

11.0 Animal Facility Emergency and Disaster Plan

SCOPE: Preparation for and response to possible disasters that may impact the program of animal care or animal facilities.

11.1. Reason for this Plan:

The goal of this document is to summarize the disaster-preparedness procedures that have been established and to address the requirements for such a plan put forth by the USDA Animal Plant Health Inspection Service (APHIS) and the 8th edition of the NRC Guide for the Care and Use of Laboratory Animals (The Guide). The Guide requires that animal facilities have a disaster plan that: "...should define the actions necessary to prevent animal pain, distress, and deaths due to loss of systems such as those that control ventilation, cooling, heating, or provision of potable water. If possible, the plan should describe how the facility will preserve animals that are necessary for critical research activities or are irreplaceable. Animals that cannot be relocated or protected from the consequences of the disaster must be humanely euthanized. The disaster plan should identify essential personnel who should be trained in advance of its implementation."

Drake University is committed to ensuring that vertebrate animals used in research are treated in a humane, ethical manner, with the highest standard of care according to federal, state, and institutional regulations and policies. This plan is intended to provide Drake University's Institutional Animal Care and Use Committee (IACUC), faculty, staff and students, a general plan of action in the event of an emergency or disaster with potential impact to the animals housed on campus.

The intent of this plan is to protect and manage the animals on campus in the event of an emergency. However, under no circumstances should employees put themselves at risk in attempting to implement animal protection procedures.

This plan supplements the campus-wide Drake University Emergency Plan. All personnel should follow the procedures in the Drake University Emergency Plan and use this plan as a supplement to specifically address vertebrate animal needs in the event of an emergency.

11.2. Plan Statement:

All personnel must comply with the Drake Campus-Wide Emergency Plan. The sections below detail how emergencies will be handled within the animal facilities.

EMERGENCY CONTACT INFORMATION & RESOURCES:

	Call Priority Order	Contact Numbers	
Electrical Power Outage	Animal Vivarian – Donna Tuttle	612-226-4010 (cell)	515-271-4933 (office)
	Animal Care Technician – Joy Bachmann	515-991-5594 (cell)	515-271-2614 (office)
	Public Safety	811	
HVAC Problems	Animal Vivarian – Donna Tuttle	612-226-4010 (cell)	515-271-4933 (office)
	Animal Care Technician – Joy Bachmann	515-991-5594 (cell)	515-271-2614 (office)
	Public Safety	811	
Water Supply Interruption	Animal Vivarian – Donna Tuttle	612-226-4010 (cell)	515-271-4933 (office)
	Animal Care Technician – Joy Bachmann	515-991-5594 (cell)	515-271-2614 (office)
	Drake Facilities Management	515-271-3955 (office)	
Tornado or Severe Weather	Public Safety	811	
	Animal Vivarian – Donna Tuttle	612-226-4010 (cell)	515-271-4933 (office)
	Animal Care Technician – Joy Bachmann	515-991-5594 (cell)	515-271-2614 (office)
Flood	Animal Vivarian – Donna Tuttle	612-226-4010 (cell)	515-271-4933 (office)
	Animal Care Technician – Joy Bachmann	515-991-5594 (cell)	515-271-2614 (office)
	Public Safety	811	
	Call Priority Order	Contact Numbers	
Fire	Des Moines Police	911	
	Public Safety	811	
	Animal Vivarian – Donna Tuttle	612-226-4010 (cell)	515-271-4933 (office)
	Animal Care Technician – Joy Bachmann	515-991-5594 (cell)	515-271-2614 (office)

Break-in/Bomb Threat/Active Shooter	Des Moines Police Department	911	
	Public Safety	811	
	Animal Vivarian – Donna Tuttle	612-226-4010 (cell)	515-271-4933 (office)
	Animal Care Technician – Joy Bachmann	515-991-5594 (cell)	515-271-2614 (office)
Chemical Spill	Chris Nickell, Director, Environmental Health & Safety	515-494-3957 (cell)	515-271-3804 (office)
Protest/Picketing	Public Safety	811	
	Animal Vivarian – Donna Tuttle	612-226-4010 (cell)	515-271-4933 (office)
	Animal Care Technician – Joy Bachmann	515-991-5594 (cell)	515-271-2614 (office)
Snow Storm/Blizzard/Ice Storm	Animal Vivarian – Donna Tuttle	612-226-4010 (cell)	515-271-4933 (desk)
	Animal Care Technician – Joy Bachmann	515-991-5594 (cell)	515-271-2614 (office)

For after hours issues with power outages, HVAC, water, etc., please call Public Safety at 271-2222 and they will contact the appropriate person or duty engineer. If evacuation is necessary or if other major consequential actions are required, Drake Public Safety will contact Vivarium Staff.

FOR ALL OTHER ANIMAL FACILITY PROBLEMS DURING BUSINESS HOURS

For issues such as room temperature variations, airflow abnormalities, equipment breakdown, etc., Donna Tuttle, Animal Vivarian, should be notified at 612-226-4010 (cell) or 515-271-4933 (office)

NON-EMERGENCY CONTACT INFORMATION

- Drake Public Safety non-emergency 515-271-2222
- Des Moines police non-emergency 515-283-4811
- Animal Vivarian – Donna Tuttle, ALAT 515-271-4933 (office) 612-226-4010 (cell)
- Animal Care Technician – Joy Bachmann, ALAT 515-271-2614 (office) 515-991-5594 (cell)
- Animal Facility Director – Ron Torry, Ph.D. 515-271-2750 (office) 515-238-7039 (cell)
- Attending Veterinarian - Lisa Takes, DVM 515-283-1577 (office) 515-229-0405 (cell)

- Director, Sponsored Programs Administration
and Research Compliance – Mary Wohlford, Ph.D. 515-271-3788 (office)
- IACUC Chair – Kim Huey, Ph.D. 515-271-4853 (office)

11.3 OVERVIEW OF ANIMAL CARE & SUPPORT NEEDS

Animal health checks and health maintenance:

Animals should be checked daily to confirm they are healthy. Animal Vivarium Staff or other qualified personnel may perform these observations. The Attending Veterinarian or Consulting Veterinarian will triage sick or injured animals and determine a treatment plan in consultation with Animal Vivarium Staff.

Disaster events in a research animal setting may cause the loss of room access, environmental control, or safe working conditions that limit animal care and veterinary service support. Direction in this situation is frankly stated in the following excerpt from the Guide for Laboratory Animal Care and Use (8th edition): “Animals that cannot be relocated or protected from the consequences of the disaster must be humanely euthanized.”

Conditions that may necessitate euthanasia after a disaster could include:

- Availability of feed, caging, rooms, environment or other species specific requirements.
- Animals with life threatening injuries or conditions not amenable to recovery.
- Loose or unidentified animals
- Investigator input, unless suffering is determined by veterinarian

Although every attempt will be made to avoid mass euthanasia during or following a disaster, euthanizing injured/distressed animals in these situations may be the only way to reduce animal pain and suffering.

Drake University does not have a back-up facility on campus prepared for the evacuations of all animals in the event of an emergency. However evacuations may be considered based on the details of the disaster, type of animal, and feasibility of evacuation or relocation. For long-term relocation of animals, Drake University has a Memorandum of Understanding (MoU) with Des Moines University. Each site agrees to provide emergency long-term housing for the other site as specifically outlined in the Memorandum of Understanding. See Appendix A for Memorandum of Understanding with Des Moines University.

The following priority list attempts to preserve animals necessary for critical teaching, research activities, or are genetically distinct or irreplaceable. The order of animals to preserve include:

- a. All animals used in teaching (if disaster occurs when classes are in session)

- b. Specially bred or genetically distinct animal lines that are irreplaceable. Three to four breeding pairs, or breeder individuals per line, will be preserved.
- c. Investigators working on extramural grants with guidelines for preserving equipment and data.
- d. Breeding pairs for other animal lines
- e. All other animals used in teaching or research

Animals not in a managed holding room at the time of an incident (e.g., animals removed from the vivarium for short-term procedures) are the responsibility of the PI who removed the animals and his/her staff. The PI will be notified by Vivarium Staff in the case of an emergency and the PI must make critical decisions regarding the decision to relocate or euthanize animals in the event of an emergency.

Any animals that cannot be relocated, protected, or adequately maintained from the consequences of the disaster must be humanely euthanized. When appropriate, animals will be euthanized at the discretion of the Attending Veterinarian or designee in consultation with Animal Vivarium Staff using current American Veterinary Medical Association (AVMA) approved methods of euthanasia.

Food and water supplies:

Food and water are critical to maintaining animal health. Having the appropriate food in adequate quantities for the species and research needs is one goal of this plan. If the usual food is not available, professional judgment must be applied to identify acceptable substitutes which are available. 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. Some species are especially sensitive to food or water deprivation (e.g., new born rats or mice) and should be given special attention.

If food and water cannot be adequately maintained, animals will be euthanized at the discretion of the Attending Veterinarian in consultation with Animal Vivarium Staff and current American Veterinary Medical Association (AVMA) approved methods of euthanasia will be used.

Sanitation:

For purposes of animal health, animal welfare and support of research, adequate sanitation must be provided. 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. The Drake University Attending Veterinarian or designee and/or the Animal

Vivarian 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.

If adequate sanitation cannot be maintained, animals will be euthanized at the discretion of the Attending Veterinarian in consultation with Animal Vivarium Staff. Current American Veterinary Medical Association (AVMA) approved methods of euthanasia will be used.

Environmental support (ventilation, temperature control, utilities):

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, loss of pressure differentials in critical areas, 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). Ventilation problems should be addressed by Animal Vivarium Staff in consultation with Drake University Facility Services personnel with goals of: maintaining adequate air movement in animal housing spaces, sustaining air pressure differentials in all rooms and keeping adequate temperatures as close to the acceptable range as is possible. The minimal standard is to prevent animal deaths or contamination of the environment.

Maintenance of body temperature within normal circadian variation is necessary for animal well-being. Animals should be housed within temperature and humidity ranges appropriate for the species, to which they can adapt with minimal stress and physiologic alteration. The dry-bulb temperatures listed in Table 1.1 are broad and generally reflect tolerable limits for common adult laboratory animal species, provided they are housed with adequate resources for behavioral thermoregulation; temperatures should normally be selected and maintained with minimal fluctuation near the middle of these ranges.

TABLE 11.1 Recommended Dry-Bulb Macro-environmental Temperatures for Common Laboratory Animals ([The Guide for the Care and Use of Laboratory Animals: Eighth Edition](#), Page 41)

Animal	Dry-bulb Temperature	
	C°	F°
Mouse, rat	20-26	68-79
Finch, Pigeon	16-27	61-81

Relative humidity should also be controlled, but not nearly as narrowly as temperature for many mammals; the acceptable range of relative humidity is considered to be 30% to 70% for most mammalian species. Ideally relative humidity should be maintained within a 40-60% range. Dehumidifiers will be setup in rooms

by Animal Vivarian Staff when humidity levels in the animal room are above 75% for an extended period of time.

Moderate fluctuations in temperature and relative humidity outside suggested ranges are generally well tolerated by most species commonly used in research as long as they are brief and infrequent.

If environmental conditions cannot be adequately maintained animals will be euthanized at the discretion of the Attending Veterinarian in consultation with Animal Vivarium Staff. Current American Veterinary Medical Association (AVMA) approved methods of euthanasia will be used.

Personnel to provide animal care:

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 Vivarian or designee will deploy available personnel to maintain animal health and well-being under the direction of the Attending Veterinarian or designee. Personnel may be asked to perform duties outside the scope of their normal responsibilities in order to protect animal health or well-being. The Attending Veterinarian and Animal Vivarium Staff, with consultation as needed from Sponsored Programs Administration (SPA) and Animal Facility Director will make this decision. As soon as possible after a disaster or prior to the incident, when possible, a list of current/essential personnel that may need to access campus and the animal facilities will be provided to Drake Public Safety so they may further distribute it to local, state or federal authorities that may control access, including road closures as well as complying with the Drake Campus-Wide Emergency Plan ([Drake University Emergency Procedures Manual 2018](#))

11.4 EVACUATION OF ANIMALS:

Disaster preparedness can mean the difference between undue loss and suffering of animals, which can compound trauma to human victims, and successful evacuation and care for both people and animals. Safe evacuation of all people from the designated area is the priority for all responding agencies.

Evacuation Space: Short-Term & Long-Term Housing

Drake University **does not have a back-up facility** specifically prepared to evacuate all animals in the event of an emergency. If a particular animal room's environment cannot be adequately maintained within the NRC Guide for the Care and Use of Laboratory Animals parameters, the animals may need to be relocated within the facility. For long-term relocation of animals, Drake University has a Memorandum of Understanding with Des Moines University. Each site agrees to provide emergency, temporary housing for each other's facility (see Appendix A).

Decision-Making for Evacuation

If there is an immediate threat to human health or safety – PERSONNEL MUST NOT ATTEMPT TO EVACUATE THE ANIMALS! Concern for animals is secondary to human life. Personnel should not place themselves in danger to remove animals from a building.

- If you are working with animals near their cages and time permits, put the animals back in their cages.
- If you are in the middle of surgery, euthanize the animal if there is time.

NOTE: Any animal cage evacuated from the animal facility should have cage card information taped onto the cage with clear tape and/or cage card information written directly onto the cage with permanent marker as soon as possible.

Evacuation will be considered based on the details of the disaster, type of animal, feasibility of evacuation or relocation, and the amount of time available. The decision to evacuate animals will be made in consultation with the Attending Veterinarian or designee, Director of SPA, Institutional Official, and Animal Vivarium Staff. However, there may be situations where adequate time is not available to contact the Director of SPA or an Institutional Official and the decision to evacuate will be made by Animal Vivarium Staff. Scenarios where evacuation of an animal may be appropriate include:

- Evacuation following an emergency that resulted in damage to the animal facility rendering it unsuitable for continued housing of animals.
- Pre-evacuation in the event of an impending disaster.

In the event of a catastrophic emergency, injured or affected animals will be triaged by trained animal care personnel (veterinarians, animal vivarium staff, research investigators and/or research staff). Treatment will occur on site if possible or after evacuation to a predetermined area/site. Those animals with injuries too severe to recover will be humanely euthanized.

After an evacuation of the facility Drake Public Safety, Environmental Health and Safety, Des Moines Police and/or others as needed will determine when it is safe to return to the area with the animals. Investigators will be responsible for coordinating with their individual students regarding when to resume their research.

11.5 SHELTERING-IN PLACE

The term “shelter-in-place” means to seek immediate shelter and remain there during an imminent event instead of evacuating. There are occasions when the option to evacuate the area cannot be considered. Unless otherwise instructed to evacuate, sheltering in a pre-determined safe location is the preferred method of safely waiting out some events. All personnel must comply with the Drake Campus-Wide Emergency Plan. [Drake University Emergency Procedures Manual 2018](#)

A second definition of “Sheltering in Place” may be used to describe when animal care personnel decide ahead of time to come to or remain in the facility for longer than a normal shift. For example, when extreme weather is predicted, such as snow or ice storm, or other severe weather which may prevent transportation or limit access to the animal facility to provide care as required by federal law, the Animal Vivarium Staff will coordinate to ensure that someone is available to care for the animals. If such a decision is made, the Animal Vivarium Staff will notify Drake Public Safety dispatch of the exact area where personnel remain; this is especially important when the University is “closed.” Investigators will need to coordinate with students working with them on their protocols. Students must follow the Drake Emergency Plan. [Drake University Emergency Procedures Manual 2018](#)

Prior to a winter storm or other predictable severe weather, when possible, cages will be topped off with food and fresh water. Animals which are usually fed once per day may be given full hoppers of food. Rodent cage hoppers may be filled to the maximum and full water bottles provided the day before the expected storm even if it is not a normal water change-out day. Fresh water may be stored in clean containers in the facility.

Generally, the amount of feed kept in-house (including food on cages, food in room feed supply bins and food in the feed storage room) is projected to be an adequate supply to allow for any potential delays in feed shipment. Investigators will be notified as needed of any changes to feed and water deprivation schedules as related to their specific research protocols.

Loss of power will be managed with the backup generator. In the event that such a situation is likely during the workday, the Animal Vivarium Staff or designee will closely monitor weather conditions. Animal Care staff will be reassigned work tasks to assure that all critical tasks are completed (feed, water, security of animals) and then nonessential personnel will be sent home (timing to be consistent with recommendations from weather bulletin sources).

In extreme or rare incidences, faculty will be responsible for animal husbandry tasks for their animals. For after hours issues with power outages, HVAC, water, etc., please call Public Safety at 271-2222 and they will contact the appropriate person or duty engineer. If evacuation is necessary or if other major consequential actions are required, Drake Public Safety will contact Vivarium Staff.

11.6 NATURAL DISASTERS - FLOODS, EARTHQUAKES, TORNADOS, SNOWSTORMS, FIRE:

Surgical procedures should not be conducted if there is advance notice of a potential disaster. In addition to the Drake University Emergency Plan, the following should be considered for animals.

Procedures & animal handling during or after a flood, earthquake, tornado, snowstorm, or fire:

- If possible, leave rooms where hazardous materials and anesthetic agents are located.
- Secure any hazardous materials.
- If possible, turn off all gas lines and gas cylinders.
- If you are working with animals near their cages and time permits, put the animals back in their cages.
- If you are in the middle of surgery and are required to evacuate, euthanize the animal if there is time.
- After the area has been deemed safe by Drake Public Safety and Environmental and Health Services, Animal Vivarium Staff will be permitted inside the building to assess the need for evacuation and relocation of animals or humane euthanasia, if necessary.

11.7 HVAC LOSS:

Essential animal facility HVAC systems have backup that automatically turns on. However, any major utility failure should be reported to Animal Vivarium Staff. If a particular animal room's environment cannot be maintained within the Guide's parameters, the animals may need to be relocated within the facility.

Animal Vivarium Staff will be responsible for coordinating the move of any animals and Investigators will be notified of any re-locations within the animal facility.

Overheating:

- Animals may need to be moved to other rooms within the animal facility that are not over heating or to the animal facility's hallways if they are cooler in these locations.
- If the whole animal facility is overheating, mobile cooling stations may be utilized to reduce the heat load.
- If animal rooms cannot be cooled, the Attending Veterinarian (or designee) at the discretion and coordination with Animal Vivarium Staff will make the decision to relocate within the facility or euthanize the animals if they are in distress or danger.

Loss of Heat:

- Animals may be moved to rooms within the animal facility that have heat or to the animal facility's hallways if it is warmer in these locations.

- If the whole animal facility is experiencing loss of heat, mobile auxiliary heaters may be utilized in animal rooms that have no heat.
- If animal rooms cannot be warmed or there is no warm place within the animal facility, the Attending Veterinarian (or designee) at the discretion and coordination with Animal Vivarium staff will make the decision to relocate within the facility or euthanize the animals if they are in distress or danger.

11.8 ANIMAL RIGHTS ACTIVISTS: PROTESTS / PICKETING

In the event of protests or picketing (by animal rights groups, for example), animal facility personnel are to report to work as usual. In doing so, they are to avoid confrontations if they pass through picket lines or protest marchers. [Drake University Communications and Marketing](#) (515-271-2169) will handle the dissemination of information and address questions about research activities. Drake Public Safety and the Des Moines Police Department will handle all security related issues, and will increase security measures for all animal housing and support facilities while helping keep all facilities secure.

- **Animal health checks:** If the number of employees on site is decreased, priority is given to activities which directly affect animal health and welfare: health checks and treatments, feeding, watering, and maintaining minimal sanitation requirements.
- **Food and water supplies:** Food and water supplies on-site should not be affected. Closing the receiving dock and deferring delivery locations may be considered if the primary location is unusable. Similarly, if the normal waste pick-up procedure is disrupted, waste may be taken out through a different exit location or kept in cold-storage temporarily.
- **Sanitation:** Sanitation should proceed normally, assuming sufficient personnel are present. If staff shortages occur, sanitation will be prioritized as described in Animal Health Checks above.
- **Environmental support:** Environmental systems are not expected to be affected. If the environment is altered, as by sabotage, for example, the specific problem will be addressed as described in the section for that emergency (see: HVAC loss, Bomb Threat, Electrical Power Outage, etc).
- **Personnel:** Drake University personnel are expected to report to work. Drake personnel may be required to perform duties outside their usual responsibilities in order to preserve animal health. The Animal Vivarian in consultation with the Attending Veterinarian or designee will adjust duties as needed.

11.9 EMERGENCY SUPPLIES

The animal facility will keep on hand enough food and water to provide proper care for animals in the event of a disaster. The animal facility will maintain an adequate feed supply to meet the needs of a temporary disaster predicted for our region.

Additional supplies kept on hand include:

- Drinking water and food for staff
- Flashlights and extra batteries
- Utility knife
- Heavy duty work gloves
- Sanitation needs (such as tissue paper, bleach, plastic bags, plastic bucket)
- Duct tape and/or barrier tape
- Large sheets of paper, blank cage cards, markers, pens and pencils
- Campus and area maps
- Personal first aid kit

A full list of rooms where animals are housed and a full list of animal facility and key personnel contact information will be maintained by the Animal Vivarian and provided to Drake Public Safety and the Director, Office of Sponsored Programs and Research Compliance (See Appendix B for map of room locations)

11.10 DISASTER PLAN TRAINING

Drake University is prepared to respond to emergencies 24 hours per day, 7 days per week. If a major emergency affecting Drake University as a whole such as a tornado, hazardous materials accident, picketing, or shooting occurs, Drake Public Safety and/or the Des Moines Police will direct the University's emergency response. Specially trained response and support teams will be activated. The Office of Sponsored Programs and Research Compliance will coordinate Environmental Health and Safety training and public safety training. The frequency of University-wide training will be determined by Drake Public Safety who is responsible for the overall emergency response program at Drake University. Emergencies specific to the Animal Facility will be coordinated with Drake Public Safety, University Administration and Animal Vivarium staff as described in this document.

All students approved to help on animal research projects will be oriented to the animal facility and are required to fully read, understand, and abide by the policies and procedures as outlined in the Animal Facility Overview for Students (see Appendix C).

11.11 RESPONSIBILITIES:

Drake University's Institutional Animal Care and Use Committee (IACUC) will review the Animal Facility Disaster Plan and the plan will subsequently be approved at the University level. The Director of the Office of Sponsored Programs and Research Compliance at Drake University provides resources and guidance to

the IACUC, animal research investigators, and care staff on current regulatory requirements involving the requirements for disaster planning.

11.12 REFERENCES:

Federal regulations require each institution to develop Disaster Planning and Emergency Preparedness. The following show where these regulatory requirements can be found in the Eighth Edition of the Guide for the Care and Use of Laboratory Animals (Guide) and the Animal Welfare Act (9CFR) and serves as a checklist of disaster planning expectations related to Animal Care at Drake University:

1. Define the actions necessary to prevent animal pain, distress, and deaths due to loss of systems such as those that control ventilation, cooling, heating, or provision of potable water. Guide p. 35.
2. Animals that cannot be relocated or protected from the consequences of the disaster must be humanely euthanized. Guide p. 35.
3. Identify essential personnel who should be trained in advance in its implementation. Guide p. 35. Personnel trained in emergency procedures for special facilities or operations. Guide p. 74.
4. Access to essential personnel during or immediately after a disaster. Guide p. 35. In the event of an emergency, institutional security personnel and fire or police officials should be able to reach people responsible for the animals. Guide p. 74.
5. Prominently posting emergency procedures, names, or telephone numbers in animal facilities or by placing them in the security department or telephone center. Guide p. 74. Emergency procedures for handling special facilities or operations should be prominently posted. Guide p. 74.
6. The Animal Vivarian or attending veterinarian responsible for the animals should be a member of the appropriate safety committee at the institution, an “official responder” in the institution, and a participant in the response to a disaster. Guide p. 75.
7. Law enforcement and emergency personnel should be provided with a copy of the plan for comment and integration into broader, area wide planning. Guide p. 35.
8. While contingency plans normally address natural disasters, they should also take into account the threats that criminal activities such as personnel harassment and assault, facility trespassing, arson, and vandalism pose to laboratory animals, research personnel, equipment and facilities, and biomedical research at the institution. Preventive measures should be considered, including pre-employment screening and physical and information technology security (Miller 2007). Guide p. 23.
9. How the facility will preserve animals that are necessary for critical research activities or are irreplaceable. Priorities for triaging animal populations. Guide p. 35.

10. Research facilities must develop, document, and follow an appropriate plan to provide for the humane handling, treatment, transportation, housing, and care of their animals in the event of an emergency or disaster (one which could reasonably be anticipated and expected to be detrimental to the good health and well-being of the animals in their possession). USDA.
11. Identify situations the facility might experience that would trigger the need for the measures identified in a contingency plan to be put into action including, but not limited to, emergencies such as electrical outages, faulty HVAC systems, fires, and animal escapes, as well as natural disasters the facility is most likely to experience. USDA.
12. Outline specific tasks required to be carried out in response to the identified emergencies or disasters including, but not limited to, detailed animal evacuation instructions or shelter-in-place instructions and provisions for providing backup sources of food and water as well as sanitation, ventilation, bedding, veterinary care, etc. USDA.
13. Identify a chain of command and who (by name or by position title) will be responsible for fulfilling these tasks. USDA.
14. Address how response and recovery will be handled in terms of materials, resources, and training needed. USDA.
15. The plan must be reviewed by the research facility on at least an annual basis to ensure that it adequately addresses the following criteria: electrical outages, faulty HVAC systems, fires, and animal escapes, as well as natural disasters the facility is most likely to experience. Any changes to the plan as a result of the annual review must be communicated to employees through training which must be conducted within 30 days of making the changes. Note: In compliance with USDA, any changes to this plan shall be communicated to employees through training which must be conducted within 30 days of making the changes. USDA.
16. Each registrant must maintain documentation of their annual reviews, including documenting any amendments or changes made to their plan since the previous year's review, such as changes made as a result of recently predicted, but historically unforeseen, circumstances (e.g., weather extremes).USDA.
17. Contingency plans, as well as all annual review documentation and training records, must be made available to APHIS and any funding Federal agency representatives upon request. USDA.
18. The facility must provide and document participation in and successful completion of training for its personnel regarding their roles and responsibilities as outlined in the plan. USDA.

Appendix A:

**Memorandum of Understanding
Between Des Moines University
and Drake University**

Scope and Purpose

This Memorandum of Understanding (MOU) sets the terms and understanding between Des Moines University and Drake University, for Laboratory Animal care and housing assistance, in the case of an emergency.

It may become necessary that the resources of the Institutional Animal Care and Use Committee (IACUC) and the laboratory Animal Care Facility (ACF) be made available to a Requesting Institution to prevent and combat the effect of natural, man-made or technological disasters or other emergencies.

Each Institution will voluntarily aid and/or assist each other, when possible, in the event of disaster, by the exchange of IACUC and ACF services and facilities, including, but not limited to care, shelter, veterinary medical, life and safety needs that could arise in the event of a disaster that impacts laboratory animal care and wellbeing.

This agreement applies only to laboratory animal care matters and does not impact or cover any other aspect of the Institutions' operations or any other animals.

This MOU outlines the general manner of requesting such aid and assistance.

Definitions

Requesting Institution - the Institution requesting aid.

Providing Institution - the Institution providing aid and assistance.

Disaster or other emergency - the occurrence or imminent threat of widespread or severe damage, injury, loss of laboratory animal life, or laboratory animal suffering resulting from, natural incidents, explosions, fires, collapses, riot, or any other incident which directly affects laboratory animal health or safety.

Aid and Assistance - includes, but it not be limited to, personnel, equipment, facilities, services, supplies, laboratory animal housing, transportation, and other resources.

Authorized Official - the Institutional Official, or other individual, designated by and authorized in writing by the President or Vice President for Research, to request, offer, or provide aid under the terms of this MOU, or who has either apparent or ex-officio authority to so act.

Animal Care Facilities - the centralized laboratory animal care and housing location for each Institution.

Emergency Response Plan - the systems and procedures described in the *Animal Care and Use Emergency Response Plan* adopted by each Institution.

Mutual Aid

The ACF of each Institution mutually agree to provide aid and contingency service to each other on a voluntary basis when reasonably possible.

Requesting Assistance

An Institution may request assistance from the other Institution when the Requesting Institution has concluded that such assistance is essential to protect laboratory animal wellbeing or animal life. The Requesting Institution shall include in its request for assistance:

- the type of aid or assistance or resources needed,
- essential equipment needed,
- type of housing and number of animals if relocation is required,
- inventory, transportation requirements and other special considerations; and
- reporting instructions upon arrival at the Requesting Institution.

Requests for assistance shall be made by the Requesting Institution's Authorized Official. Such requests may be made in person, by telephone or other electronic means, followed by a written confirmation of the request.

Assistance Provided

The Institutions shall attempt to provide each other with aid and/or assistance in the event of a local disaster or emergency. No party shall be required to unreasonably deplete its own resources, facilities, and services in furnishing assistance. An Institution may decline to assist due to its own laboratory animal care requirements or for any other reason. Refusal to assist is at the sole discretion of the Providing Institution. However, if an Institution determines it is unable to provide aid and assistance, it will promptly inform the Requesting Institution. Both Institutions will develop a plan providing for the effective mobilization/demobilization and utilization of all its ACF resources to cope with disasters or emergencies.

When assistance or resources are provided, the Providing Institution will inform the Requesting Institution about the resources it can supply. The Requesting Institution will supply stockpiled resources for animal care, as described in their Emergency Response plan, if animals are moved to the Providing Institution.

Any animal transferred pursuant to this MOU will be subject to quarantine requirements and procedures of the Providing Institution.

The duration of assistance shall be determined in advance, prior to mobilization of resources and agreed upon by both Institutions. Thereafter, assistance may be extended in increments agreed upon by the Authorized

Officials. Personnel, equipment, and other resources may be recalled by the Providing Institution for its own Laboratory Animal Care needs if circumstances so warrant. The Providing Institution will make a good faith effort to provide at least twenty-four (24) hours' notice of any intent to terminate such assistance, if possible.

The emergency response plans of each Institution will be followed within their respective facilities, regardless of their role in requesting or providing aid. Animal Care Facility supervisors/directors shall retain control of their respective Institution's resources.

Reporting and Record Keeping

The Requesting Institution will maintain records regarding the aid requested and received under this MOU. Each Institution will maintain Laboratory Animal Care records.

Reimbursement for Costs

The Providing Institution will be reimbursed for aid and assistance per their standard per diem rates for staff, supplies, housing and related laboratory animal services. Costs associated with any employees' travel to the Requesting Institution to assist with transport of the animals/equipment, plus other costs, including overtime pay to Providing Institution's employees, incurred as a direct result of providing services, will also be reimbursed.

The Providing Institution will document all incurred cost for providing aid and assistance, including but not limited to, staff time sheets, mileage, and accounting of all damaged or expended resources, etc.

Non-Reimbursable Costs: The Requesting Institution will not be responsible for reimbursing costs or expenses associated with benefits to the Providing Institutions' employees, due to personal injury or death, occurring during the periods of time such employees are engaged in the rendering of aid and/or assistance. It is mutually understood that each Institution will be responsible for payment of such workers' compensation benefits to their own employees. The Requesting Institution will not be responsible for reimbursing costs or expenses associated with damage to the Providing Institutions' equipment or facility.

Likewise, the Providing Institution will not be responsible for reimbursing the Requesting Institution for costs or expenses associated with damage to the Requesting Institution's equipment or animals during emergency aid or assistance.

Resolution of Implementation Questions

Any questions about the implementation of the MOU should be directed to that Institution's Authorized Officials. The Authorized Officials from each institution (or their designated representative(s)) will consult with one another to achieve mutually agreeable ways to address any issues that may arise.

Duration

This MOU is at-will and may be modified by mutual written consent of the Authorized Officials from Des Moines University and Drake University. This MOU shall become effective when signed by the Authorized Officials from Des Moines University and Drake University. It will remain in effect, until modified or terminated by either institution by mutual consent.

Acceptance and Approval of Authorizing Officials

Signature

Date:

Jeffrey T. Gray, PhD
Vice President for Research
Des Moines University
3200 Grand Avenue
Des Moines, IA 50312

Signature

Date:

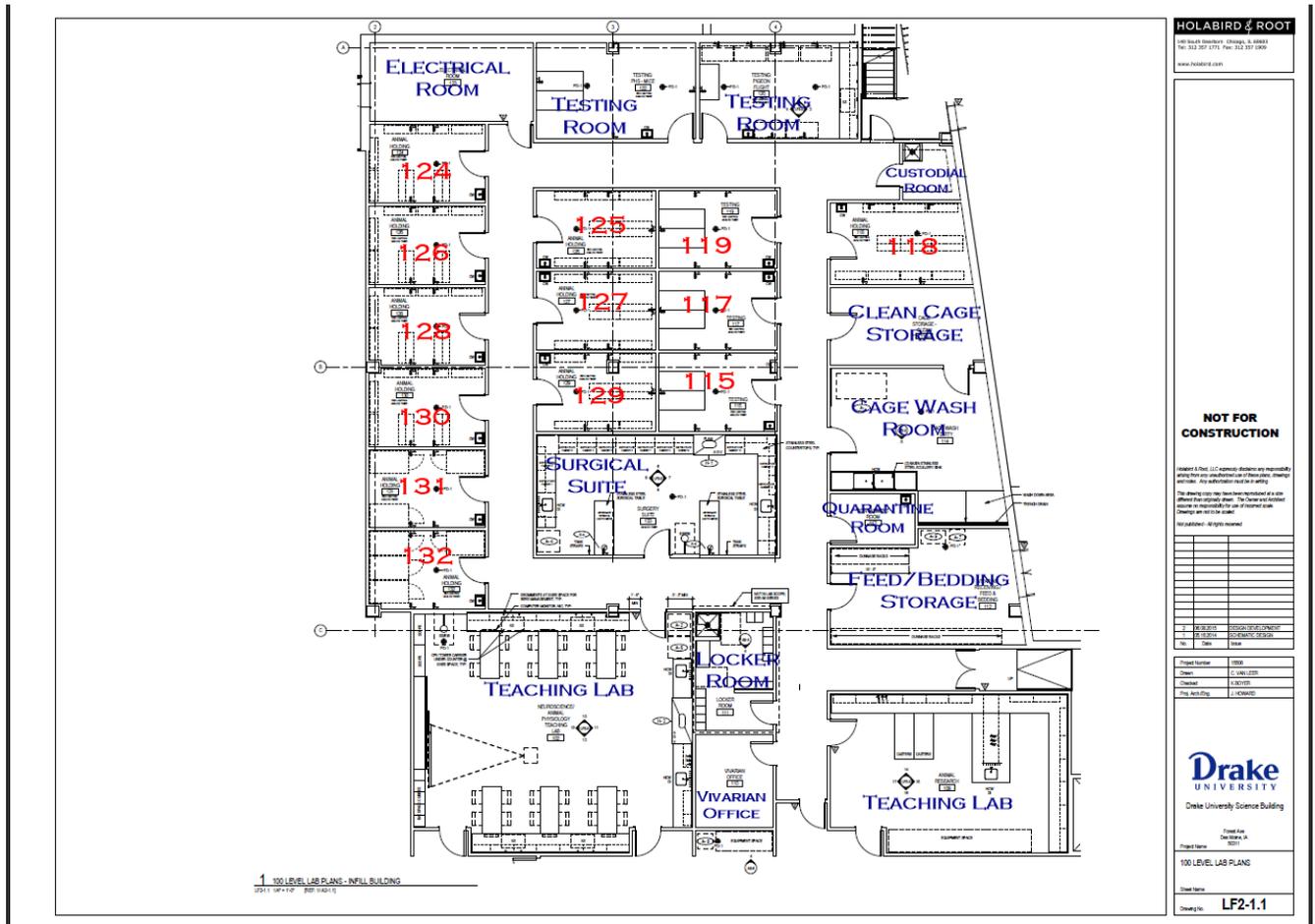
Mary Pat Wohlford, Ph.D.
Authorized Official
Director, Sponsored Research and
Compliance
Drake University
2507 University Avenue
Des Moines, IA 50311

Signature

Date:

Mark Peiffer, CPA, MBA
Senior Vice President and CFO
Des Moines University
3200 Grand Avenue
Des Moines, IA 50312

Appendix B: Animal Facility Room Layout.



Appendix C:

Drake University Science Connector Building

Animal Facility Overview for Students

Animal Facility Staff:

Donna Tuttle
Animal Vivarian
Office: 515-271-4933
Cell: 612-226-4010
donna.tuttle@drake.edu

Joy Bachmann
Animal Care Technician
Office: 515-271-2614
Cell: 515-991-5594
joy.bachmann@drake.edu

Animal Area Security and Access Control:

Access to Drake University's Animal Facility must be strictly controlled to minimize health risks to both humans and animals and is setup as a secure facility with restricted access.

Only research investigators, staff and students approved on active animal research projects are granted access using Drake University issued ID cards.

To ensure a safe and secure animal facility, all students are required to wear their Drake issued ID card while in the facility. *Please contact the animal vivarian or animal care technician for an ID card holder and lanyard.*

- Entry into the Drake Animal Facility is controlled by swipe card access into the main facility and designated key access at the room level.
 - Unknown people as well as friends/acquaintances without prior authorization are not allowed into the animal facility.
 - If a swipe card with animal facility access is used by anyone other than the person indicated on the card, access to the facilities will be revoked until further notice. Unauthorized personnel (without security approval) will be escorted out of the facility.
 - If you lose your key, please report it to your investigator as soon as possible.
 - If you lose your ID card, please report it immediately to your investigator and Animal Facility Staff.
- Do not prop open any entrance doors.
- Under no circumstances are you to enter another investigator's room without prior approval. Your access to the facility may be revoked as a result.
- Eating and/or drinking are not permitted in animal rooms, testing rooms, storage rooms, teaching labs, or the surgical suite.
 - Food and drinks intended for human consumption **MUST** be stored and consumed in the Animal Facility entry area or locker room (SCB 111). Any food containers or candy wrappers must be disposed of in the entry area's garbage container.

Locker Room (SCB 111):

The animal facility has a unisex locker room equipped with lockers, coat hooks, washer and dryer, and a shower. Restrooms are located outside of the animal facility on the first floor.

- Personal belongings such as backpacks, purses, food and drinks are not allowed in the animal holding rooms or testing rooms. Please leave these items in the locker room or outside of the animal facility.
- *A limited number of lockers and locks are available (free of charge) and may be checked out for the semester. Please contact Joy Bachmann, for a locker assignment and combination lock.*

Animal Rooms:

All animal rooms are equipped with a sink, soap dispenser, paper towel dispenser and garbage container. If any of these items need attention, please contact a member of the Animal Facility Staff or leave a note on the door.

Windows of each animal room door are covered with a whiteboard film that you can write on with a dry erase marker. Please feel free to use this if there is something in the room that needs attention.

Concerns about the environment (e.g., temperature, humidity, leaking faucet, burned out light bulb etc.,) in any rooms within the facility should be reported to the Animal Vivarian or Animal Care Technician.

- Temperatures are individually set and controlled in each room and should not be adjusted by anyone other than facility staff. If an increase or decrease of more than 4 degrees is noticed, please leave a note on the door's whiteboard.
- Timers are set for each animal room to provide automatic light control. Light timers are set to turn on at 7:00 AM and off at 7:00 PM and should not be adjusted by anyone other than facility staff.
- If an issue is noted with the timers not functioning properly, please notify the Animal Vivarian or Animal Care Technician as soon as possible.

Animal Husbandry:

We have a strong commitment to promoting the humane care and use of laboratory animals in research and teaching. An essential component of this commitment involves daily checks and a team approach to animal welfare. Please contact your professor or the facility staff if you notice abnormal animal health signs (such as unexplained weight loss, ruffled hair coat, skin lesions, lacerations, scratching, abnormal gait/posture, lethargy, swellings, seizures, etc.) or abnormal animal behavior (such as unexplained hair plucking, fighting, self-injury, etc.) in any of your animals.

The following rooms are unlocked at all times:

Feed & Bedding Storage Room - SCB 112

- Rat and mouse chow and animal bedding are stored in marked containers.

- Finch bird seed, pigeon seed, and bird grit is located in the individual animal rooms.
- Freezers for storing animal carcasses
- Euthanasia station

Cage Wash Room - SCB 114

- Dirty animal cages are dumped and stored here until they are run through the cage washer.
- If you have cages or bottles that need to be washed, please place on cart in this room.

Cage & Bottle Storage - SCB 116

- Contains clean bedded cages, cage lids, water bottles, water bottle sipper tops, bird dishes, etc.
- Cages are located on racks designated by individual investigator.

Animal Transport:

Due to some animal testing lab areas being located outside of the SCB animal facility, it may be necessary to transport animals between buildings. Transportation logistics must be coordinated with the Animal Vivarian and Animal Care Technician. To ensure that any transportation of animals outside of the main animal facility is conducted in an appropriate manner that is safe for the animals and the public:

- Animals must be manually transported from the housing facility to a laboratory in a secured containment and/or cart.
- Carts are available for transporting animals to labs located in Olin or Cline and are located in the hallway. Please wipe off the cart after use if there is excess bedding or animal urine or feces.
- Live animals should not remain outside of approved housing facilities for more than 12 hours unless specifically approved by IACUC in the animal protocol.
- No animals may be left overnight outside of the animal facility and animals are never to be left overnight in testing rooms unless specified in the protocol approved by IACUC.

Bites or Injuries:

Any student bitten by an animal or injured in the facility MUST report immediately to their investigator. The individual injured is encouraged to seek medical attention even for minor injuries. All injuries require the completion of accident reports within 48 hours of the injury. A first aid kit is located in the metal supply cabinet in the entry area of the Animal Facility.

More information on accident injury incident reporting and process can be found at:
<http://www.drake.edu/busfin/insuranceoffice/accidentinjuryincidentreportingprocess/>

ACKNOWLEDGEMENT

Drake University Animal Facility Overview for Students

I understand the importance of maintaining a secure Animal Facility for the benefit of human and animal health, and that my access to the Animal Facility may be revoked if I violate any of the policies and procedures included in this guide.

By signing below I acknowledge that I have received, read, understand, and will abide by the above policies and procedures. I understand that if I have any questions or concerns about this policy, it is my responsibility to discuss them with the Animal Facility Staff.

Student name (print): _____ Signature: _____

Date: _____

Investigator name: _____

Animal Facility Copy

ACKNOWLEDGEMENT

Drake University Animal Facility Overview for Students

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Date: _____

Investigator name: _____