WELCOME FROM THE BSO
As we near the end of 2008, we in the biosafety office are pleased with the progress of our program. It was our initial vision for this publication to provide an avenue for which information could be presented in a helpful and accessible manner. I would like to stress that we are here to help with and listen to any comments or concerns that you may have. We always welcome any suggestions on topics that you would like covered in upcoming issues. For the final Bio-Zone of this calendar year, you will find some helpful information for development of Standard Operating Procedures. We would also like to offer a few reminders regarding biosafety in OSU research and teaching laboratories/facilities. I extend our sincere appreciation to each of you for helping to improve the safety of the research conducted at OSU, and for making our first year of this newsletter such a success. We would also like to wish everyone a very safe and happy upcoming holiday season.

WRITING BIOSAFETY STANDARD OPERATING PROCEDURES
The Principal Investigator (PI) has the responsibility to inform laboratory personnel of appropriate research procedures. The PI must ensure that written Standard Operating Procedures (SOPs) outlining the necessary precautions to safely conduct research are completed and available in the research/teaching space. An SOP is a set of specific guidelines designed to address the methods that will be used and the safe handling of biohazardous material.

An SOP should be written for each procedure that poses an identified potential risk to the health and safety of the laboratory personnel or the environment. Although a separate SOP does not need to be written for each individual experiment, procedures with the same hazards or organisms that pose the same risk that are handled in the same way may be combined into one SOP.

The process of writing SOPs requires an individual to think through all steps of a procedure and perform a risk assessment before work has begun. The best approach to writing SOPs is to do it, write it, and test it. Be brief and concise. A SOP template can be found at the end of this newsletter as well as online. There is a list of basic, minimum SOPs for biosafety laboratories and space outlined in the OSU Biological Research Safety Plan. These have also been summarized and provided at the end of this newsletter.
REMINDERS:

- All research involving rDNA; human, animal or plant pathogens; prions, biological toxins, and/or select agents require IBC approval prior to initiation. IBC forms can be found at http://compliance.vpr.okstate.edu/ibc/forms.htm

- All rDNA research, including exempt, is subject to the NIH “Guidelines for Research Involving Recombinant DNA Molecules” and must be registered with the IBC. NIH guideline summary can be found at http://compliance.vpr.okstate.edu/ibc/NIH_Guidelines_Summary.htm

- All BSL-2 and BSL-3 laboratories and facilities shall develop laboratory/facility specific biosafety manuals and train all employees and students who work in the area annually. Biosafety Manual information can be found at http://compliance.vpr.okstate.edu/ibc/biosafety%20manual%20page.doc

- The Biosafety Spill Protocol (included in the April issue) can be modified to be lab/facility specific and must be posted in the lab. You may contact Trenna or Jennifer for an electronic copy to modify.

- All BSL-2 Teaching Laboratories shall be registered with the IBC. Registration forms can be found at http://compliance.vpr.okstate.edu/ibc/teaching.htm

- Risk group classification is related specifically to the risk associated with a particular agent/material. Biosafety levels are containment requirements designed to mitigate the risk identified in a Risk Assessment that is used to assign a Risk Group to an agent/material. Risk Group and Biosafety Level ARE NOT THE SAME THING. More information regarding risk groups and biosafety levels can be found at http://compliance.vpr.okstate.edu/ibc/gettingstarted.htm

**Did you know??**

“Without animal research there would be no kidney dialysis”
Sample Standard Operating Procedure Template for Handling (list biohazardous material) at (list biosafety containment level)

Please edit and complete as necessary to address Biosafety Risks within your laboratory/facility

**Title of Procedure(Project):** One safety SOP can be used for more than one experimental protocol if the material/equipment being used and potential hazards are the same.

**Introduction and Purpose of Work:** Brief description of work.

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<tr>
<th>PI:</th>
<th>Lab Location:</th>
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<tr>
<td>Issue Date:</td>
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**RISK ASSESSMENT:**

**Hazard Identification and Risk of Exposure to the Hazards:** Describe the risk of the agents being handled in the laboratory. Determine if immunization is needed.

**Routes of Exposure:** Prior to assigning containment requirements, it is imperative to understand the routes of transmission. Exposure risks: (i.e. sharps exposure, splash exposures, non-intact skin exposures).

**MEDICAL CONSIDERATIONS:**

Medical Screening and Surveillance (if necessary):

**PRECAUTIONS:**

Procedural Methods and Materials:

- **Signage and Labeling:** (ex., doorways, refrigerators, freezers, incubators)
- **Access to laboratory:** (ex., restrictions, locks)
- **Personal Protective Equipment:** (ex., entry and exit procedures, use during work)
- **Methods to minimize personal exposure:** (work practices, ex., use of conveniently located sharps containers, safer needles and sharps, absorbent material on countertops)
- **Methods to prevent the release of biohazardous material:** (equipment, ex., BSCs, covered centrifuge cups)
- **Specimen transport and removal of material(s) from the laboratory:** (ex., transport containers)
- **Standard Microbiological Methods:** See Attached Minimal Biosafety Standards
- **Cleaning and Disinfection:** (Describe surface decontamination, cleaning procedures, and type of disinfectant(s) used.)
- **Waste Generation and Disposal Methods:** (Identify the types of waste generated and procedures for handling biological waste including contaminated, non-contaminated waste and use of sharps containers.
- **Spill and Accident Response Procedure:** (Describe all emergency procedures)

**TRAINING:**

**Training Requirements:** (Describe all training requirements for individuals performing the above described procedure(s))
Minimal Biosafety Standards

1. Access to the laboratory is limited or restricted at the discretion of the Principal Investigator when experiments are in progress. The laboratory supervisor must enforce the institutional policies that control access to the laboratory.

2. The laboratory supervisor must ensure that laboratory personnel receive appropriate training regarding their duties, the necessary precautions to prevent exposures, and exposure evaluation procedures.

3. Appropriate signage must be displayed indicating the biosafety level of the laboratory, the biohazard symbol, and the proper PPE for working in the laboratory.

4. Work surfaces are decontaminated once a day and after any spill of viable material.

5. All contaminated liquid or solid wastes are decontaminated before disposal.

6. Mechanical pipetting devices are used; mouth pipetting is prohibited.

7. Eating, drinking, smoking, and applying cosmetics are not permitted in the work area. Food may be stored in cabinets or refrigerators designated and used for this purpose only.

8. Persons wash their hands: (i) after they handle materials involving organisms containing recombinant DNA molecules and animals, and (ii) before exiting the laboratory.

9. All procedures are performed carefully to minimize the creation of aerosols.

10. Policies for safe handling of sharps, such as needles, scalpels, pipettes, and broken glassware must be developed and implemented.

11. In the interest of good personal hygiene, facilities (e.g., hand washing sink, shower, changing room) and protective clothing (e.g., uniforms, laboratory coats) shall be provided that are appropriate for the risk of exposure.

12. Contaminated materials that are to be decontaminated at a site away from the laboratory are placed in a durable leak-proof container which is closed before being removed from the laboratory.

13. An insect and rodent control program is in effect.

14. The laboratory is designed so that it can be easily cleaned.

15. Bench tops are impervious to water and resistant to acids, alkalis, organic solvents, and moderate heat.

16. Laboratory furniture is sturdy. Spaces between benches, cabinets, and equipment are accessible for cleaning.

17. Each laboratory contains a sink for hand washing.

18. If the laboratory has windows that open, they are fitted with fly screens.