



Standard of Care # 4: Biological Safety Cabinet (BSC) Maintenance

Guideline

Revision Date: 10/04/18

Scope

EHS Biosafety Technicians are trained in the use, certification, maintenance, and repair of Biological Safety Cabinets (BSC). They are “Qualified Persons” to perform diagnostic and maintenance procedures on these “Listed” devices.

EHS Biosafety Technicians will not work on BSCs hardwired to the facility electrical distribution system nor work on any component of the facility electrical delivery system. EHS Biosafety Technicians will only diagnose and maintain BSCs which have standard 115 volt single phase flexible cord power supply.

Installation Criteria to Ensure BSC Service from EHS

The following installation criteria must be met to ensure the EHS Biosafety Technicians will service a BSC.

- The BSC is installed in the correct location per the [Placement of BSC with Dimensions](#) document.
- The BSC installation adheres to applicable codes (i.e. electrical, mechanical, and plumbing)
- The BSC is installed following the manufacturer’s recommendations.

Regulatory Issues

- The NEC, OSHA, and NFPA 70 do not include requirements for the wiring inside listed electrical equipment. However, they do require Listing by a qualified testing laboratory or nationally recognized testing lab.
- NFPA 70E Standard for Electrical Safety in the Workplace requires Qualified Persons to have training and experience to work on or near the specific exposed energized electrical conductors or circuit parts. EHS Biosafety Technicians will only perform diagnostic procedures on energized equipment.
- Michigan Electrical Administrative Act 217 of 1956 (338.881-338.892) requires the licensing of electricians and provides an exception for the minor electrical repair work typically performed by EHS Biosafety Technicians on BSCs.
- MIOSHA Part 85 Rule 408.18501 Lock Out Tag Out of hazardous energy sources typically does not apply because the BSC is unplugged during maintenance operations and the power cord is visible and under the direct control of the technician. When diagnostic functions are performed on an energized BSC the EHS Biosafety Technician will use manufacturer provided diagnostic ports and voltage pins. Amp meter readings are taken on insulated wires with a non-invasive meter. No maintenance work or repairs will be performed on energized BSCs.

Services

- Diagnostic services addressing failure modes using approved manufacturer methods.
- Maintenance or replacement of manufacturer-approved components. This typically includes switches, speed controllers, motors, blowers, run capacitors, listed connectors, etc.
- EHS uses original manufacturer replacement parts for all BSC repairs. If manufacturer approved parts are not available, any substitute will require approval by a University engineer and EHS.
- EHS Biosafety Technicians will not rewire or modify factory wiring or components.