

ANIMAL PROGRAM STANDARD OPERATING PROCEDURE

II. IACUP Operations

C. EMERGENCY PLAN FOR ANIMAL CARE & VIVARIUM

PURPOSE

The Institutional Animal Care and Use Program (IACUP) will follow the College of Charleston Emergency Preparedness and Management Plan and state, regional, and local guidelines for emergency management with the addition of specific procedures regarding vertebrate laboratory animals as described in this plan. While it is impossible to plan for all possible emergency scenarios, this plan specifies general procedures to be used by the College of Charleston to prepare personnel and provide for animal care in all animal facilities in the most likely emergency situations.

Every effort will be made to assure animal well-being; however, in all cases human safety will take priority over animal care. For disasters requiring evacuation of animals and/or personnel, research protocols will be placed on hold and animals will receive basic subsistence care only. In the event that a disaster results in unrelieved animal suffering or a lack of food and/or water, then the animal population at risk will be euthanized. Euthanasia will be a last resort and will be conducted in accordance with the Emergency Euthanasia Plan. Conditions that jeopardize the health or well-being of animals, including natural disasters, accidents, and mechanical failures, resulting in actual harm or death to animals will be promptly reported to OLAW.¹

The plan will be incorporated into the College of Charleston Emergency Plan and Public Safety will be given a copy of the IACUP emergency contact list. In addition, this plan and IACUP emergency contact list will be prominently posted in all animal facilities and made available on the ORGA IACUC secure website for access by all College personnel.^{2, 3}

This plan will be reviewed as part of the IACUC Semi-Annual Program Review and amended as necessary to reflect new threats and procedures.^{4, 5} The plan, documentation of annual reviews, and training records will be available to OLAW, USDA, and federal funding agencies upon request.⁶

DEFINITIONS AND ACRONYMS

Associate IACUP Director for GML- employee in charge of animal care and use at GML

AVMA Guidelines- American Veterinary Medical Association Guidelines for the Euthanasia of Animals

Downtown Animal Facilities- IACUC approved animal housing in the downtown campus

College Command Center- *[physical location]*

EHS- Environmental Health and Safety

GML- Grice Marine Laboratory

GML Director - faculty director of GML

Guide- Guide for the Care and Use of Laboratory Animals, 8th Edition

HML- Hollings Marine Laboratory

IACUC – Institutional Animal Care and Use Committee

IACUP - Institutional Animal Care and Use Program

IACUP Director – faculty member in charge of IACUP

IACUP DRT- IACUP Disaster Response Team; consists of the deputized officials by the College of Charleston, including the IACUP director and assistant director

IACUP ERT – College of Charleston Emergency Response Team; investigators who have received the appropriate training and have been provided ERT credentials by the College of Charleston

IACUP Staff – facility animal care workers, most of whom are students

ORGA – Office of Research and Grants Administration; Research Protections and Compliance Manager is included under ORGA operations

PHS Assurance – Animal Welfare Assurance issued by the U.S. Public Health Service

RITA-Rita Hollings Science Center

SCDNR – South Carolina Department of Natural Resources

Vertebrate Animal - Any living non-human vertebrate animal used or intended for use in research, training, experimentation, testing, propagation, or related purpose, with the exception of embryos, tissue, and other biological samples.

ROLES AND RESPONSIBILITIES

The Institutional Animal Care and Use Program (IACUP) Director is responsible for the care of all animals in the College animal facilities, aided at the Grice Marine Laboratory (GML) by the Assistant IACUP Director for GML, and in consultation with the Consulting Veterinarians. The IACUP Director also serves as a member of the College Emergency Management Team and is identified as a first responder.⁷

An IACUC Disaster Response Team (IACUP DRT) will be established under the direction of the IACUP Director. Personnel (including principal investigators) will be identified by the IACUP Director for emergency animal care training.⁸ Those completing the training will be supplied with credentials to re-enter the facilities as soon as possible.^{9, 10}

In the event that a principal investigator has animals which are especially valuable or virtually irreplaceable from a research standpoint, the investigator must arrange for evacuation housing for those animals in consultation with the IACUP Director.¹¹

The College of Charleston Emergency Manager (Director of Environmental Health and Safety) will make determination as to when it is safe for personnel to enter an animal facility after a disaster. The IACUP director will be notified by the EHS director about the status of all buildings housing animals. Signs will be posted on building doors and personnel will be notified using the Cougar Alert System.

COMMUNICATIONS¹²

Frequently landline telephone systems and cell phone communications are not functional following a major disaster. Multiple types of communications will be used depending on the availability of systems following a disaster. The College Command Center will use the most effective type of communication available. Potential alternatives include:

- Cougar Alert system
- Note board in the facilities to communicate with other IACUP Disaster Response Team members
- Cellphone - note that texting is preferable to voice communication.
- Satellite phones or
- Portable bi-directional radio transceivers (walkie-talkies)
- Ham radio
- Portable CB's

CONTINUITY OF PROTOCOLS & IACUC FUNCTIONS

If time permits, the Research Protections and Compliance Manager will notify all researchers who have protocols due to expire during the anticipated disaster down-time. Animals on protocols due to expire will be placed on general maintenance for the duration of the disaster with no experimental interventions permitted during that time.

In the case of mandatory evacuation, back-up copies of IACUC records and protocols will be removed from the campus and taken by an ORGA staff member to a safe location.

Paper records concerning care of animals will be placed inside plastic bags in the animal rooms and moved with the animals in the event that they are relocated.

EMERGENCY SITUATIONS AND PROCEDURES¹³

Isolated Incidents Level 1	Minor Incidents Level 2	Critical Incidents Level 3	Major Incidents Level 4	Disasters Level 5
Affect only a small part of the College community or physical property.	May disrupt one class or up to one entire building.	Primarily related to people, rather than services, infrastructure, or property.	Impact sizable portions of College of Charleston.	Extensive in scope of disruption, damage, and/or injuries.
Injuries are generally non-existent or limited to first aid cases.	Damage is limited to either one room or one small area of a building. Can be resolved with existing College resources or limited external assistance.	Incident dynamics can become highly complex. May necessitate the cancellation of classes or closure of the College. Major policy decisions and considerations may be required.	May be significant emotional and psychological trauma. Damages could include several buildings, large portions of buildings or building systems. May require closing of the College.	Injuries are generally numerous and require extensive medical aid on the scene and in nearby medical facilities. The College may be closed for a long time.
Can be resolved by the College's initial or secondary responding units.	May not require activation of the Executive Policy Group (EPG), Emergency Management Team (EMT) or Emergency Operations Center (EOC).	May require the activation of the EPG and the EMT.	The EPG, EMT and EOC will be activated.	The EPG, EMT and EOC will be activated. The Charleston County Emergency Operations Plan may be activated. A State of Emergency may be implemented.
<p><i>Examples:</i> Isolated, short-term utility outages; water leaks; accidental, non-life threatening injuries to community members; persons stuck in elevator; motor vehicle accidents with no or few non-life threatening injuries; non-specific bomb threats; minor criminal activities.</p>	<p><i>Examples:</i> Minor HAZMAT incidents or spills; small natural gas leaks, loss of utility services to a single building for several hours; fires contained to single rooms or contents; disruptive behavior by a few individuals or small groups; specific bomb threats with accompanying evacuations; sexual assault, hate crime, anticipated short-term building occupation or other forms of civil disobedience or demonstration.</p>	<p><i>Examples:</i> Death or near death resulting from criminal, traumatic, pathogenic, suicidal, or unexplained activities; life threatening or multiple victims of illnesses (outbreaks) or injuries; severe weather; multiple felonious crimes against persons; localized acts of civil disobedience such as building occupations or sit-ins involving groups or organizations; terrorist activities not directly targeted at the College, but having impact on</p>	<p><i>Examples:</i> Hurricanes or other extremely severe weather incidents; earthquakes; power plant failure or extended compromise of utility systems; major natural gas leaks; fires, explosions or HAZMAT incidents resulting in significant injuries or property damage; civil disorder or riots; clear and eminent danger from acts of terrorism; epidemic or pandemic illness(es).</p>	<p><i>Examples:</i> Explosions, fires, civil disturbances, acts of terrorism, chemical or nuclear releases that require mobilization of governmental elements other than those primarily involved, enemy attacks, hurricanes, tornados, storms, floods, high water, wind-driven water, tidal waves, earthquakes, landslides, mudslides.</p>

Animal Facilities¹⁴				
Isolated Incidents Level 1	Minor Incidents Level 2¹⁵	Critical Incidents Level 3¹⁶	Major Incidents Level 4	Disasters Level 5
<p>IACUP Director or IACUP Associate Director for Grice Marine Laboratory, as appropriate, will be notified immediately of any animal welfare concerns.</p> <p>See 7. Power and Water Outages</p>	<p>IACUP Director or IACUP Associate Director for Grice Marine Laboratory, as appropriate, will be notified immediately of any animal welfare concerns.</p> <p>Animals will have adequate water and food for 3 days.</p> <p>Animals may need to be relocated to safe location. Safe locations may include hallways, research labs, or classrooms within other buildings on campus, buildings off campus, or the outdoors, depending on the situation. Animals shall remain in their home cages.</p> <p>See 5. Localized Fire, Excess Heat or, Chemical Spill Plan</p> <p>7. Power and Water Outages</p>	<p>IACUP Director or IACUP Associate Director for Grice Marine Laboratory, as appropriate, will be notified immediately of any animal welfare concerns.</p> <p>Public Safety will secure animal facilities. Only authorized personnel will be allowed to enter.</p> <p>Animals will have adequate water and food for 3 days.</p> <p>Animals may need to be relocated to safe location. Safe locations may include hallways, research labs, or classrooms within other buildings on campus, buildings off campus, or the outdoors, depending on the situation. Animals shall remain in their home cages.</p>	<p>See</p> <p>1. Civil Disturbance</p> <p>2. Earthquake</p> <p>3. Emergency Euthanasia</p> <p>4. Hurricane</p> <p>6. Pandemic</p> <p>8. Unpredicted Evacuation</p>	<p>See</p> <p>3. Emergency Euthanasia</p> <p>4. Hurricane</p> <p>8. Unpredicted Evacuation</p>

1. Civil Disturbance

Public Safety or Police/Sheriff Department will secure the buildings. Only members of IACUP ERT will be allowed entrance to provide animal care. If evacuation is required, follow procedures for Unpredicted Evacuation.

2. Earthquake

Downtown Facilities

In the event that there is damage to the Vivarium in RITA, every effort will be made to access the animals at the earliest possible opportunity. If other buildings are safe, and the animals can be safely evacuated, the IACUP Director will determine the best location(s) for animal housing.

GML

In the event that there is damage to GML buildings, but not to either SCDNR or HML:

1. Decision will be made by the GML Director and Assistant IACUP Director for GML as to which animals will be retained and moved to another holding facility (SCDNR or Hollings Marine Lab).
2. All nonessential remaining indigenous animals will be released from aquariums/holding tanks into the SCDNR boat slip.
3. The Director of GML will destroy all non-essential non-indigenous species held at the Grice Marine Laboratory as per operating protocols. SCDNR will be notified of status of non-indigenous species.

3. Emergency Euthanasia

Sufficient euthanasia substances will be kept on site to ensure that the average daily population of animals can be euthanized. This stock will be checked annually to replace expired solutions.

Downtown Facilities

Training in Emergency Euthanasia for the Downtown Animal Facilities will be provided by the Consulting Veterinarian to the IACUP Director, principal investigators with animals in the facilities, and other personnel as warranted. See Training section. The decision to euthanize will be made by the IACUP Director or a member of the ERT as warranted by the situation. Animals will be euthanized in accordance with the AVMA Guidelines.

GML

In the event of mandatory evacuation, the GML Director will euthanize all non-indigenous species held at GML as per operating protocols. Indigenous species will be released if possible or euthanized if deemed necessary. The GML Director will notify SCDNR of status of all non-indigenous species.

4. Hurricane – Predicted Mandatory Evacuation

Downtown Facilities

At the beginning of Hurricane season, assure adequate supply of bedding and food for 7 days.

72 HOURS PRIOR TO EVENT

1. Do change outs on all rodent cages.
2. Complete cage washing.
3. Replace small water bottles with large water bottles for group housed animals.
4. Check batteries; emergency lighting, electric fans, emergency supplies
5. Check supply of bleach.
6. Ensure that chemicals are secured, MSDS are posted.
7. Ensure that all carcasses and biohazards are disposed of properly (includes sharps containers). Empty freezer of any dead carcasses and dispose of properly outside animal facility
8. Notify Physical Plant of need for backup power to animal facility ASAP after event.
9. Provide Public Safety with access list of individuals (and their contact information) that may enter animal areas after the event.

48 HOURS PRIOR TO EVENT

1. Fill 55 gallon drum with water
2. Turn freezers to lowest setting.
3. Turn off gas at cutoff.
4. Close valves on all tanks.
5. Turn off breaker for cage washer.
6. Move all animals from ground floors to fourth floor Vivarium in RITA.
7. Provide all animal researchers and animal care staff copies of contact list.

24 HOURS PRIOR TO EVENT

1. Fill sink.
2. All water bottles are full and all animals have a three day supply of food.
3. Notify Sonitrol that temperature alarms are suspended.

AFTER EVENT

1. Make contact with the College Command Center. If this is not possible, contact others on the contact list, public safety, and or physical plant. Do not enter facility/building alone or without a flashlight. (Do not strike matches, as gas leaks or leaks of other hazardous materials are common.) Wear gloves, masks and boots.
2. If rooms are damaged relocate animals to a secure location.
3. Try to restore power to animal facility ASAP. If emergency power is not on, open the outside doors to the roof and facility rooms to allow ventilation and contact Physical Plant.
4. Refill animal water bottles and food supply. Do not use tap water until it is determined to be safe.
5. Evaluate quality of stored animal food and bedding.
6. If there are dead animals place them inside the freezer. These will need to be reported to the DRT.
7. Make contact/leave messages for others on contact list to notify them of the status of the facility.
8. Continue to check on animals on daily basis until conditions return to normal.

GML

Back up emergency electrical supply is available for electrical outages when personnel are available to maintain tanks via a 150 amp. external generator.

72 HOURS PRIOR TO EVENT – POTENTIAL EVACUATION

1. Ensure all tanks have clean water, adequate flow and aeration is provided for individual systems.
2. Check batteries in flashlights and handheld radios.
3. Pump fresh seawater- both settling and user tanks need to be full. (1200 gallons total)
4. Contact all PIs and users – identify special needs for specific animals. (i.e. temperature requirements)
5. Provide Public Safety with access list of individuals (and their contact information) that may enter animal areas after the event.
6. Test all GFCI breakers

48 HOURS PRIOR TO EVENT – IMMEDIATE EVACUATION

1. Check to see if all circulation pumps on each system are plugged into emergency power.
2. Ensure adequate aeration is provided for individual systems.
3. Move all display/outreach animals into “A” system.
4. Shutdown front display tank; break syphon on overflow box, turn off power strip under tank.
5. Move Diamondback Terrapins from front office into wet lab and change out water.
6. Check backup air pump in back right corner of wet lab.
7. Prepare food in small containers for each system (3 day supply).

24 HOURS PRIOR TO EVENT – MANDATORY EVACUATION

1. Decision will be made by the Director of GML and the Associate IACUP Director for GML as to which animals will be retained and which will be released.
2. Release all nonessential remaining indigenous animals from holding tanks into the SCDNR boat slip.
3. The Director of GML will destroy all non-indigenous species held at GML as per operating protocols and notify SCDNR of status of non-indigenous species.
4. Last check of systems holding essential live animals; ammonia/salinity tests and water changes as necessary.

AFTER EVENT

In many cases it will be obvious when it is safe to return to the Grice Marine Laboratory. However, if you are out of the area, it may be a good idea to call to find out if it is safe and possible to return.

1. Call the GML (843-953-9200) and speak to someone or listen for a recorded message. If the Grice phones are not operational, then go to #2.
2. Call the GML Director. A message with information on conditions in Charleston will be recorded, or if someone is there, you may speak to a person.
3. Call the Assistant IACUP Director for GML or the GML Facilities manager.

5. Localized Fire, Excess Heat or, Chemical Spill

If an emergency situation such as a fire, excess heat, or chemical spill occurs within the animal facility or within a building housing animal facilities and the animal facility becomes a harmful environment, the IACUP ERT will move animals to a safe location to the extent possible. Safe locations may include hallways, research labs, or classrooms within other buildings on campus, buildings off campus, or the outdoors, depending on the situation. Animals shall remain in their home cages. If a long-term solution is required, the IACUP Director will consult with the principal investigators concerning disposition of the animals. At Grice Marine Laboratory, animals may need to be relocated to another tank facility such as SCDNR or HML indoor or outdoor tank system.

6. Pandemic

Animal facilities must be maintained at a level to ensure animal welfare. Since first responders will receive the first vaccinations, the IACUP Director will in all likelihood be available to care for

the animals and cover critical operations, including assuring adequate inventories of essential supplies (e.g., feed, bedding, personal protective equipment, cage washing supplies). In addition, members of the IACUP ERT may also be able to provide assistance in animal care.

Every effort will be made to reduce personal contact among IACUC members and support staff and enable long distance conduct of business. Protocols and IACUC materials are available via the internet and the College's PHS Assurance provides for meetings via teleconference and designated member review.

7. Power and Water Outage ¹⁷

Power and water outages occur periodically at College of Charleston facilities. Provisions are available for continuous animal care (e.g. water, lights for light cycles, ventilation, and temperature control) during temporary outages.

All IACUP staff and other personnel using the animal facilities must be familiar with the locations of

- Flashlights and battery stocks (battery stocks should be replaced every 6 months).
- Temperature alarms
- Areas of the facility that are handled by different air handlers or can be affected uniquely.

Report the outage immediately to Physical Plant (953-5550) between 6 am and 4 pm or after hours to Public Safety (953-5611). When reporting an outage, the operator will require the following information:

Your name and title

Building name, location, and room number; *identify your area as an Animal Care Facility*

Nature of the problem

A telephone number where you may be reached

Downtown Facilities

Procedures in event of emergency generator failure:

- Open doors to the animal rooms to facilitate ventilation.
- Relocate animals if necessary.
- Unplug all computers, monitors, printers, cage washer, and autoclave to prevent damage from electrical surge when the power is restored

Physical Plant will activate electrical generators for lighting and ventilation to power the facility at the first opportunity.

GML

All aquarium circulation pumps are plugged into emergency power circuits backed up by a 150amp natural gas powered exterior generator. An aeration blower is also backed up on the same generator and provides adequate ventilation to all tanks in the event a pump fails. A 600 gallon tank provides backup seawater in the event that water exchanges are necessary. Water can be accessed manually via gravity fed hoses.

An automated call system is in place to notify the Assistant IACUP Director for Grice, the Facility Manager, and the GML Director in case one of the emergency power circuits trips due to a power surge or other issues.

Procedures in event of a power failure:

- Contact Physical Plant, Assistant IACUP Director for Grice, and Facility Manager.
- Check to see if all tanks are aerated and that circulation pumps are running.
- Ensure food storage fridge/freezer in wet lab is plugged into an emergency circuit.
- Relocate animals to SCDNR outside tanks or HML indoor tanks if necessary and only if power outage is just a GML problem.
- Notify SCDNR of any changes in location or holding on non-indigenous species

Emergency animal housing is available at the SCDNR or HML facility for emergencies specific to the Grice Marine Laboratory rather than the Fort Johnson complex.

8. Unpredicted Evacuation

If personnel must be evacuated from the facilities due to an unpredicted occurrence, members of the IACUP Emergency Response Team will make every effort to fill water bottles and provide maximum food before vacating premises (if permitted by authorities and time permits) and will gain access at the first available opportunity. However, safety of personnel must take precedence over animal care.

TRAINING¹⁸

Training in emergency procedures is essential to a successful emergency response. The training plan includes new employees, animal care workers and faculty members, and current personnel and provides for a specially trained Disaster Response Team. Records of training will be maintained by the IACUP Director and the Assistant IACUP Director for GML.

The IACUP director, Associate IACUP Director for GML, and members of the Disaster Response Team will participate in collegewide and regional emergency training exercises and drills as appropriate.

New Employees¹⁹

Within 30 days of the time of hire, IACUP staff will receive training from the IACUP director/Assistant IACUP Director for GML which covers all emergency procedures as outlined in this plan.

New faculty members who house animals in the facilities will receive Emergency Plan training during the IACUC/IACUP orientation.

Current Employees

The IACUP director/Assistant IACUP Director for GML will advise current IACUP staff of any changes to this emergency plan and will provide a refresher at the beginning of hurricane season to assure emergency preparedness. The IACUC will assure that all faculty who use

animals in research and teaching are provided with a copy of the emergency plan and updated when any changes are made to the plan.

IACUP Disaster Response Team (IACUP DRT)²⁰

Annually, at the beginning of hurricane season, a cadre of essential personnel will be trained by the IACUP Director in disaster emergency facility procedures and animal care and in euthanasia by the consulting veterinarian. These personnel will include the IACUP Director, Associate IACUP Director for GML, researchers who have animals in the facilities, and other volunteers deemed appropriate by the IACUP Director. Due to safety concerns, IACUP staff who are students will not be eligible for the DRT. However, they will be responsible for preparations of the facility when the disaster situation can reasonably be predicted, such as a hurricane.

When training has been completed and documented, personnel who expect to be geographically available during a disaster will receive credentials for access to the peninsula and facilities. They will also be supplied with masks, gloves, and boots to be worn in the facilities, and communication devices such as walkie-talkies.

Downtown facilities training will include:

- College-wide emergency protocols, including facility access
- Communications protocols
- Familiarization with the facilities and location of emergency supplies
- Facility issues such as ventilation
- Familiarization with animal species, feeding, and cage cleaning
- Evaluation of conditions for animal well-being
- Contact persons for euthanasia decision
- Instruction in euthanasia procedures and certification by the consulting veterinarian
- Post emergency procedures

GML training will include:

- College-wide emergency protocols, including facility access
- Communications protocols
- Familiarization with the facility and location of emergency supplies
- Euthanasia protocol
- Post emergency procedures

REFERENCES

- AVMA Guidelines for the Euthanasia of Animals, 2013 Edition
Guide for the Care and Use of Laboratory Animals, 8th Edition, 2011: Sections on Disaster Planning and Emergency Preparedness (Guide, p 35) and Emergency, Weekend, and Holiday Care (Guide, pp 74-75)
Disaster Planning, *Animal Lab News* 2007; 6 (3):21-24: Points to consider when developing a disaster plan for your animal facility.
Disaster Planning and Management, *ILAR Journal* 2010; 51(2).
USDA-APHIS Handling of Animals; Contingency Plans, 9 CFR Parts 2 and 3
USDA-APHIS Questions and Answers: Final Rule on Contingency Plans for Regulated Entities

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Endnotes

- ¹ Animals that cannot be relocated or protected from the consequences of the disaster must be humanely euthanized. Guide p. 35
- ² 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.
- ³ Emergency procedures for handling special facilities or operations should be prominently posted. Guide p. 74
- ⁴ The plan must be reviewed by the research facility on at least an annual basis to ensure that it adequately addresses the criteria listed in paragraph (l)(1) of this section. USDA
- ⁵ 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
- ⁶ 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
- ⁷ The colony manager or 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
- ⁸ Identify essential personnel who should be trained in advance in its implementation. Guide p. 35
- ⁹ Personnel trained in emergency procedures for special facilities or operations. Guide p. 74
- ¹⁰ Address how response and recovery will be handled in terms of materials, resources, and training needed. USDA
- ¹¹ How the facility will preserve animals that are necessary for critical research activities or are irreplaceable. Priorities for triaging animal populations... Guide p. 35
- ¹² Access to essential personnel during or immediately after a disaster. Guide p. 35
- ¹³ 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
- ¹⁴ 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
- ¹⁵ 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. Guide p. 23
- ¹⁶ 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. Guide p. 23
- ¹⁷ 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
- 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
- ¹⁹ For employees ..., training must be conducted within 30 days of their start date. USDA
- ²⁰ Personnel trained in emergency procedures for special facilities or operations. Guide p. 74