Investigator (PI), Department Heads, Managers, Designees

- Assists PDG with the commissioning of fume hoods when requested.
- Confirms that each hood has been commissioned and that each hood has been inspected and approved for use by EHRS prior to utilizing a fume hood.

Users

- Will not use a fume hood until it has been approved for use by EHRS.

PROCEDURE

The commissioning process requires:

1. Evaluation and verification that all newly installed or relocated fume hoods function properly with respect to the manufacture's instructions and design criteria.
2. Each fume hood will be tested and balanced while in operation to provide the specified design flowrate. Final adjustments may be needed before continuing with the commissioning process.
3. Certification of each hood according to the latest ASHRAE 110-As installed (AI) method (ANSI/ASHRAE 110 "Methods of Testing Performance of Laboratory Fume Hoods") to assure it was installed in accordance with manufactures instruction and design criteria.
4. The flowrate will be tested on each hood with the hood sash set at 18 inches. Verification that each hood is operating at the specified design criteria.
5. All hood performance monitors will be field calibrated and adjusted after hood performance has been determined as satisfactory. Hood performance monitors will be set according to the manufacture's specification and design criteria.
6. All hood performance monitors will be verified as activating when the face velocity is outside of the specified design criteria.
7. Verification that all control and operating equipment are performing within required specifications.
8. All installation and performance deficiencies will be addressed and corrected. The commissioning process will be repeated once all deficiencies have been corrected.
9. Each fume hood will be labeled with the exhaust fan number and location.
10. Fume hood operating and maintenance instructions (from the manufacture) will be provided to the laboratory and/or affixed to the fume hood.

REFERENCES

- ANSI/AIHA Z9.5 Laboratory Ventilation
- ANSI/ASHRAE 110 Method of Testing Performance of Laboratory Fume Hoods
- EHRS Policy OCCo12.01 Local Exhaust Ventilation- Fume Hoods