



Center for Biomedical  
Research-  
Animal Research  
Facility

Author

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SOP #

450.01

Last Reviewed/Update Date

Approval Revision #

Implementation Date

## Disaster Plan for Missouri S&T's Animal Research Facility

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## **2. Purpose and Background**

Public Health Service policy states that Institutions receiving federal funds have an obligation to protect the federal investment in research by exercising due diligence. This protection covers research animals, personnel, facilities, and research data. According to the Guide for Care and Use of Laboratory Animals (8th Edition), facilities must have a disaster plan. Additionally, the United States Department of Agriculture (USDA), 9 CFR parts 2 and 3, and USDA Final Rule (December 31, 2012) amends the Animal Welfare Act regulations to require research institutions to have a contingency plan and training of personnel.

This contingency plan aims to achieve the following:

1. Protect staff and minimize animal losses that would potential occurs during any event that disrupts normal care of laboratory animals, such as an emergency, natural disaster or pandemic.
2. Provide husbandry and veterinary care in order to prevent animal distress, pain, or death.
3. Minimize the animal research facility closure time and restore its operation as soon as possible during an emergency.
4. Minimize the economic impact to Missouri S&T and PHS sponsored animal research.

All personnel must comply with the Missouri S&T Campus-Wide Emergency Plan

## **3. Contacts List**

<b><u>Contact</u></b>	<b><u>Telephone Number</u></b>
Richard Watters, Animal Facility Manager	573-341-4029
Dr. Yue-Wern Huang, IACUC Chair	573-341-6589
Environmental Health and Safety	573-341-4305
Physical Facilities	573-341-4252
University Police	573-341-4300
Emergency	911

## **4. Overview of Animal Care and Support Needs**

### **4.1. Animal Health Checks and Health Maintenance**

- a. Animals should be checked daily to confirm they are healthy.  
Observations will be performed by qualified Missouri S&T-ARF

personnel or other qualified personnel. The laboratory manager or consulting veterinarian will triage sick or injured animals and determine a treatment plan.

- b. Animals that cannot be relocated or protected from the consequences of the disaster must be humanely euthanized. When appropriate, animals will be euthanized at the discretion of the laboratory manager or designee using current American Veterinary Medical Association (AVMA) approved methods of euthanasia.

#### **4.2. Food and Water Supplies**

- a. Food and water are critical to maintaining animal health. Having the appropriate food for the species and research needs, in adequate quantities, in unadulterated form, is imperative for every disaster response. If the usual food is not available, professional judgment must be applied to identify acceptable substitutes which are available.
- b. Potable water is especially important, as many animals can survive for several days with little food, but may succumb within 1-2 days without water. Rodent species housed at the Missouri S&T-ARF are especially sensitive to food or water deprivation (e.g., new born rats or mice) and should be given special attention.

#### **4.3. Sanitation**

- a. For purposes of animal health, animal welfare and support of research, adequate sanitation must be provided in every circumstance. Cages of some species must be changed often while others may go several days without inducing health or environmental problems. The goal of this plan is to approximate normal sanitation schedules with available resources. Increasing cage change intervals, spot cleaning instead of whole-cage changes, changing bedding instead of cage changes, hand washing some equipment, or deferring activities, such as floor mopping, may be required.
- b. The Missouri S&T-ARF laboratory manager, IACUC chair, or designee will decide which sanitation activities are performed in order to provide the greatest benefit to the animals if it is not possible to perform all normal activities due to disaster/emergency conditions.

#### **4.4. Environmental Support (Ventilation, temperature control, and utilities)**

- a. Maintenance of an appropriate environment is essential to the well-being of animals and for many research projects. Ventilation

problems may include loss of or diminished air supply or exhaust, unacceptable temperature variations, contamination with agents such as chemicals or smoke, or loss of utilities such as electricity needed for lights or powered equipment (e.g., hoods, autoclaves, ventilated racks).

- b. Ventilation problems should be addressed by the Missouri S&T-ARF laboratory manager and IACUC chair in conjunction with physical facilities. The two objectives in response to lack of ventilation is maintaining at least some air movement in animal housing spaces, and keeping temperatures as close to the acceptable range as is possible. The minimum standard is to prevent animal deaths or contamination of the environment.

#### **4.5 Personnel for Animal Care**

- a. Personnel with adequate training are essential to maintaining animal colonies. They may be unable to work in facilities due to damage or dangerous conditions, physical obstructions (snow storm or chemical spill nearby), or interruption of work (bomb threat, picketing, etc.). The animal facility supervisor or designee will deploy available personnel to maintain animal health. Personnel may be asked to perform duties outside the scope of their normal responsibilities in order to protect animal health or well-being.
- b. The laboratory manager, IACUC chair, with consultation from the Office of Sponsored Programs will help make these decisions. Immediately following a disaster or prior to the incident, when known, a list of current/essential personnel needing building access to the animal facility will be provided to the Missouri S&T University Police Department.

## **5. Potential Disaster Events/Response**

### **5.1. HVAC or Utility Failure (Colony Room Temperatures/Humidity)**

#### **Preparedness**

- Verify all animal care staff training on acceptable temperature ranges, reporting environmental fluctuations, and appropriate response procedures.
- Maintain contingency plans to ensure animals receive adequate care in the event of power loss or abnormal temperatures.

### Response

1. Manually check room temperature and humidity
2. Notify the Animal Facility Manager immediately
3. If animal room temperature falls to a critical temperature (i.e., animal lives are at risk), place portable space heaters in the room.
4. If biohazard agents are used in a room, contact EHS at 573-341-4305 before using portable fans or leaving animal room doors.
5. Call Facilities 573-341-4252 to check HVAC/Utility Failure
6. Physical facilities may bring additional portable heaters and chillers to bring temperatures into acceptable range.
7. Animal Facility Manager will maintain communication with IACUC chair, Center for Biomedical Research Director, and Vice Chancellor of Research until issue is resolved.

### Recovery

- Re-establish all animal care programs and services.
- Re-establish pertinent biohazard control procedures.
- Assess program elements contributing to the occurrence of the event and program areas impacted.

## **5.2. Pandemic**

### Preparedness

- Ensure proper signage is posted in biohazard areas and lists PPE, handling, containment, and emergency response instructions.
- Promote social distancing by assigning alternating schedules
- Verify staff training on pertinent emergency response and first aid procedures.
- Verify all communications and contingency plans from the UM System, MS&T campus, and VCR office.
- Emphasize the importance of good personal hygiene and encourage frequent hand washing
- Locate hand sanitizer stations in each colony room and egress.

### Response

1. Follow previously implanted COVID-19 contingency plan
2. If employees are ill, they are not allowed to work inside the facility and risk the spread of disease to other employees and laboratory animals.
3. PPE must be worn at all times and all sanitize-able surfaces should be wiped down with Sani-Wipe® or Clorox Wipe® after every use.
4. Social Distancing should be kept at all times.
  - i. Depending on the pandemic and risk, the facility response is highly variable.
5. Minimize the handling of animals whenever possible
6. Spray/Wipe all incoming food and bedding prior to entering the animal facility.

7. Surfaces will be monitored with ATP swabs and the appropriate cleaning/sanitation will be implemented.

#### Recovery

- Lab restrictions will continue several weeks after social distancing is officially lifted. This is to insure secondary infections do not occur both within the facility between employees, but also to the animals.
  - **\*COVID 19-** Sprague Dawley rats are genetically prone to respiratory distress and are highly susceptible to many respiratory illnesses.

### **5.3. Biohazard Spill or Exposure**

#### Preparedness

- Ensure proper signage is posted in biohazard areas and lists PPE, handling, containment, and emergency response instructions.
- Ensure biohazards are properly handled, and stored or contained.
- Verify staff training on the biohazard's risks in accordance with EH&S Biosafety guidance.
- Verify staff training on pertinent emergency response and first aid procedures.
  - Eye exposure: Flush exposed eyes or face immediately. Remove contacts. Hold eyelids open with thumb & fingers. Flush continuously with eyewash for 15 minutes. Roll eyes to thoroughly rinse.
  - Mouth exposure: Rinse mouth with plain water for at least 15 minutes.
  - Skin exposure: Remove contaminated clothing & place in biohazard bag. Flush exposed skin with large amounts of water for 15 minutes.
  - Seek medical attention: Contact EHS 573-341-4305 and Student Health 573-341-4284 if needed.

#### Response (Small Spill)

1. Secure any bio-hazardous animals in cages and/or racks to ensure containment.
2. Remove contaminated clothing and immediately administer first aid to contaminated area or wound.
3. Put on protective clothing (gloves, safety goggles or glasses, and lab coat).
4. Cover spill area with absorbent materials (e.g., paper towels).
5. Soak absorbent materials with disinfectant. (e.g., a freshly made 1:10 dilution of bleach or alternative, and allow to sit for 30 minutes.
6. Wipe down all equipment and surfaces potentially contaminated with disinfectant, allowing disinfectant to remain on surfaces for an appropriate contact time (e.g., 10 minutes for 10% bleach).

7. Dispose of contaminated material as bio-hazardous waste. Place in Stericycle container.
8. Clean surfaces with sanitizer. Disinfect any tools which may have been used to clean bio hazardous materials
9. Remove PPD and wash hands with soap and warm water

#### Response (Large Spill)

1. Advise personnel in the room/area of the spill to evacuate immediately.
2. Contact EHS 573-341-4305
3. Immediately administer first aid to contaminated area or wound (see below).
4. Do not re-enter the room/area until the appropriate safety officials have cleared the area for re-entry

#### Recovery

- Re-enter the area only upon clearance by Emergency Responder, EH&S, Facility Management
- Assess program elements contributing to the occurrence of the event and program areas impacted.
- Report the animal program status to animal facility manager and IACUC chair
- Re-establish pertinent biohazard control procedures.
- Re-establish all animal care programs and services.

### **5.4. Active Shooter**

#### Preparedness

- Ensure proper emergency signage is posted provided by MS&T police department.
- Verify staff training on the appropriate response to an active shooter

#### Response

Missouri S&T's Police Department has implemented a RUN, HIDE, FIGHT protocol:

##### **RUN:**

- Evacuate if Possible
- Assess your situation.
- If you can, quickly evacuate from the building and call 911.
- Leave your belongings behind.
- Help others escape if possible, but do not stay behind if others will not go. Keep your hands visible to law enforcement.



#### **HIDE:**

- Hide silently in a safe a place as possible
- If it is not safe to evacuate, hide in an area out of the intruder's view.
- Lock and barricade the door to prevent entry.
- Turn off lights, close blinds, and silence cell phones and other electronics

#### **FIGHT:**

- Take action to disrupt or incapacitate the shooter
- As a last resort, and only if your life is in danger, you may choose to fight.
- Take action to incapacitate the shooter.
- Act with physical aggression against the shooter.
- Commit to your actions- your life depends on it.

#### Recovery

- Remain Calm and follow instructions by police officers
- Re-enter the area only upon clearance by Missouri S&T Police

### **5.5. Tornado**

#### Preparedness

- Human safety is the primary concern.
- Ensure personnel can find building exits even if directional signs are obscured by smoke or power outage.
- Identify at least two building evacuation routes and keep all egress routes and hallways clear

#### Response

1. If time permits, move animal racks away from exterior walls and preferably into the interior hallway.
2. Evacuate personnel to interior basement if time permits.
3. Report building structure and service problems to the Physical Facilities 573-341-4252

#### Recovery

- Report the animal program status to IACUC chair, Center for Biomedical Research Director, and Vice Chancellor of Research.
- Inventory animal population and account for any potentially escaped animals.
- Perform triage of animals to determine most appropriate course of action (i.e., relocation within facility, euthanasia, and evacuation)
- Re-establish all animal care programs and services.



## **5.6. Civil Disturbance (Animal Rights Activists, Disgruntled Employee)**

### Preparedness

- Do not place yourself or others at risk. Contact MS&T University Police 573-341-4300 if situation appears to be escalating.
- Verify staff training on security and response procedures.

### Response

1. Do NOT confront the individual(s)
2. Check to see if anyone was injured and seek medical care, if needed
3. Use the following list to assist in gathering specific details for the Police:
  - Identify yourself as a person working at an animal research facility
  - Location of the activity - including building, floor, and room number(s), etc.
  - Number of people involved
  - Characteristics of the people, i.e., gender, type of clothing, distinctive features, etc.
  - Type of activities being conducted, i.e., picketing, yelling, vandalism, releasing animals etc.
  - Type and number of weapons visible
  - Type and number of other tools and equipment, i.e., bullhorns, rope, spray paint cans, electrical wiring, backpacks, gym bags, signs, etc.
4. Remain at your general location until the Police arrive.
5. If necessary, move to a safe place or exit the facility (if this is occurring inside).
6. Take photographs of the activists and their activities, but only if this can be done safely

### Recovery

- Re-enter the area only upon clearance by MS&T Police
- Report the animal program status to IACUC chair, Center for Biomedical Research Director, and Vice Chancellor of Research.

## **6. References**

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2. <https://olaw.nih.gov/resources/disaster-planning.htm>
3. [http://surgery.ucla.edu/workfiles/research/Animal\\_Disaster\\_Plan\\_Template.pdf](http://surgery.ucla.edu/workfiles/research/Animal_Disaster_Plan_Template.pdf)
4. [https://www.jumpjet.info/Emergency-Preparedness/Protecting-Dependents/Animals/Disaster\\_Planning\\_for\\_Animal\\_Facilities.pdf](https://www.jumpjet.info/Emergency-Preparedness/Protecting-Dependents/Animals/Disaster_Planning_for_Animal_Facilities.pdf)
5. <https://iacuc.wsu.edu/documents/2016/06/wsudisasterpreparedness.pdf/>
6. <http://www.umt.edu/research/LAR/sops/SOPDisaster%20Plan.php>

## ***7. SOP Revision History***

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<b><u>Version #</u></b>	<b><u>Approved</u></b>	<b><u>Author</u></b>
450.01		Richard Watters