OSEH Standard of Care #1: Ventilation Engineering Controls

1.0 Scope
1.1 OSEH’s ventilation engineering controls certification program is designed to ensure that these critical systems are working properly and meet current health and safety standards.

1.2 List of engineering controls serviced by OSEH

1.2.1 Biological Safety Cabinet (BSC)
1.2.2 Chemical Fume Hood (FH)
1.2.3 Vertical Laminar Flow Polypropylene (VLFP) Fume Hood – “Hybrid Hood”
1.2.4 Local Exhaust Ventilation (LEV)
1.2.5 Laminar Flow Device (LFD)

1.3 Services to units outside of the General Fund structure are billed for provided services

2.0 Equipment Categories

2.1 BSC – Class II unit providing personnel, product and environmental protection. The majority of applications involve containment of biological hazards while providing sterile field for vulnerable experimental materials.

2.2 FH – Exhausted fume hoods providing personnel protection only.

2.3 VLFP Hood – Metal-free exhausted fume hood for personnel protection with a purified air curtain for product protection.

2.4 LEV – A variety of configurations for local exhaust or capture of point source emissions, providing personnel protection and/or smoke, odor, dust or heat control. Includes snorkels, canopies, paint booths, gas cabinets, etc.

2.5 LFD – HEPA-filtered cabinet designed specifically for product protection and quality control (clean bench). LFDs do not provide personnel or environmental protection. Used for “sterile field” work, either clinical preparations or research requiring “zero air”.

3.0 Provided Services

3.1 BSC – Annual certification with aerosol challenge filter testing, filter repair/replacement, balancing, maintenance (see Standard of Care #4: BSC Maintenance) and decontamination as necessary. Additional certifications beyond the annual will be billed to the BSC owner.

3.1.1 Maintenance, parts, and filters will be rebilled on BSCs over 10 years old. (see Standard of Care #3: BSC Service Criteria).

3.1.2 New units still under warranty (typically 4 years) will be repaired by the manufacturer’s representative (See Standard of Care #5: BSC Warranty Work). OSEH technicians are approved to provide warranty work on most BSC brands with manufacturer’s authorization.

3.2 FH – Annual certification of face velocity and inspect for full functionality on safety features. Mechanical maintenance provided by Plant Maintenance Dept. Faulty hoods are tagged out of service by OSEH.

3.3 VLFP Hood – Annual certification of face and down-flow velocities with balancing as necessary. The owner must provide OSEH with a manual that details certification specifications and methods. Maintenance and filter replacement costs are at the owners expense.

3.4 LEV – Inspection of safety features and a cyclic certification of capture velocities as determined by an industrial hygiene risk assessment. Maintenance is provided by Plant department or the owner.

3.5 LFD – All services provided for LFDs will be billed. LFDs are designed for quality control not occupational health and safety. At the request of the owner OSEH will provide annual certification of face velocity, aerosol challenge filter testing, and inspection of full functionality to ensure sterile field for QA/QC reporting. Maintenance and filter replacement services are also available and will be billed for time and materials.
4.0 Data Acquisition, Storage and Use

4.1 All inspections, certifications, and report generation are conducted with the use of Pendragon PDA software and Microsoft Access. Data storage locations are listed below.

4.1.1 S:\Biosafety\2.1 Database (BSC) - Includes tables for both the BSC and LFD data
4.1.2 S:\Biosafety\2.3 Database (Fume hood) - Includes tables for both FH and VLFP hood data
4.1.3 S:\Biosafety\2.1 Database (LEV) - Includes all capture device and containment data

5.0 Reporting

5.1 BSC – A BSC certification sticker\(^1\) is placed on the unit indicating the date of the certification. If requested, a report can be printed from the database for units requiring detailed documentation for audit. An email report detailing equipment problems, filter change requirements, and maintenance repair is sent to the listed owner of the device. For archive, an Access report is generated and saved semiannually at S:\Biosafety\1.6 BSC Reports.

5.2 FH – A Fume Hood certification sticker\(^3\) is placed on the unit indicating the date of the certification. Failing fume hoods are posted out of service. An email report is sent to Plant Work Control to start work orders on failing hoods. For archive, an Access report is generated and saved semiannually to S:\Biosafety\1.5 Fume hood Certification Reports.

5.3 VLFP – A Fume Hood certification sticker\(^3\) is placed on the unit indicating the date of the certification. Failing fume hoods are posted out of service. An email report is sent to Plant Work Control to start work orders on failing hood exhaust systems. An email report detailing VLFP equipment problems, filter change requirements, and maintenance repair not performed by Plant is sent to the equipment owner. For archive, an Access report is generated and saved semiannually to S:\Biosafety\1.5 Fume hood Certification Reports.

5.4 LEV – An LEV Hood certification sticker\(^4\) is placed on the unit indicating the date of the certification. An email report is sent to Plant Work Control to start work orders on failing hood exhaust systems. An email report detailing equipment problems, filter change requirements, and maintenance repair not performed by Plant is sent to the equipment owner. For archive, an Access report is generated and saved semiannually to S:\Biosafety\1.9 LEV Reports.

5.5 LFD – An LEV Hood certification sticker\(^4\) is placed on the unit indicating the date of the certification. An email report can be printed from the database for clinical units needing detailed documentation. An Access report is generated and saved semiannually to S:\Biosafety\1.6 BSC Reports. An email report detailing equipment problems, filter change requirements, and maintenance repair not performed by OSEH is sent to the equipment owner. As LFDs are relegated specifically to non-hazardous use, they will receive a notification sticker\(^2\) indicating “Caution – this hood is Not Designed for hazardous materials operations” to exclude use of biohazardous or chemically hazardous materials.

6.0 Service Charges

6.1 BSC and LFD service charges are detailed in the BSC Service Criteria document.

6.2 Certification service for General Fund customers is free of charge except for LFDs.

6.3 Certification service charges for non-General Fund equipment including FH, VLFP, LEV, and LFD will be billed per standard rates in the BSC Service criteria document or at an hourly rate of $66.00/ hour.

7.0 Related Documents

7.1 OSEH Standard of Care #2: Unsafe Engineering Control Equipment

7.2 OSEH Standard of Care #3: BSC Service Criteria

7.3 OSEH Standard of Care#4: BSC Maintenance

7.4 OSEH Standard of Care #5: BSC Warranty Work

7.5 OSEH Standard of Care #6: Biological Safety Cabinet (BSC) Decommissioning for Sale, Transfer or Scrap
8.0 Certification Stickers

(1) BSC Certification Sticker

(2) Non-Hazardous Use Caution Sticker

(3) Fume Hood Certification Sticker

(4) LEVCertification Sticker