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

1.0 Scope

1.1 OSEH 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.

1.2 OSEH 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. OSEH Biosafety Technicians will only diagnose and maintain BSCs which have standard 115 volt single phase flexible cord power supply. OSEH Biosafety Technicians will only work on "Listed" devices.

2.0 Regulatory Issues

2.1 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.

2.2 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. Biosafety Technicians will only perform diagnostic procedures on energized equipment.

2.3 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 Biosafety Technicians on BSCs.

2.4 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 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.

3.0 Training

3.1 Biosafety Technicians receive training from the primary BSC Manufacturers in the US. This training typically covers diagnostic procedures, maintenance procedures and certification methods**.**

3.2 Biosafety Technicians receive on the job training from experienced technicians until their supervisor determines them qualified to work on BSCs.

3.3 Biosafety Technicians receive basic electrical safety training. Professional safety video or CD training disks are typically used.

3.4 Biosafety Technicians are initially selected based on proven mechanical aptitude and technical experience with mechanical and electronic systems.

4.0 Services

4.1 Diagnostic services addressing failure modes using approved manufacturer methods.

4.2 Maintenance or replacement of manufacturer-approved components. This typically includes switches, speed controllers, motors, blowers, run capacitors, listed connectors, etc.

4.3 OSEH 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 OSEH.

4.4 OSEH Biosafety Technicians will not rewire or modify factory wiring or components.

5.0 Inappropriate Installations

5.1 OSEH will not service improper or inappropriate installations of BSCs.

5.2 Inappropriate installations include electrical, mechanical, plumbing, or location of the BSC within the facility, not recommended by the manufacturer or not meeting applicable codes.