**Satellite Facility Emergency Plan – UA Tucson**

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| --- | --- | --- | --- |
| **Principal investigator:** |  | **Protocol number(s):** |  |
| **Location (building and room):** |  | **Species:** |  |

**PI and Lab Contact Information**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Title** | **Emergency Phone** | **Email** |
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**RESPONSIBILITIES**

University Animal Care, as a unit of The University of Arizona, and the principal entity providing of oversight and management for all animals used in teaching and research programs, is responsible for developing and implementing disaster preparedness/contingency plans for all animals in the University's animal facilities.  For decentralized animal housing locations (i.e. Principle Investigator Laboratories serving as Satellite Facilities), the PI leadership (PI or designee) is responsible for ensuring all information in this document is accurate and complete. PI leadership must work directly with the Campus Attending Veterinarian and IACUC to ensure compliance with all internal and external guidelines, policies, and regulations. The PI laboratory plan will be complimentary and compatible with the UAC Emergency Response Plan and the facilities Continuity of Operations Plan (COOP).

**PLAN ACTIVATION AND COORDINATION**

This plan will activate by causes that threaten the implementation of the legal mandates regulating animal care and use and/or any potential or actual disruption to animal care and continuity of research, teaching, and service.  Examples of these threats and causes of disruption include geophysical and technological hazards, security breaches, and destruction or damage of buildings, animals, or personnel.

**Each employee must become familiar with the information and resources provided by CIRT. The CIRT website** [**http://cirt.arizona.edu/**](http://cirt.arizona.edu/) **provides detailed information on the emergency incidents listed above as well as step-by-step instructions on what to do when presented with specific situations such as personal injury, fires, utility failures, biological/chemical/radiation spills, active shooters, evacuations and suspicious/threatening packages.**

**RLSS maintains lab-specific Biosafety, Biosecurity, and Chemical Hygiene Plans accessible through the RLSS User Dashboard under "Affirmation Requirements" at**[**https://rlss.arizona.edu/services/index.xhtml**](https://rlss.arizona.edu/services/index.xhtml) **.**

**INCIDENT RESPONSES TO ENSURE ANIMAL CARE AND WELFARE**

1. Efforts will be taken to **ensure personnel safety** and security first during and immediately after a disaster, **followed by the safety and welfare of the animals** in our care.
2. **After ensuring personnel safety, animals that are irreplaceable and necessary for research activities will be provided with daily care. If campus lock-down is projected, consider whether offering supplemental feed and drinking water contributes to the long-term care of animals in the event access to the satellite facility may become limited.**
3. **Animals that cannot be cared for, or provided with supplemental feed and drinking water, or relocated, or protected from the consequences of the disaster will be euthanized**.
4. Sufficient **preparation** will occur beforehand (e.g., staff understand the specific personnel and animal protective measures, the location of emergency response kits, and that the status of inventories of feed, water, sanitation, and protective supplies should be confirmed), as will **clear and immediate communication**, both of which are acknowledged as critical keys to successfully managing all disaster situations.
5. Each individual listed is **familiar with this plan**, evacuation routes, locations of telephones, fire alarms and extinguishers, first aid kits, emergency response kits, emergency shower and eyewash stations, and emergency supplies, as applicable.

**POTENTIAL EMERGENCIES (Those most likely are in bold** *(change for specific lab*)**)**

* Animal Activism
* Civil Disturbance
* **Building Automation Systems and HVAC Failure**
* **Building Fire**
* Flooding
* **Medical Emergency**
* Storms
* Strange Odor
* **Structural Damage**
* Telecommunications Failure
* **Utility Failure – Electric power, HVAC**

**Animal Activism Response:**

* Do NOT confront the individual(s).
* Check to see if anyone was injured and seek medical care, if needed.
* Immediately notify UAPD - on-campus 911; or from a cell phone or off-campus 520-821-8273.
* If this is a hit and run type attack, let the Police know that the activists have left and report any injuries &/or damage.
* 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
	+ Type of activities being conducted, *i.e.,* picketing, yelling, vandalism, releasing animals etc.
	+ Type and number of weapon visible
	+ Type and number of other tools and equipment, *i.e.,* bullhorns, rope, spray paint cans, electrical wiring, backpacks, gym bags, signs, etc.
* Remain at your general location until the Police arrive. If necessary, move to a safe place or exit the facility (if this is occurring inside).
* Take photographs of the activists and their activities, *but only if this can be done safely.*
* Observe the route and means the activists use to leave the area, *but only if this can be done safely*.
* Note any items or places physically touched by activists and protect those items/areas. If activists were not wearing gloves, law enforcement may attempt to get the activists fingerprints.
* Carefully examine the entire work area for damage, missing items, and any items left behind by activist. **Do not touch** any items left behind or anything suspicious. Point these items out to law enforcement officials.
* Things to look for include the following:
	+ Noise makers: devices designed to make painfully loud noise, either immediately or later when activated by a timer
	+ Stink bombs: these may be devices that are ignited by a flame immediately or later from a timer
	+ Stinky fruit: activists may leave frozen pieces of fruit that smells of rotting flesh. Once thawed it can make a facility uninhabitable for some time.
	+ Flyers or other printed information
	+ Packages, boxes, backpacks, or other containers that could contain dangerous items (*e.g.*, toxic/caustic chemicals, incendiary devices, bombs, etc.) o Notify supervisor as soon as possible.

**Civil Disturbance Response:**

1. **Disgruntled Employee:**
	* Be sympathetic and make an effort to understand his/her concerns. Remain calm and do not become confrontational.
	* If unable to interact in positive manner, attempt to establish the magnitude of the problem and manage the complaint in a progressive fashion through referral of the employee to one of the following individuals:
		1. Professional Staff Employee Assistance Program counselor
		2. ARC Chair
		3. Campus Attending Veterinarian
		4. Office of Animal Research Oversight
2. **Intruder/Trespasser:**
* Suspicious persons and/or behavior should be reported to the Police at 520-821-8273
* Use caution when approaching an individual who appears to be trespassing. Do not put yourself or others at risk.
* Inquire in a non-confrontational manner if the person needs assistance.
* If the Police need to be called, try to detain the person until they arrive.
* If the person cannot be detained, write down any characteristics that you can recall hair color, height, clothing, accent, items being carried, etc.
* Reporting Theft, Crimes, & Security Breaches.

**Building Automation Systems and HVAC Failure Response**

Notify the Animal Facility Manager (520-626-6702) and LSN Building manager or Facilities Maintenance (520-621-3000). Notify the Animal Facility Manager immediately, when:

* + Animal room temp is outside the acceptable range. The Facility Manager or designee can validate actual room parameters using a handheld monitoring device.
	+ The Environmental Monitoring (EM) system is not working properly or is in alarm status.
	+ Notify the Facilities Management (520-621-3000): 24 hours/7 days a week.
	+ Report that the Animal Room Environmental Monitoring system is not working correctly or the animal rooms are in alarm status and animal lives are at risk.
	+ Ask the Facilities Management Trouble Call Desk if the BAS failure is due to a scheduled utility shutdown. If the answer is “yes”, contact the Building Facility Manager to help coordinate a response.

If an animal room temperature is **elevated or falls** to a critical *Tier 2 temperature*:

* Implement Triage SOP. Place portable fans, chillers, or heaters in the room, &/or prop open the animal room doors, if the animal room contains **micro isolators, open racks, and/or conventionally housed animals.** Evaluate bio- containment and security issues before taking above actions.
* If temperature rises due to HVAC malfunction, consult with Animal Facility Manager (520-626-6702) & Facilities Management Trouble Call Desk (520-621-3000: 24 hours/7 days a week) regarding shutting off room supply to conserve temperature.
* Evaluate bio-containment, animal and air quality issues before making air handler changes.

*Initiate manual animal room temperature/humidity monitoring procedures:*

* Check and record room temperatures and humidity levels hourly or more often as necessary.
* Report the status of the animal rooms to facility supervisor or manager at least once every hour until the room temperatures are in the normal range.
* Continue manual animal room temperature monitoring until supervisor announces the BAS/HVAC problem is resolved.

**Building Fire Response:**

**Notify Fire Department immediately**

* Pull/Activate the nearest fire alarm.
* If a telephone is closer than alarm, call the Fire Department (911)

**Evacuate personnel**

* If clothing catches fire - "Stop, Drop, and Roll".
* Avoid smoke-filled air - "Get Low and Go"
* Notify personnel in the room/area of the fire to evacuate immediately.
* Do not use elevators. Walk to the nearest stairwell/exit & follow designated fire exit route to evacuate building.

**Complete safety actions as time permits**

* Secure any animals in cages to prevent escape from facility. Do not attempt to remove animals from the facility.
* Turn off any gas being used.
* Return flammables to safety cabinet.
* Close all doors.

**OEC/FTC duties:**

* Ensure all personnel have evacuated, and doors are closed in vacated areas.
* Secure flammables
* Exit building and go to rally point.
* Report to Fire Officer in Charge, and notify them of any trapped or injured personnel that could not be reached.

**Flooding Response:**

**Large water leak or flood:**

* **Notify Fire Department immediately -** Call Fire Department (On-campus 911), then pull fire alarm to evacuate personnel.
* **Evacuate personnel -** Notify personnel to evacuate immediately. Do not use elevators. Use stairs & follow designated exit route. Walk to the nearest stairwell/exit and evacuate the building.
* **Complete safety actions as time permits -** Turn off all electrical equipment & power disconnects, secure all animals (preferably above assumed water level), and close all doors.

**Medical Emergency Response:**

**First Aid**

* Personal safety is the first consideration. Do not enter an unsafe accident scene at the risk of your own safety. Avoid contact with blood or body fluids. Person assisting should wear gloves.
* **Administer first aid:** Personnel certified to provide first aid or CPR may give emergency care. Untrained staff may render support at the direction of the emergency operator.
* **Seek medical attention -** Following the application of first aid:
* **Minor Medical Emergencies:**
	+ If the incident occurs during business hours (Monday through Friday from 7 am– 4:30pm): Report immediately to Occupational Health (phone: 520-621-5643).
	+ If the incident occurs outside business hours: Call Campus Health 24 hrs (520-570-7898).
* **Major Medical Emergencies & Emergency Patient Transportation:**

Call (On-campus 911; Off-campus 520-570-7898). Notify immediate supervisor.

**Storms Response:**

* **Before the storm:**
	+ Monitor Local Weather: Appoint a weather watcher among facility staff to monitor local weather developments throughout the storm period. Weather updates:
		- www.weather.com or www.kgun.com.
	+ News/weather radio stations:
		- **[WXL30 NOAA Weather Radio 162.4 Tucson, AZ, listen live](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiyqL_qocb2AhXWDkQIHbH9BF8QFnoECAMQAw&url=https%3A%2F%2Fwww.fmradiofree.com%2Fwxl30-noaa-weather-radio-1624-tucson-az&usg=AOvVaw0jCqCbrKGPrAYJKTmJNMA_)** Emergency Personnel: Notify emergency personnel to report to the facility prior to the storm. Confirm adequate food, water, emergency, and lodging arrangements are in place. Survey emergency personnel supplies: flashlights, walkie-talkies, batteries, contact lists, cell phones, etc.
	+ Animal Husbandry: If possible, move outside animals to indoor or sheltered housing. Ensure adequate amounts of food and water are available to support the animal colony for the duration of the storm. Pre-stage husbandry supplies.
	+ Research: Notify investigators of potential support modifications predicated by the storm.

**During the storm:**

* Monitor animal room environmental parameters on a periodic basis. Walk the animal facility and report any storm-related facility damage to the supervisor.
* Provide essential animal husbandry services as directed by your supervisor.
* Report building structure and service problems to the Facilities Management Trouble Call Desk (520-621-3000: 24 hours/7 days a week). Notify your supervisor.
* Prepare to relocate or evacuate animals or animal colony rooms facing life- threatening environmental conditions consequent to the storm (flood, HVAC failure, electricity failure, structural damage, etc.)

**Strange Odor Response:**

* Don't spend time looking for the source - report it – if possible secure animals in cages and, if necessary, evacuate.
* Report the odor to the Fire Department, even if you know the cause of it.
* Call the Fire Department - (On-campus 911; Off-campus 520-791-4512).

**Odors Causing Physical Effects:**

* Noxious odors may cause watery and burning eyes, coughing, nausea, etc. Immediately advise the people near the area of the odor to evacuate.
* Evacuate the area.
* Call the Fire Department – (On-campus 911; Off-campus 520-791-4512).

**Electrical Odor or Burning Odor with No Sign of Smoke:**

• Call the Fire Department - (On-campus 911; Off-campus 520-791-4512).

**Collapsing, Damaged, or Shaking Building:**

* Protect yourself from falling objects or loose debris.
* Move to a safe location such as near a sturdy table or desk in your work areas that will provide protection from falling objects.
* If no furniture is available: move to an inside wall, securely anchored piece of furniture or equipment (higher than your head) or hallway.
* Evacuate personnel from the building as soon as the movement stops.

**Building Evacuation Procedures-Personnel:**

* **Notify Fire Department immediately:** Call Fire Department (On-campus 911; Off-campus 520-791-4512), then pull fire alarm to evacuate personnel.
* **Evacuate personnel:** Notify personnel to evacuate immediately. Do not use elevators. Use stairs & follow designated exit route. Walk to the nearest stairwell/exit and evacuate the building.

**Telecommunications Failure Response:**

**Localized Event:**

* Report telecommunication failure to ITS:
ITS Service Desk: 520-626-8721
Call the Information Technology Services (IT Services) Help Desk at 520-626-8721
* Online Service Request: <https://comhelp.arizona.edu>
* Check voicemail often for messages.
* Email staff and animal users to notify them of the outage, and provide interim contact information.
* In the event of an emergency that requires Police, Fire, or other first responder, use an Emergency Blue Light Phone.

**Regional Event:**

* + Minimize use of cellular and landline calls.
	+ Implement use of secondary communication devices.
	+ Use services that require use of minimal bandwidth, such as Short Message Service (SMS text), Blackberry PIN, Instant Messaging, email, etc.
	+ Staff registered with the National Communications Systems may be able to make urgent phone calls using their cell phones or landlines.

**Utility Failure (Electric & HVAC) Response:**

* Comply with all response items und HVAC Failure
* Manually check room temperature and humidity.
* Call Facilities Management Trouble Call Desk 520-621-3000: 24 hours/7 days a week). Inform them that animal lives are at risk due to abnormal environmental conditions.
* Notify the Animal Facility Manager immediately.
* Check to see if the failure/fluctuation may be due to a scheduled utility shutdown.
* If animal room temperature is elevated to a critical temperature (*i.e.,* animal lives are at risk), use portable fans, use portable chillers, &/or open doors.
* If animal room temperature falls to a critical temperature (*i.e.,* animal lives are at risk), place portable space heaters in the room.
* Shut off the main breaker switches to equipment such as cage washer, autoclave, ventilated racks, etc.
* Close sash on all hoods that are in use during power failure.

**Utility Failure (Sewer Water) Response:**

* Restrict access to flooded areas. Even areas with small amounts of standing water should be avoided if at all possible due to the risk of electrical shock.
* Turn off water valves.
* Call the Facilities Management Trouble Call Desk at 520-621-3000: 24 hours/7 days a week).
* Notify the Animal Facility Manager immediately.
* Observe animal rooms for flooding or for potential of flooding. Take appropriate action to ensure cages/animals will not be exposed to contaminated and/or rising water.
* Stop all use of water.
* Do not flush toilets.
* Do not dump any fluids down the drains.

**Scientific Integrity of Ongoing Studies Can Be Maintained - Preserve All or Most of the Animals**

Within 24 to 48 hours of any major disaster, it will become readily apparent whether or not the scientific integrity of the ongoing animal studies can be maintained. To do so will require most, if not all, of the elements listed below. This scenario also assumes that research staff will be available to continue with their studies.

* Food, water, and bedding needs must be met without interruption - requires back-up supply of food, water, and bedding either on- or off-site.
* Animal rooms must be maintained within temperature limits – requires electrical power distribution systems to power the ventilation fans, which require intact piping and ducts. May require immediate operation of chilled water pumps, and intact low- pressure steam boilers to supply heating and cooling. Depending on the climate these systems may be brought on-line as needed.
* Light cycles must be maintained.
* Cage wash capabilities must continue with minimal interruption – requires electrical power, steam, water, and intact mechanical/sanitary systems.
* Ability to remove animal waste from colonies – requires wash down water and garbage removal capabilities.
* Ability to dispose of carcasses – requires power to carcass freezer, and offsite transportation by commercial waste disposal firm.
* Containment of any animal area can be maintained for any hazardous research. This requires that there be electrical power and functional ventilation fans. Moreover, provisions for containment and removal of hazardous wastes must be in place.

**Euthanasia Guidance for Disaster Events**

The decision to euthanize animals and the selection of appropriate euthanasia methods requires careful consideration in all scenarios, but the urgency of these decisions is heightened in disaster-related events. Disaster events in a research animal setting often cause the loss of room access, environmental control, or safe working conditions which limit animal care and veterinary service support options. Euthanizing injured or distressed research animals in these situations may be the only way to relieve animal pain and suffering. Direction in this situation is frankly stated in the following excerpt from the 8th Edition of the Guide for Laboratory Animal Care and Use: “***Animals that cannot be relocated or protected from the consequences of the disaster must be humanely euthanized by trained personnel.”***

**Calculating Minimum Water Requirements**

**PREPAREDNESS**

* Animal drinking water estimation should be performed periodically.
* Use the average facility census to allow management to conduct proactive planning for water supplies and logistics.
* Adjustments up or down can then be made after an actual water emergency has occurred.

**Calculations:**

* To calculate the daily drinking water needs for gravity or pump administered water:
* Count the number of animals in the building for each species.
* Multiply by the approximate total number of each species by the approximate average daily water consumption by that species.
* Average daily water consumption by species:

 Mice - 6.7 ml per adult (225 ml/kg)
 Rat - 45 ml per adult (80 – 110 ml/kg)

* Add the total average daily water by species. This equals the total volume of water in milliliters required per day for the entire facility.

**Example:** There are 1,000 cages of mice (5 per cage), and 100 cages of rats (3 per cage) in the facility.

(5 mice/cage x 1,000 cages x 6.7 ml/mouse) + (3 rats/cage x 100 cages x 45 ml/rat) = 47,000 ml = 47 liters = 12.41 gallons (There are 3,785 ml/gallon)

The volume of the water in the supply lines must be determined if the water failure results in facility supply lines being drained. This volume must be calculated and adequate water made available to fill the lines. This volume would usually be needed to add to the total needed only one time in emergency situations.

**Note:** One cubic centimeter equals the same volume as 1 ml of water, 3,785 ml = 1 Gallon, Pi = 3.14, and radius = diameter divided by 2 o The formula for calculating volume for a water line = Pi x radius of the pipe squared x length of the pipe. Remember 1 cubic centimeter (cc) = 1 ml so working in centimeters will make for easy conversion. For example, to determine the volume in a water line 1.6 cm in diameter 100 meters long: Pi = 3.14, the radius would be 1⁄2 the diameter or .8cm, and the length is 10,000 cm. Therefore, the calculations are: 3.14 x (0.8cm) x (0.8 cm) x 10,000 cm = 10,096 cc or 5.3 gallons.

* Add to this amount, the value from number 3.
* It may be useful to multiply the total amount calculate by 2 to account for varying rates of use and waste.

**Emergency Animal Care Resources**

Facilities that maintain animals outside of UAC should ensure that they maintain an adequate supply of Emergency Animal Care Resources. Items such as the following should be included:

* Climate Control Equipment – Chillers, Heaters, Dehumidifiers
* Communication – 2-way radios, CB radio
* Extension Cords, Batteries
* Light Sources – Flashlights, Headlamps, Light Trees
* Transportation – Vehicles, Electric Mules
* Euthanasia - Equipment, CO2, Drugs
* Capture – Nets, Tranquilizer Darts/Guns
* Personal Protective Equipment – Tyvek, Masks, Gloves, Shoe Covers, Goggles
* Animal Food, Bedding, & Water Supplies
* Shelter-in-Place – Food, Cots, Blankets
* Carcass disposal materials

**Online Resources & Links**

The following list contains resources, institutional documents, and web sites that may be useful during emergency/disaster preparedness and response:

**ANIMAL BITES AND SCRATCHES**

**CDC National Center for Infectious Diseases**

Herpes B virus Information

http://www.cdc.gov/herpesbvirus/index.html

**NIH APD Guideline for the Development of Bite, Scratch, Splash Instructions for Employees Handling Macaques**

http://oacu.od.nih.gov/UsefulResources/resources/APDGuideline\_BiteScratchSplash.pd f

**5-17-2: EVACUATION – ANIMALS
USDA Animal Care Emergency Programs** http://www.aphis.usda.gov/animal\_welfare/ep/index.shtml

**5-17-3: BIOHAZARDS
Biosafety in Microbiological & Biomedical Laboratories, 5th Ed. (BMBL)** http://www.cdc.gov/biosafety/
**NIH Guidelines for Research Involving Recombinant and Synthetic Nucleic Acids** http://oba.od.nih.gov/rdna/nih\_guidelines\_oba.html

**5-17-4: CHEMICAL HAZARDS**

**General Chemical Storage Compatibility**

http://www.ors.od.nih.gov/sr/dohs/Documents/General\_Chemical\_Storage\_Compatibilit y\_Chart.pdf

**Material Safety Data Sheets**

http://www.ors.od.nih.gov/sr/dohs/labservices/msds/pages/material\_safety\_data\_main.a spx

**5-17-5: FIRST AID
Automated External Defibrillators (AED) Locations at UCLA:** http://ehs.ucla.edu/Pub/IPD\_AEDBview\_08.09.pdf
**Survival Center First Aid Tutorial** http://www.survival-center.com/firstaid/book.htm

**5-17-6: NATURAL DISASTERS**

**Centers for Disease Control – Natural Disasters Preparedness Guide**

http://www.bt.cdc.gov/disasters/index.asp

**Federal Emergency Management Agency**

http://www.ready.gov/natural-disasters

**5-17-8: PREPAREDNESS**

**APD Development of Bite, Scratch, and Splash Care Instructions for Employees Handling Macaques**

http://oacu.od.nih.gov/UsefulResources/resources/APDGuideline\_BiteScratchSplash.pdf

**Disaster Planning and Response Resources – Office of Laboratory Animal Welfare**

http://grants.nih.gov/grants/olaw/disaster\_planning.htm

**Guidelines for Standards of Care in Animal Shelters**

http://oacu.od.nih.gov/disaster/ShelterGuide.pdf

**Pandemic Flu Planning**

http://www.flu.gov/

**USDA Emergency Preparedness & Response Factsheet**

http://www.aphis.usda.gov/publications/aphis\_general/content/printable\_version/fs\_eme rpre..pdf

**5-17-10: TERRORIST HAZARDS**

**Department of Homeland Security Preparedness, Response, & Recovery** http://ipv6.dhs.gov/files/prepresprecovery.shtm

**FEMA Terrorist Hazard Preparedness**http://www.ready.gov/terrorism
**National Terrorism Advisory System** http://www.dhs.gov/files/programs/ntas.shtm