

## **Institutional Biosafety Committee (IBC) Biosafety Cabinet (BSC) Policy**

**1.0 Purpose:** The purpose of this Institutional Biosafety Committee (IBC) policy is to provide guidance for the UW-Madison research community on the certification and maintenance of some engineering control equipment.

### **2.0 Policy:**

#### **Purchasing a BSC or other Workstations**

A contract is maintained by the UW-Madison for the purchase of all types of biological safety cabinets (BSC) and clean air devices (CAD). Before ordering one, consult the Office of Biological Safety (OBS) and Engineering Technical Services for an evaluation, selection and approval of BSC suitability for the intended work and of the available space. To ensure the adequacy of the installed mechanical ventilation and to facilitate coordination with the Physical Plant Remodeling group, exhausted biological safety cabinets (type B1 or B2) must be approved by the Engineering Department, UW Facilities Planning & Management, prior to purchase.

#### **Certification of Biological Safety Cabinets**

Biological Safety Cabinets must be certified when initially purchased and installed. Annual certification is required unless it is waived by OBS, which is considered on a case-by-case basis for low-risk activities. Cabinets are labeled to indicate that they either were certified on a given date or that the equipment must not be used with infectious materials. [Adopted by the IBC, January 1993. See also Biohazard Recognition & Control and the BSL-3 Laboratory Design].

**A BSC or CAD should not be moved or disassembled without prior approval from OBS or EH&S - BSC Program. All BSCs after being moved, must be recertified through the EH&S - BSC Program or through an EH&S approved vendor.**

#### **Maintenance**

To function adequately, the cabinet airflow must be closely regulated and the HEPA filters must be certified. All biological safety cabinets should be certified annually. **Annual certification is required for work at Biosafety Level 2 (BSL2) and BSL3. Annual risk assessment through OBS is required for work at BSL1 to determine certification needs.** It is highly recommended that all BSL1 BSCs are annually certified. Certification services are available for a fee through Engineering and Technical Services at Environment, Health & Safety (EH&S) or through an EH&S approved vendor.

**All BSC, CAD service, maintenance and certification must be either approved by or provided by EH&S - BSC Program.**

All BSCs must be either surface or gas decontaminated prior to being moved from one space to another. Before a unit is removed from the lab for maintenance, opened up for maintenance or repair, relocated, or disposed, laboratory staff are responsible for arranging surface or gas decontamination with Engineering and Technical Services. Gas decontamination is always required prior to disposal of a BSC. Gas decontamination must be done by trained personnel; through Engineering and Technical Services. BSCs to be decommissioned must be disposed by campus metal recycler. BSCs should not be sent to UW-Madison's Surplus With a Purpose (SWAP) to be sold. Prior to the disposal or removal from campus the Principal Investigator must determine if the BSC is listed by Property Control as an inventory (capital) asset by their department. If so, the BSC must be removed from the inventory list. The Department's Property Administrator will be able to help with the list and inventory removal.

#### **Drip Pan Maintenance**

Beneath the BSC work surface is a drip pan to collect large spills. This area ought to be routinely checked for cleanliness and, if a major spill has occurred, appropriately cleaned and disinfected.

#### **Waivers:**

A certification waiver may be requested through OBS for BSCs where low-risk work is performed. They are issued by risk assessment through OBS on an annual basis where every three years certification of a waived unit is required.

For new BSCs, certifications may be extended up to six months to align all building certifications for the same period of time. This extension must be approved by OBS.

For existing BSCs, certifications may be extended up to six months. This extension must be approved by OBS.

### **3.0 Roles and Responsibilities:**

**Principal Investigator:** Update OBS with any research activities or changes to research activities, day-to-day maintenance, proper use of equipment, surface decontamination, training staff on proper use of equipment, request of: BSC purchase, waiver, gas decontamination.

**EH&S - BSC Program:** Select, evaluate and approve purchases of BSCs/CADs. Provide the service, maintenance, decontamination and certification for all BSCs/CADs. Approve and manage vendors for BSC/CAD service and certification.

**OBS:** Laboratory risk assessment, waiver approvals.

**OBS Animal Safety:** Animal facility risk assessment.

#### 4.0 Definitions:

**Annual:** For the cabinet certification program, annual is defined as 12 months of time. For new BSCs, certifications may be extended up to six months to align all building certifications for the same period of time. This extension must be approved by OBS.

**Biological Safety Cabinet (BSC) Types:** Three kinds of biological safety cabinets, designated as Class I, II, and III, have been developed to meet varying research and clinical needs. Four varieties of Class II biological safety cabinets are used on campus. All are adequate for manipulations of pathogens in Risk Group 2 (RG2) or RG3.

**Animal transfer stations: are not biological safety cabinets and should never be used for work with potentially hazardous biological or chemical materials.** These devices protect the material in the cabinet but not the worker or the environment. Certification is required annually. Some units are designed to be mobile, and may be moved without recertification.

**Clean air devices and ‘clean benches’: are not biological safety cabinets and should never be used for work with potentially hazardous biological or chemical materials.** These devices protect the material in the cabinet but not the worker or the environment. Annual certification is required for units in animal areas or if used with animals to ensure proper function and quality control of research materials.

**Proposed Future Equipment Labeling:** A label will be placed on the outside front of the cabinet for easy type identification.

<b>A</b>	<p>Represents our standard Class II-A2 (A/A1) biological safety cabinet that recirculates HEPA filtered air back into the laboratory. These are the most commonly used equipment in UW campus laboratories for containment of biological hazards. Certification required annually and provides personal, product and environmental protection.</p>
<b>B</b>	<p>Represents our standard Class II-B (B1 or B2) biological safety cabinet that is hard ducted directly to laboratory exhaust system. HEPA filtered air is exhausted to the outside the building, not back into the laboratory. The Class II- B1 BSC is most often recommended for containment of biological and chemical hazards in UW campus laboratories. Certification required annually and provides personal, product and environmental protection.</p>
<b>C</b>	<p>Represents a clean air device that issued for non-hazardous research procedures. Current equipment includes animal transfer stations, clean benches and bedding dump stations that recirculate HEPA filtered air to the work surface or users breathing zone and back into the laboratory. These are not appropriate for use with biological or chemicals hazards. To ensure proper function and quality control of research materials, certification is required annually for these units in animal areas or units that are used with animals.</p>
<b>D</b>	<p>BSC to be decommissioned. Gas decontamination required by EH&amp;S. BSCs to be decommissioned must be disposed by campus metal recycler. Do not send BSCs to SWAP to be sold. BSC power cord will be locked out to prevent unauthorized use. Please contact Property Control to remove equipment from your capital inventory list when decontamination is complete.</p>
<b>X</b>	<p>BSC not in service. BSC is in storage or not certified for use. To put equipment back in service contact EH&amp;S - BSC program at 262-1809. BSC power cord will be locked out to prevent unauthorized use.</p>

**5.0 Related Documents/Resources**

- a. UW-Madison, Office of Biological Safety - Institutional Biosafety Committee (IBC) Handbook; found on the OBS website ([www.biosafety.wisc.edu](http://www.biosafety.wisc.edu)).
- b. UW-Madison, Office of Biological Safety - Biohazard Recognition and Control Handbook; found on the OBS website ([www.biosafety.wisc.edu](http://www.biosafety.wisc.edu)).
- c. U.S. Department of Health and Human Services, National Institutes of Health (NIH) - NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules, current version and/or any subsequent revisions.
- d. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC) and National Institutes of Health (NIH) - Biosafety in Microbiological and Biomedical Laboratories (BMBL), Current Edition.

**6.0 Document Revision:**

Revision History		
Revision Number	Revision Date	Description of Revision
1	01/07/2015	Clarification regarding maintenance and certification, clarification that a BSC or CAD should not be moved or disassembled without prior approval from OBS or EH&S - BSC Program, updated formatting.
2	05/05/2016	Clarified waiver language, certification responsibilities language, use of stickers (future use clarification)

*Original signed & dated Policies are retained by the Office of Biological Safety*

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Signature  
Professor Kristen Bernard, IBC Chair

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Date