

University of Michigan

Animal Facility

Disaster Planning Guidelines

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UCUCA Approved 8/16/04  
Modified on 4/13/06

# **University of Michigan Animal Facility Disaster Plan**

## **Table of Contents**

	<b>Page Number</b>
<b>Disaster plan</b>	<b>2-12</b>
<b>Contacts List</b>	<b>13</b>
<b>U M Links</b>	<b>14-15</b>
<b>Flooding</b>	<b>16</b>
<b>Winter Storm</b>	<b>16</b>
<b>Civil Disturbance</b>	<b>16-17</b>
<b>Tornado</b>	<b>17-18</b>
<b>Bomb Threat</b>	<b>18-19</b>

# University of Michigan Animal Facility Emergency Guide

It's 3 am and you're sleeping. The phone rings, they need you at work because the temperatures in the animal rooms are at 85° F. They need help getting the cooling units in place. Groaning, you call the next person on the phone chain and grab some quick supplies for yourself, a water bottle and some ready-to-eat food. Ten minutes later the phone rings again. Joan is downstairs with the three other carpool people. As you head into the facility, the five of you talk about the local power outage and how many animal rooms are having problems. When you get to the facility you go to the "Command Center (CC)" to get flashlights and find out the area you are assigned to check on. You note that a "runner" will be by your area in about 20 minutes to receive an update from you to relay back to CC. Further instructions about when to expect Kool-Waves and other help will come then.

The best way to be ready for a disaster and/or an emergency is to have a plan, know the plan, and know how to best deal with flaws in the plan. This guide is intended to make dealing with emergencies an easy, low stress experience. It will provide a framework and suggestions on how to deal with emergencies, as well as a generic map of how to set up and avoid, or quickly handle disasters. Practicing the plan can help to prepare staff and leaders on how to quickly mobilize and contain problems in an efficient manner.

## 1) Advance Preparation

### a) Critical Incident Response Team (CIRT)

The team should be made up of the various supervisors/managers of the veterinary unit, animal facility, and communications (office manager, computer support personnel). These key personnel should be involved in establishing the types of reactions that occur based on the emergency situation.

### b) Command Center

Start by designating an area as the command center (CC). This creates an area that is the hub of information during an emergency situation. Although a specific central area is needed in campus wide events, it is also a good idea to have supplies ready in several areas. If an isolated emergency occurs it would serve the situation better to be able to have a command center close to the emergency.

### c) Contacts

An emergency is the wrong time to become familiar with key people. Know the key individuals ahead of time. Some recommendations of people to know are:

**i) Plant/ Facilities**

Keep a list of names of individuals from the Plant Department who are responsible for specific buildings. A supervisor or manager can work to develop plans and ensure that plant staff is aware of the animals and their needs. Make sure to provide a list of animal facility contacts to the plant department.

**ii) Department of Public Safety (DPS)**

Officers are assigned to specific buildings. Providing them with the details about the needs of a facility can be vital in an emergency. Knowing the animal needs ahead of time helps them plan in an emergency.

**iii) Laboratory Personnel**

Some laboratories in a facility provide their own care for their research animals. These laboratories should all have their own plan, based on this document, to handle emergency situations. Coordination among all animal users is strongly encouraged so that the animals receive the best care possible.

**iv) Occupational Safety and Environmental Health (OSEH)**

Have contacts identified in OSEH for any hazardous materials cleanup or containment that may be needed.

**d) Call List/ Response Team(s)**

**i) Animal Husbandry Staff**

Determine ahead of time how many staff members are needed to deal with an emergency. Plan for having only the minimum number available. Find out which staff members are interested in being a part of a response team. Two separate teams can be created, which provides for a relief team. Once the teams are identified, create a fanout list for phone calls that all members have. Plan for a default mechanism that brings in members if there is no phone service. Carpool options may need to be arranged.

**ii) Veterinarians**

An on-call veterinarian is available at all times. The veterinary staff should develop a process by which other veterinarians can be brought in to help with

emergency situations. The on-call vet should have the authority to determine when additional assistance is needed.

**iii) Plant/ Facilities**

The plant department must have known contacts in the animal facilities that can be contacted in case of ventilation/ power/ water loss. It may be possible to secure a “Plant Radio” for communicating needs, issues, etc with plant.

**e) Communication Network**

When planning for a disaster, take into account how communication can occur, or not occur, within the animal facilities during various disaster/ emergency situations. Consider the following communications options:

**i) With power**

**(1) Phone System**

This is an easily accessible way to distribute information. Designating certain time points to check in can alleviate confusion or frustration.

**(2) Cell Phones**

Many dead zones exist in the animal facilities. If cell phones are going to be used, staff may need to exit the building to get a signal to call the Command Center. Create a list of areas that do not receive a cell phone signal. If text messaging is an option on staff’s cell phones, this may be an additional option in areas where signal strength is low.

**(3) Pagers**

Key personnel should be equipped with pagers. These should include facility managers/supervisors, veterinary staff, key laboratory staff, and other individuals identified as respondents to emergencies. A distribution list should be kept with other contact information. A system of codes to relay information quickly is recommended.

**(4) Portable, bi-directional, radio transceivers (walkie-talkies)**

May be easier to use than the phone. Double check coverage in animal facilities! This allows everyone to stay connected at all times. All users should know how to properly use the radio communications devices.

**(5) E-mail**

If computers are accessible, e-mail can be an easy way to distribute/monitor situations.

**ii) Without power**

**(1) Phone System**

The phone system may still be operational, in some areas, without power. Modern, cordless phones will not work without power, however phones with cords can be functional as long as the phone system is operational.

**(2) Portable, bi-directional, radio transceivers (walkie-talkies)**

Double check coverage! This allows everyone to stay connected at all times. All users should know how to properly use the radio communications devices.

**(3) Runners**

An individual(s) can be sent to relay information to outlying areas. The benefit is that staff dealing with emergencies will not waste their energy and/or time running back and forth between the CC and the facility.

**f) Supplies**

**i) Emergency Response Personnel Supplies**

This supply list is meant to help provide for the emergency response team's needs. The following should be kept accessible in the areas where individuals will be deployed. Extra supplies should be kept in the Command Center to be distributed as needed to outlying areas.

- Drinking water-1 gallon per day/per person, keep 3 days worth on hand. Replace on a quarterly basis.
- Non-Perishable Food -in an airtight, pest-proof container. Replace on an annual basis or per expiration date.
- Portable, bi-directional, radio transceivers (walkie-talkies)
- Flashlight/ Lanterns and extra batteries- keep extra flashlights in CC to send out with personnel
- Transistor Radio (with batteries)
- Rope
- Tools needed to shut down equipment, gas tanks, etc
- Extension Cords/ Plug adaptors
- Fans
- Space heaters

- Utility knife
- First Aid Kit-Identify any special needs ahead of time
- Blankets
- Light sticks
- Heavy-duty work gloves
- Copies of emergency plan
- Extra batteries for devices
- Zip ties

**g) Emergency Animal Supplies**

**i) Water**

Identifying alternate water sources is one of the most important things to accomplish. If the power interrupts the water supply or if the water is otherwise compromised, backup plans need to be identified. Some suggestions are:

- Local water companies who can bring in potable water via 55-gallon drums or in a tanker truck.
- For Rodents, gel packs can be used. Gel packs provide a hydration source for rodents during shipping and can last up to five days

**ii) Additional Items (available as regular supply surplus)**

- Food
- Bedding
- Clean cages

**h) Temperature**

Below are acceptable temperature extremes for laboratory animals taken from Table 2.4 from the *“Guide for the Care and Use of Laboratory Animals”* (pg 32). If temperatures fall above or below these ranges, emergency response should be initiated (see below).

Rodents	64-79° F
Rabbits	61-72° F
Cat, Dog, NHP	64-84° F
Farm Animals and Poultry	61-81° F

i) Notify the Command Center that the temperatures are extreme.

(1) Hot

- (a) Heat producing devices, such as the flow hoods and ventilated racks, can be turned off. Flow hoods can add two degrees to the temperature of the room. Since many of these are left on continuously, the switch should be moved to the off position if there is no power in the room. This will reduce the risk of damage if there is a power surge. Shutting off the ventilation systems on individual racks should be done only after consulting with the Command Center.
- (b) If the outdoor temperature is above 80° F, the air supply to the animal housing room should be shut down well.
- (c) Prop open animal room doors to increase cool air circulation.
- (d) Portable air conditioning units should be set up in the hallways and fans utilized to move cooler air into the rooms.
- (e) If these measures are still unable to bring temperatures down, the Command Center may advise technicians to remove the micro-isolator tops from cages to release heat and prevent the buildup of ammonia inside the primary enclosure. Again this step should be taken only when instructed to do so.
- (f) Evacuate animals to alternate facility or consult with the veterinarian staff to determine other options

(2) Cold

- (a) Use portable heaters to bring temperatures up
- (b) If the power is off
  - (i) Evacuate the animals
  - (ii) Consult with the veterinary staff to determine other options

**i) Evacuation Procedures**

**i) People**

- (1) Designate an area for personnel to gather. Roll call should be taken to assure safety of personnel.
- (2) Have a back-up evacuation zone, in case personnel are unable to get to the designated site. Communication is vital between these two areas.

**ii) Animals**

In the extreme case that animals need to be evacuated, a location needs to be identified. The following criteria should be used when considering evacuation locations.

**(1) Public Health Concerns**

Consider the exposure of zoonotic diseases when identifying sites and transport routes.

**(2) Animal Well-Being**

Will the animals be put in greater jeopardy while in transit? Consider the following:

**(a) Temperature**

Can the micro- environment be controlled to keep the animal comfortable?

**(b) Health Status**

Will the health status of the animal be compromised rendering them unsuitable for the intended research?

**2) Practice**

Procedures for handling an emergency should be practiced so that staff and leadership are comfortable with them. To account for differences between facilities, guidelines specific to a particular area should be developed. Having differences in writing can help those unfamiliar with an area to accomplish assigned tasks.

**a) Practice Fan-Out Calling**

Be sure to create an understanding of how fan-out calling works. A person making an error at this stage can lead to not having enough staff to properly deal with the emergency.

**b) Simulate an Emergency Response**

A mock emergency situation should periodically be created to test all components of the emergency plan.

**c) Make Sure Contacts Are up to Date**

The list of contacts that is created needs to periodically be double-checked to ensure the information is up-to-date.

#### **d) Find Flaws**

After practicing, make sure to debrief with staff just like what would happen after a real situation. Feedback can provide ideas for improving the plan.

### **3) General Guidelines During An Event**

#### **a) Command Center (CC)**

Identify the area that will be used for a command center. Campus wide emergencies should use the centralized command center; localized emergencies should utilize the area command center.

#### **b) Priority List**

Emergencies generally require a quick response. Having a priority list ahead of time can make decision making easier during an event. Personnel safety is of the highest priority during an event.

#### **i) Personnel**

If a situation is not safe for personnel, make sure that they are evacuated. A meeting place should be identified. A roll list should be kept by the Command Center to ensure that all are present and accounted for. Once all personnel are accounted for, the Command Center needs to evaluate lower priorities and do what is needed.

#### **ii) Public Health/ Environment**

If there are issues with hazardous substances, spills, releases, etc, contact OSEH so containment or cleanup can occur.

#### **iii) Animals**

Animals should be prioritized in the following manner:

##### **(1) Species**

- (a) Non-Human Primates (NHP)
- (b) Dogs
- (c) Cats
- (d) Farm Animals
- (e) Rabbits/Ferrets
- (f) Rodents

(g) Non-mammals

**(2) Value**

- (a) Unique/ Rare Animals
- (b) Long-term studies or costly treatment participants

**(3) Vulnerability**

- (a) Temperature extremes
- (b) Security

**(4) Manageability**

- (a) Relocation ease

**(5) Hazard**

- (a) Able to contain hazards

**iv) Facilities/ Property/ Equipment**

Protection of facilities will fall to appropriate professional emergency response teams. Having an ordered list of facilities can assist the fire/rescue crews in deciding what to focus on, in case such decisions need to be made.

**c) Communication Network**

Arrange to receive updates on the general situation and specific buildings. Remember that changes can occur quickly in an emergency situation. It is imperative the plant department and the status of the facilities are in agreement.

Portable, bi-directional, radio transceivers (walkie-talkies) and contact lists should be kept in the CC for ready access. Portable, bi-directional, radio transceivers (walkie-talkies) should be charged or have fresh batteries available so that they can be put to use when needed.

**d) Staff Deployment**

Once it becomes safe for staff to enter facilities, they should proceed to the assigned areas and check the animals' and facility conditions.

**e) Evaluation**

Now that the staff has been deployed, information about the situation should be coming in. Use the information to determine if animals need to be moved or where to take cooling/heating supplies.

**i) Check the weather**

If it is going to stay cool/hot for an extended period use that information to determine how to act. For example, if animals are on the border of being too cold/hot, be aware of what weather is predicted. If necessary, move the animals in advance to a designated safe location.

**ii) Water Needs**

If water is to come from an outside source (i.e. truck delivery) it will need to be determined quickly. Delivery could be delayed, depending on the conditions. If water is stored in 55-gallon drums, moving them to different levels may become difficult. If possible, position these in key areas prior to an events impact. If this is not possible, a plan to distribute the water to the areas should be developed. If gel packs are to be used, have staff place them outside the animal rooms so they are ready when needed.

## Contacts List

### Plant

Ann Arbor; General	734 647 2059
Dearborn; General	313 593 5270
Flint; General	810 762 3223

### DPS

Ann Arbor	734 763 3434
Dearborn	313 593 9953
Flint	810 762 3335

### OSEH

Major Spills, Biological Releases	911
Radiation Safety	734 764-4420
Non-Emergency; Ann Arbor	734 647-1143
Non-Emergency; Dearborn	810 766 6763
Non-Emergency; Flint	313 593 4914

### Police/ Fire

911
-----

### Leadership Team

Individual Designated to Receive First Notification	
Backup	
2nd Backup	

## University of Michigan Links/ Other Resources

### UMHS

Main Emergency Links:

<http://www.med.umich.edu/i/safety/environment-emergency.htm>

Emergency Management Plan UMHS:

<http://www.med.umich.edu/i/policies/umh/05-01-001d.html>

UMHS Emergency response guide:

<http://www.med.umich.edu/i/safety/emergency/EmergencyResponseGuide.htm>

Disaster Program:

<http://www.med.umich.edu/i/safety/disaster/index.htm>

### OSEH

Emergency Evacuation Guidelines:

<http://www.umich.edu/~oseh/guideep.pdf>

Fire Extinguisher Use:

<http://www.umich.edu/~oseh/november2001.pdf>

### Plant

<http://www.plantops.umich.edu/>

### Other related links:

MSU School of Criminal Justice Critical Incident Protocol

<http://www.vu.msu.edu/preview/cip001>

National Weather Service

<http://www.nws.noaa.gov>

Federal Emergency Management Agency

<http://www.fema.gov>

Disaster Planning for Research and Laboratory Animal Facilities

<http://www.nal.usda.gov/awic/newsletters/v11n1/11n1heat.htm>

Animal Management in Disasters (Book, have copy in UCUCA office)

<http://www.nal.usda.gov/awic/newsletters/v11n1/11n1heat.htm>

The Disaster Center

<http://www.disastercenter.com>

## **University of Michigan Links/ Other Resources cont.**

LAMA Disaster Preparedness Resources

<http://www.lama-online.org/OLAW-1.html>

Office of Laboratory Animal Welfare Disaster Planning and Response Resources

[http://grants.nih.gov/grants/olaw/disaster\\_planning.htm](http://grants.nih.gov/grants/olaw/disaster_planning.htm)

Near Earth Objects Assessment

<http://impact.arc.nasa.gov/>

## **Flooding**

There are times when the weather may not be the problem. Pipes can break or some other unforeseen event provides enough water to flood an area. Heavy rainstorms, heat waves that would quickly melt the snow pack, and breaks in water piping are situations for management to be aware of. Advance preparation could prevent mass drowning of animals by moving them to higher ground. Be sure to evaluate and **KNOW** evacuation routes and areas.

## **Winter Storm**

According to the Lab Animal Managers Association (LAMA) “Vulnerability Assessment: Effective Education for the Unexpected” (<http://www.lama-online.org/vulnAssess.html>), the natural, catastrophic event most likely to cause issues for the University of Michigan would be a winter storm.

Advance warning of a winter storm can prepare staff to be on alert, especially those that live within walking distance of the facility. The most important factors to consider would be the safety of the staff getting to the facility, and then maintaining power at the various locations. As long as power is not lost, there should be ample supplies on hand to feed and water the animals. In the event of a power loss, the general guide for power outages should be followed. Changes to the command team, due to staff or leadership personnel not being able to safely drive in, should be made in advance. A minimum number of staff it takes to carry out tasks should also be identified. Road conditions or temperatures outdoors may prevent animals from being evacuated. Guidelines for how to proceed must be developed in advance.

## **Civil Disturbance**

A civil disturbance can be treated slightly differently than other emergencies. Generally these will not result in the loss of power, so emergency procedures set up to respond to these issues can be slightly different. Examples of civil disturbance are protests, accidents that affect the facility (blocking roads, collateral damage), or other events that disrupt the ability to carry out business as usual.

Mitigation actions that can be taken include:

- Cultivate relationships with local media outlets, including animal rights/welfare groups
- Educate the public and staff about the benefits of animal research
- Secure facilities
- Avoid infiltration of activists as new personnel

### Preparedness Actions:

- Monitor activities/planned protests of adversarial organizations
- Keep key players informed of these activities
- Familiarize leaders with animal facilities and programs
- Identify and train spokespersons
- Plan for enhanced security prior, during, and following planned events
- Backup data and records. Store backups in different location
- Consider pre-emptive media campaigns
- Prepare for secondary emergencies
  - Stress in personnel
  - Escaped animals
  - Fires/Bombs
  - Blocked roads
  - Public information crisis

### Response Actions:

- Notify emergency leaders as events unfold
- Enhance security procedures (24/7 lockdown during events)
- REMIND everyone that only trained spokespersons should talk to the media
- Avoid confrontations!
- Prepare public information measures
- Secondary emergencies
  - Listed above

### Recovery Actions:

- Inspect/assess damage
- Counseling for personnel, if necessary
- Inform the public
- Debrief with leadership groups
- Analyze the financial impact
- Evaluate the emergency plan and make adjustments as needed

## **Tornados**

Tornados present the most dramatic short-term effects. The number one priority in the case of a tornado is staff protection. Identify areas where staff can go for safety. These areas should be underground and away from windows. Tornado warnings will be issued by the weather service or by the city in which the University of Michigan facility is located. When a tornado warning has been issued, staff should proceed to these areas. A roll sheet should be used to ensure that staff are all safe. A designated individual should check all the animal rooms to ensure that all personnel have received the warning.

Once an all-clear signal has been given, staff can report to a <location> for a briefing on damage or return to work. All clear signals should be announced on local radio stations or by the local city government.

Details on UMHS tornado guidelines can be found at the following link:

<http://www.med.umich.edu/i/safety/emergency/Tornado-Inpatient.htm>

## **Bomb Threat**

When receiving a call from someone claiming to have/or planted a bomb, the following steps should be taken to allow for the gathering of information and protection of those involved.

1. Don't freak out! Stay calm! Try to get as much information as you can get. If you have a chance, get a co-workers attention and let them know you have a bomb threat, so that they can start calling DPS (911) and alerting the proper leadership individuals.
2. When gathering information it is important to:
  - a. Get the original message in exact detail to the best of your ability
  - b. If able, ask questions of the caller:
    - i. When is the bomb going to explode?
    - ii. Where is the bomb right now?
    - iii. What does the bomb look like?
    - iv. What kind of bomb is it?
    - v. What will cause it to explode?
    - vi. Did you place the bomb?
      1. Why?
    - vii. What is your name?
    - viii. What is your address?
  - c. Gleaned caller information:
    - i. Sex
    - ii. Caller's voice
      1. Agitated
      2. Calm
      3. Voice description
        - a. Stutters
        - b. Raspy
        - c. Accent
        - d. Other
    - iii. Background noises
    - iv. Threat language
      1. Well spoken
      2. Foul
      3. Irrational
      4. Taped

5. Like they are reading

d. Length of the call

e. ID on caller identification?

After the call is through, call 911. Calmly explain the situation, going through your list of questions. Alert the leadership chain identified in your disaster plan, so that appropriate steps can be taken. If this includes evacuation, make sure that everyone is safely evacuated.

Information is also available online at:

<http://www.umich.edu/~urel/prepare/bomb.html>