1. **Purpose**

1.1 The purpose of this policy is to outline recommendations of the management of ABSL2 studies in compliance with requirements set forth in the Biosafety in Microbiological and Biomedical Laboratories Manual (5th Ed. NIH 2009) and Occupational Health and Safety in the Care and Use of Research Animals (National Academy Press 1997).

2. **Responsibility**

2.1 The procedure outlined in this policy is limited to use by authorized employees at FIU

3. **Definitions**

3.1 AAALAC – Association for Assessment and Accreditation of Laboratory Animal Care

3.2 BMBL Manual - Biosafety in Microbiological and Biomedical Laboratories Manual (5th Ed. NIH 2009)

3.3 FIU – Florida International University


3.5 OLAW - Office of Laboratory Animal Welfare

4. **Guidelines**

4.1 FIU’s Assurance of Compliance with Public Health Service Policy and AAALAC accreditation standards require strict compliance with ABSL-2 requirements.
4.2 Animal Biosafety Level 2 builds upon the practices, procedures, containment equipment, and facility requirements of ABSL-1. ABSL-2 is suitable for work involving laboratory animals infected with agents associated with human disease and pose moderate hazards to personnel and the environment. It also addresses hazards from ingestion as well as from percutaneous and mucous membrane exposure.

4.3 ABSL-2 requirements:

4.3.1 The access to the animal facility is restricted;

4.3.2 Personnel must have specific training in animal facility procedures, the handling of infected animals and the manipulation of pathogenic agents;

4.3.3 Personnel must be supervised by individuals with adequate knowledge of potential hazards, microbiological agents, animal manipulations and husbandry procedures; and

4.3.4 BSCs or other physical containment equipment is used when procedures involve the manipulation of infectious materials, or where aerosols or splashes may be created.

4.4 Standard Microbiological Practices

4.4.1 Prior to beginning a study, animal protocols must also be reviewed and approved by the IACUC and the Institutional Biosafety Committee if it involves the use of rDNA or synthetic nucleic acids or by the EH&S for the studies not involving those items. Consideration should be given to specific biohazards unique to the animal species and protocol in use.

4.4.2 Before the use of the hazardous agent/materials, it is the responsibility of the PI to inform the Office of Laboratory Animal Research to the impending study and ensure that ABSL2 containment is in place.

4.4.3 The supervisor must ensure that animal care, laboratory, and support personnel receive appropriate training regarding their duties, animal husbandry procedure, potential hazards, manipulations of infectious agents, necessary precautions to prevent hazard or exposures, and hazard/exposure evaluation procedures (physical hazards, splashes, aerosolization, etc.).

4.4.4 Personnel must receive annual updates or additional training when procedures or policies change. Records are maintained for all hazard evaluations, employee training sessions and staff attendance.

4.4.5 An appropriate medical surveillance program is in place, as determined by risk assessment. Institution must ensure that medical staff is informed of potential
ocational hazards within the animal facility, to include those associated with research, animal husbandry duties, animal care and manipulations.

4.4.6 A sign incorporating the universal biohazard symbol must be posted at the entrance to areas where infectious materials and/or animals are housed or are manipulated when infectious agents are present. The sign must include the animal biosafety level, general occupational health requirements, personal protective equipment requirements, the supervisor’s name (or names of other responsible personnel), telephone number, and required procedures for entering and exiting the animal areas. Identification of all infectious agents is necessary when more than one agent is being used within an animal room.

4.4.7 Access to the animal room is limited. Only those persons required for program or support purposes are authorized to enter the animal facility and the areas where infectious materials and/or animals are housed or manipulated.

4.5 Personal Protective Equipment and Required Procedures:

4.5.1 Protective laboratory coats, gowns, or uniforms are required to prevent contamination of personal clothing. A risk assessment should determine the appropriate type of personal protective equipment to be utilized and instructions would be placed at the entrance of the ABSL-2 area.

4.5.2 Scrub suits and uniforms are removed before leaving the animal facility. If determined necessary, reusable clothing is appropriately contained and decontaminated before being laundered. Laboratory and protective clothing should never be taken home.

4.5.3 Gowns, laboratory coats and personal protective equipment are worn while in the areas where infectious materials and/or animals are housed or manipulated and removed prior to exiting. Disposable personal protective equipment and other contaminated waste are appropriately contained and decontaminated prior to disposal.

4.5.4 Eye and face protection (mask, goggles, face shield or other splatter guard) are used for manipulations or activities that may result in splashes or sprays from infectious or other hazardous materials and when the animal or microorganisms must be handled outside the BSC or containment device. Eye and face protection must be disposed of with other contaminated laboratory waste or decontaminated before reuse. Persons who wear contact lenses should also wear eye protection when entering areas with potentially high concentrations or airborne particulates.

4.5.5 Double pair of gloves are worn to prevent skin contact with contaminated, infectious and hazardous materials and when handling animals. Gloves and personal
protective equipment should be removed in a manner that prevents transfer of infectious materials outside of the areas where infectious materials and/or animals are housed or are manipulated. A risk assessment should be performed to identify the appropriate glove for the task. Gloves are changed when contaminated, glove integrity is compromised, or when otherwise necessary.

4.5.6 Persons must wash their hands after removing gloves, and before leaving the areas where infectious materials and/or animals are housed or are manipulated. Eye, face and respiratory protection should be used in rooms containing infected animals, as dictated by the risk assessment.

4.5.7 Eating, drinking, smoking, handling contact lenses, applying cosmetics, and storing food for human consumption must not be permitted in laboratory areas. Food must be stored outside of the laboratory in cabinets or refrigerators designated and used for this purpose.

4.5.8 All procedures are carefully performed to minimize the creation of aerosols or splatters of infectious materials and waste. Mouth pipetting is prohibited. Mechanical pipetting devices must be used.

4.5.9 The use of needles and syringes or other sharp instruments in the animal facility is limited to situations where there is no alternative such as parenteral injection, blood collection, or aspiration of fluids from laboratory animals and diaphragm bottles.

4.5.9.1 Disposable needles must not be bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal. Used, disposable needles must be carefully placed in puncture-resistant containers used for sharps disposal. Sharps containers should be located as close to the work site as possible.

4.5.9.2 Non-disposable sharps must be placed in a hard-walled container for transport to a processing area for decontamination, preferably by autoclaving.

4.5.9.3 Broken glassware must not be handled directly; it should be removed using a brush and dustpan, tongs, or forceps. Plastic ware should be substituted for glassware whenever possible.

4.5.10 Use of equipment with sharp edges and corners should be avoided.

4.5.11 Equipment and work surfaces are routinely decontaminated with an appropriate disinfectant after work with an infectious agent, and after any spills, splashes, or other overt contamination.
4.5.12 Animals not associated with the work being performed must not be permitted in the areas where infectious materials and/or animals are housed or manipulated.

4.6 Decontamination

4.6.1 All wastes from the animal room (including animal tissues, carcasses, and bedding) are transported from the animal room in leak-proof containers for appropriate disposal in compliance with applicable institutional, local and state requirements. All potentially infectious materials are decontaminated before disposal using an effective method.

4.6.2 Decontamination by an appropriate method (e.g. autoclave, chemical disinfection, or other approved decontamination methods) is necessary for all potentially infectious materials and animal waste before movement outside the areas where infectious materials and/or animals are housed or are manipulated. This includes potentially infectious animal tissues, carcasses, contaminated bedding, unused feed, sharps, and other refuse.

4.6.3 Materials to be decontaminated outside of the immediate areas where infectious materials and/or animals are housed or are manipulated must be placed in a durable, leak proof, covered container and secured for transport. The outer surface of the container is disinfected prior to moving materials. The transport container must have a universal biohazard label.

4.6.4 Dirty cages would need to be placed in a biohazard bag, sprayed with a disinfectant and placed in a second biohazard bag before being taken out for autoclaving. The autoclaving will take place with biological indicators that will be incubated following the procedure. If the biological indicator growth is negative, the dirty bedding is disposed and the cages processed as normal.

4.6.5 Equipment must be decontaminated before repair, maintenance, or removal from the areas where infectious materials and/or animals are housed or are manipulated.

4.7 Incident reporting

4.7.1 Incidents that may result in exposure to infectious materials must be immediately evaluated and treated according to EH&S approved procedures. All such incidents must be reported to the animal facility supervisor or personnel designated by the institution. Medical evaluation, surveillance, and treatment should be provided as appropriate and records maintained.

4.7.2 Procedures for incident/injury reporting and emergency response should be readily available, posted, and updated as procedures and staff changes.

4.7.3 A first aid procedure for animal bites poster is placed in various locations in the animal facility and contains instructions on controlling bleeding, wound cleansing,
emergency procedures and reporting.

5. References

5.1 BMBL Manual - Biosafety in Microbiological and Biomedical Laboratories Manual (5th Ed. NIH 2009)

6. Revisions

6.1 Revision 02: 2016 IACUC review. Introduced paragraph 4.7.2. and 4.7.3.