



**Animal Facility SOP 15.3
Emergency/ Disaster Plan**

Date Adopted	12/18/20
Date Last Updated	10/17/2022
Prepared by	Ingrid Tulloch & Michelle Dennis
Reviewed by	Matt Terzi, Julie Watson
This Emergency/Disaster plan will be reviewed and evaluated on an annual basis by the IACUC and MSU safety personnel or any time changes should be considered.	

Purpose: To establish procedures to be taken in the event of an emergency affecting the Animal Facility and/or campus

Vivarium Staff Responsibility during Emergencies

1. Have the **Call List at hand**. The person present during the emergency must contact emergency personnel and Dr. Tulloch, 917-622-5170. If Dr. Tulloch cannot be contacted, contact Mr. Rysheem McGirt (443-872-9517). Mr. McGirt will contact all Principal Investigators. ([emergency contact list](#))
2. A reference has been established if a malfunction should take place. Call the appropriate person as soon as the malfunction is noticed and follow the appropriate emergency procedures. A lab personnel and staff group call and text will notify members of incidents.
3. Know the following:
 - a. Location of a flashlight and back-up batteries.
 - b. How to read the animal room thermometers.
 - c. Which portions of the facility are handled by different air handlers or can be affected uniquely.
 - d. Locations of temperature alarms.
 - e. Location of fans and other apparatus capable of stabilizing the situation.
 - f. Location of the call list.

1. Types of Emergencies

- a. **Major Winter Storms:** Occasionally, major winter storms are associated with rapid and significant snowfall. In advance of a known situation that may result in animal care personnel not able to make it to work -- i.e. weather alert, a volunteer may be asked to remain through the night to assure animals will be attended to the next day. If this is not possible, the Research Office, security office and the emergency manager will be notified the vivarium is in emergency mode.
- Enviro-dri® may be added to some cages that do not contain bedding, assuring some heat if there is a power loss.
 - All rodent cages will have food topped off and water bottles will be added to cages to assure water is available in case power is lost.
 - Feeding and watering instructions will be posted on rooms. If no staff can make it to work, trained security or emergency personnel will assist in animal care.
 - Animals on bottom rows may be moved higher on racks in case of flooding.
 - Security and emergency management should have the contact information of essential personnel in case further instructions are necessary.
 - Vivarium access doors would remain locked, but animal room doors would be set to “locks off” status to allow other personnel to enter.
 - If the Animal Facility’s temperature falls outside of accepted parameters, notify Plant Operations immediately. Place portable fans, heaters or chillers within the rooms and prop open the room doors to allow air to circulate within the facility. Make hourly checks of each room’s temperature and humidity.
- b. **Wind events:** If a wind event (hurricane or derecho) is forecast, prepare the Animal Facility for an extended absence of personnel by ensuring that all cages are fully stocked with food and water bottles and Hydrogel packs. Relocate animals to BSSC 460 physiology laboratory if flooding is expected.
- c. **Chemical Spills:** In the case of a chemical spill, all animal cages will be returned to their racks until the spill is contained and cleaned up. If the spill takes place within an animal room, all racks will be removed as quickly as possible and moved to another species-appropriate room.
- d. **Fire:** In the event of a fire, if time permits return all animal cages to their rooms. Close all room doors and evacuate the facility.
- e. **Pandemic:** A major pandemic situation may result in the lack of normal essential personnel to offer routine animal care. It is expected there would be advance warning in which case many procedures similar to a known winter storm would be effective.
- Food and water will be topped off on a daily basis in case there is a day where no one is available.

- Security will be contacted to advise them of the situation in case no one is available.
 - Feeding and watering instructions will be posted on animal room doors. If no staff can make it to work, security or emergency personnel will assist in animal care.
 - Security and emergency management should have the contact information of essential personnel in case further instructions are necessary.
 - Vivarium access doors will remain locked, but animal room doors will be set to “locks off” status to allow other personnel to enter.
- f. **Civil Disturbance:** The fact that this facility does conduct research on animals creates the possible threat of protest from activist groups. Should a specific group assemble outside of the research area the following steps should take place:
- Campus Police should be contacted immediately.
 - Research Investigators should be contacted immediately and told to inform all lab personnel not to come to the vivarium.
 - All employees working in the vivarium should safely and immediately evacuate the facility and if necessary the building.

2. Protocol for Animal Care, Triage, Transport and Euthanasia

Questions concerning emergency animal care may be directed to the point of contact who will provide instructions approved by the Attending Veterinarian.

Triage

In the event of a major disaster, injured or affected animals will be triaged by trained animal care personnel and/or emergency veterinary staff as long as human safety is not compromised. Crucial and irreplaceable animals will be treated on site if possible, and/or transported to suitable, predetermined locations for further care. If time restraints require selective decision for triage of animals, unique and transgenically rare, and long term study animals will be considered first (irreplaceable animals). Those with life-threatening injuries or conditions not amenable to recovery will be humanely euthanized on site by trained personnel.

As soon as access is allowed to the Animal Facility, all cages will be inspected immediately. Injured animals will be treated (if possible) or euthanized. Escaped animals will be captured and returned to a species-appropriate cage or euthanized.

- a. **Availability of food and water.** The vivarium has enough food on site to accommodate animals for one month. Water bottles should all be filled for occupied cages. If water is not available on site, a Hydrogel pack should be placed in every cage containing animals. After stocking cages with hydrogels, contact a delivery service to deliver water to the site when needed. The delivery can be made the same day as the call.

b. **Relocation/Transportation** of animals during or following a disaster /Preemptive movement in case of an impending disaster with warning. In the event the animal removal/relocation from a building(s) is needed, animals will be moved to safe conditions. When animals are located in labs as a disaster hits, if it is possible animals should be returned to the Animal Research Facility. This should be done only if there is no threat to human life. If that is not possible the Animal Facility Director or Attending Veterinarian should be contacted for instructions.

c. **In case of flooding:** Animals may be moved to floor levels above the flooding in room 460 of the BSSC. The IVC cages can provide ventilated air for up to 22 hours. If animals must be removed from buildings, animals will be moved to the receiving area outside elevators in front of BSSC 116. If power is still available elevators will be used. In case there is a lack of power a chain of personnel will be constructed to move housing containers using the stairways.

- Secure all animals and move cages to the highest levels of the racks. If the leak is in one area, move racks out of that area and into species-appropriate rooms in another area within the facility. If the entire facility is flooded, holding areas in BSSC 460 will be used to house animals. Close all room doors and evacuate the facility.

d. **Euthanasia of research and/or teaching animals** will be a last resort and will be conducted under the direction of the Director or Attending Veterinarian. This procedure can only be carried out with the approval of the Attending Veterinarian. Questions concerning emergency animal care may be directed to the extension 2279 and/or Attending Veterinarian: Dr. Matthew Terzi.

e. **Mass euthanasia.** If it becomes necessary to euthanize colonies of animals, trained personnel will execute this. CO2 or inhalant anesthetic euthanasia will be utilized if possible. If necessary chemical IV or IP euthanasia will be done, with or without preliminary sedation/anesthesia--if time appropriate materials and personnel allow.

3. Facilities Malfunction The most common facility malfunctions that impact the laboratory animals are utility failures such as malfunction of the heating, ventilation, and air conditioning (HVAC) system and power outages. The Edstrom Environmental Watchdog System monitors all of the environmental systems and the Thermo-fisher instrument connect will both contact the facility director: **Ingrid Tulloch 917-622-5170 in case of power failure.**

Backup generators are in place to immediately supply power to essential equipment. Most of the unit will have power if there is a failure (room air handling, animal room lights, cage air

handling unit). With a full tank of fuel the generator will supply power for 48 hours.

The Director of facilities and Physical Plant Mr. Robert Riesner has a direct connection to all facilities' environment conditions 24/7 and is alerted if non-compliant conditions occur. If Mr. Reisner is unavailable, then contact Dr. Ricardo Howell from the office of the Dean of the College of Liberal Arts 410-480-916.

Emergency Declaration and Points of Contact/Call List

<https://docs.google.com/document/d/1-hQxtJnT6frlzC7bP1KWbyQkAR6a2bm3s9GekdCBtul/edit?usp=sharing>