

## Appendix A - BSL-3 Verification Checklist

Date: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Building: \_\_\_\_\_

Telephone #: \_\_\_\_\_

Room #: \_\_\_\_\_

Inspector: \_\_\_\_\_

Access Control		Notes
1. Is access through two sets of double-doors?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
2. Are door closers present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
3. Are door interlocks present and working?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
4. Is there a working flow monitor at each entry?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

Signage		Notes
Are the following items posted properly:		
1. Biohazard sign?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
2. Agents used?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
3. Name and telephone number for lab director?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
4. Indications of special requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

Equipment		Notes
1. Is there a hands-free sink located near exit?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
2. Autoclave present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
3. Other method for decontaminating waste?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
4. HEPA filters on portable vacuum pumps?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

### BSL-3 Verification Checklist (Continued)

Biological Safety Cabinets (BSC)			Notes
1.	Are BSCs present in the lab?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
2.	Are BSCs certified?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
3.	Are BSC located away from doors and vents?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
4.	Method of exhaust from BSC:		
	A. Recirculates to room?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
	B. Hard ducted?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
	C. Ducted directly outside?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
	D. Ducted to house system?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

Facility			Notes
1.	Are the walls, floors, ceiling and work surfaces constructed for easy cleaning and decontamination?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
2.	Are all surfaces smooth and impermeable to liquids?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
3.	Are surfaces resistant to chemicals and disinfectants?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
4.	Are all seams and penetrations sealed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
5.	Are floors monolithic and slip resistant?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
6.	Are all openings able to be sealed for decontamination?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
7.	Is furniture covered with a non-fabric material for easy decontamination?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
8.	Are windows closed and sealed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
9.	Is there an operational hands-free eyewash present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
10.	Is a biological and chemical spill kit available?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
11.	Is there adequate illumination in the laboratory?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
12.	Has an insect/rodent control program been implemented?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
13.	Are backflow devices present on all water lines?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
14.	Are sinks and drains properly marked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
15.	Are floor drains present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
	A. If yes, are floor drains sealed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

### BSL-3 Verification Checklist (Continued)

<b>Ventilation</b>		<b>Notes</b>
1. Is there a ducted ventilation system?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
A. If yes, is it HEPA filtered?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
B. If yes, have the HEPA filters been certified?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
2. If not HEPA filtered, is air exhausted outside?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
A. Is stack height 10 feet or greater?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
B. Is exhaust more than 50 feet from any intake(s)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
C. Is stack velocity at least 3,000 FPM?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
3. Is airflow directional from low to high contamination areas?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
4. Is roof-top exhaust clear of occupied buildings and supply air intakes?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
5. Is any aerosol-producing equipment exhausted by HEPA?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
6. Smoke-testing has been performed in the following areas to ensure proper airflow:		
A. Doors?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
B. Biosafety cabinets?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
C. Vents?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
D. Windows?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
E. Autoclave?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
F. Other vented areas?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

<b>HVAC Controls</b>		<b>Notes</b>
1. Is a HVAC control system present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
A. If yes, is it working properly?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
B. If yes, is the alarm audible?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

<b>Emergency Devices Available</b>		<b>Notes</b>
Are the following devices available?		
1. Flashlights	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
A. If yes, is it working properly?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
2. Fire extinguishers	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
A. If yes, is it working properly?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

**BSL-3 Verification Checklist (Continued)**

<b>Disinfectant/Sterilization</b>		<b>Notes</b>
1. Is the disinfectant solution replaced on a monthly basis?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
2. Is the autoclave spore-tested on a monthly basis?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

<b>Maintenance Frequency</b>		<b>Notes</b>
How often are the following devices serviced?		
1. Autoclaves	Every _____ months <input type="checkbox"/> As needed	
2. Biological Safety Cabinet Filters	Every _____ months <input type="checkbox"/> As needed	
3. Centrifuges	Every _____ months <input type="checkbox"/> As needed	
4. Door/equipment locks	Every _____ months <input type="checkbox"/> As needed	
5. HVAC Balancing	Every _____ months <input type="checkbox"/> As needed	
6. HVAC Belts	Every _____ months <input type="checkbox"/> As needed	
7. HVAC Motors/Sheaves	Every _____ months <input type="checkbox"/> As needed	
8. Lights	Every _____ months <input type="checkbox"/> As needed	
9. Plumbing	Every _____ months <input type="checkbox"/> As needed	

Inspection Performed by: \_\_\_\_\_

Date: \_\_\_\_\_

## Appendix B - BSL-3 Inspection Form

**Building/Room#** \_\_\_\_\_

**Date:** \_\_\_\_\_

**PI's Name** \_\_\_\_\_

**Inspector** \_\_\_\_\_

**PI's Signature** \_\_\_\_\_

**RO's Signature** \_\_\_\_\_

- |   |  |
|---|--|
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 1. Access to the laboratory is limited or restricted at the discretion of the laboratory director when experiments are in progress?  |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 2. Persons wash their hands after handling infectious materials, after removing gloves, and when they leave the laboratory?  |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 3. Eating, drinking, smoking, handling contact lenses, and applying cosmetics is not permitted in the laboratory?  |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 4. Persons who wear contact lenses in laboratories also wear goggles or a face shield?   |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 5. Food stored outside the work area in cabinets or refrigerators is designated for this purpose only?   |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 6. Mouth pipetting is prohibited?  |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 7. Mechanical pipetting devices are used?  |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 8. Policies prohibiting sharps are instituted?   |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 9. All procedures are performed carefully to minimize the creation of aerosols?  |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 10. Work surfaces are decontaminated at least once a day and after any spill of viable material?   |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 11. All cultures, stocks, and other regulated wastes are decontaminated before disposal by an approved decontamination method, such as autoclaving?  |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 12. Infectious waste from BSL-3 laboratories is decontaminated before removal for off-site disposal?   |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 13. An insect and rodent control programs is in effect?  |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 14. Laboratory doors are kept closed at all times?   |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 15. The responsible official and laboratory director control access to the laboratory and restrict access to persons whose presence is required for program or support purposes?   |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 16. Persons who are at an increased risk of acquiring infection or for whom infection may have serious consequences are not allowed in the laboratory or animal rooms? (For example, persons who are immuno-compromised or immuno-suppressed may be at risk of acquiring infections.)                        |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 17. The responsible official has the final responsibility for assessing each circumstance and determining who may enter or work in the laboratory?   |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 18. There are no minors allowed in the laboratory?   |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 19. The responsible official establishes policies and procedures whereby only persons who have been advised of the potential biohazard, who meet any specific entry requirements (e.g., immunization), and who comply with all entry and exit procedures, enter the laboratory or animal rooms?              |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 20. A hazard warning sign, incorporating the universal biohazard symbol, is posted on all laboratory and animal room access doors?   |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 21. The hazard warning sign identifies the agent, lists the name and telephone number of the laboratory director or other responsible person(s), and indicates any special requirements for entering the laboratory, such as the need for immunizations, respirators, or other personal protective measures? |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 22. Laboratory personnel receive the appropriate immunizations or tests for the agents handled or potentially present in the laboratory (e.g., hepatitis B vaccine or TB skin testing), and periodic testing as recommended for the agent being handled?   |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 23. Baseline serum samples are collected as appropriate and stored for all laboratory and other at-risk personnel? (Additional serum specimens may be periodically collected, depending on the agents handled or the function of the laboratory.)  |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 24. A biosafety manual specific to the laboratory has been prepared and adopted?   |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 25. Biosafety precautions are incorporated into standard operating procedures?   |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 26. Personnel are advised of special hazards and required to read and follow instructions on practices and procedures?   |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 27. Laboratory and support personnel receive appropriate training on the potential hazards associated with the work involved, the necessary precautions to prevent exposures, and the exposure evaluation procedures?  |
| <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 28. Personnel receive annual updates or additional training as necessary for procedural changes?   |



### BSL-3 Inspection Form (Continued)

- Yes  No  N/A 65. Bench tops are impervious to water and are resistant to moderate heat and the organic solvents, acids, alkalis, and those chemicals used to decontaminate the work surfaces and equipment?
- Yes  No  N/A 66. Laboratory furniture is capable of supporting anticipated loading and uses?
- Yes  No  N/A 67. Spaces between benches, cabinets, and equipment are accessible for cleaning?
- Yes  No  N/A 68. Chairs and other furniture used in laboratory work are covered with a non-fabric material that can be easily decontaminated?
- Yes  No  N/A 69. All windows in the laboratory closed and sealed?
- Yes  No  N/A 70. A method for decontaminating all laboratory wastes is available in the facility and utilized, preferably within the laboratory (i.e., autoclave, chemical disinfection, incineration, or other approved decontamination method)? (Consideration should be given to means of decontaminating equipment.)
- Yes  No  N/A 71. All waste transported out of the laboratory is properly sealed and not transported in public corridors?
- Yes  No  N/A 72. Biological safety cabinets are located away from doors, room supply louvers, and heavily-traveled laboratory areas?
- Yes  No  N/A 73. A ducted exhaust air ventilation system is provided?
- Yes  No  N/A 74. This system creates directional airflow that draws air into the laboratory from "clean" areas toward "contaminated" areas?
- Yes  No  N/A 75. The exhaust air is not recirculated to any other area of the building? (Filtration and other treatments of the exhaust air are not required, but may be considered based on site requirements, and specific agent manipulations and use conditions.)
- Yes  No  N/A 76. The exhaust is HEPA-filtered and is dispersed away from occupied areas and air intakes?
- Yes  No  N/A 77. Laboratory personnel verify the direction of the airflow (into the laboratory) is proper? (It is recommended that a visual monitoring device that indicates and confirms directional inward airflow be provided at the laboratory entry. Consideration should be given to installing an HVAC control system to prevent sustained positive pressurization of the laboratory. Audible alarms should be considered to notify personnel of HVAC system failure.)
- Yes  No  N/A 78. HEPA-filtered exhaust air from a Class II biological safety cabinet is recirculated into the laboratory only if the cabinet is tested and certified at least annually?
- Yes  No  N/A 79. Exhaust air from Class II safety cabinets is discharged to the outside through the building exhaust air system and the cabinets are connected in a manner that avoids any interference with the air balance of the cabinets or the building exhaust system (e.g., an air gap between the cabinet exhaust and the exhaust duct)?
- Yes  No  N/A 80. Class III biological safety cabinets are used and are directly connected to the exhaust system?
- Yes  No  N/A 81. Class III cabinets are connected to the supply system if it is done in a manner that prevents positive pressurization of the cabinets?
- Yes  No  N/A 82. Continuous flow centrifuges or other equipment that may produce aerosols are contained in devices that exhaust air through HEPA filters before discharge into the laboratory?
- Yes  No  N/A 83. HEPA systems are tested at least annually? (Alternatively, the exhaust from such equipment may be vented to the outside if it is dispersed away from occupied areas and air intakes.)
- Yes  No  N/A 84. Vacuum lines are protected with liquid disinfectant traps and HEPA filters, or their equivalent?
- Yes  No  N/A 85. Filters are replaced as needed? [An alternative is to use portable vacuum pumps (also properly protected with traps and filters)].
- Yes  No  N/A 86. An eyewash station is readily available inside the laboratory?
- Yes  No  N/A 87. Illumination is adequate for all activities, avoiding reflections and glare that could impede vision?
- Yes  No  N/A 88. BSL-3 facility design and operational procedures are documented?
- Yes  No  N/A 89. The facility is tested for verification that the design and operational parameters have been met prior to operation?
- Yes  No  N/A 90. Facilities are re-verified, at least annually, against these procedures as modified by operational experience?
- Yes  No  N/A 91. Additional environmental protection (e.g., personnel showers, HEPA filtration of exhaust air, containment of other piped services and the provision of effluent decontamination) is considered if recommended by the agent summary statement, as determined by risk assessment, the site conditions, or other applicable federal, state, or local regulations?

#### Biological Safety Cabinets

Location: _____	Location: _____	Location: _____	Location: _____
Model: _____	Model: _____	Model: _____	Model: _____
Serial#: _____	Serial#: _____	Serial#: _____	Serial#: _____
Cert Date: _____	Cert Date: _____	Cert Date: _____	Cert Date: _____