

**Children's Memorial Research Center
Institutional Animal Care and Use Program**

**ANIMAL RESEARCH FACILITY
EMERGENCY AND DISASTER PLAN**

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TABLE OF CONTENTS

EMERGENCY AND DISASTER PLAN FOR ANIMAL FACILITY	3
EMERGENCY PHONE CONTACTS.....	4
GENERAL PRINCIPLES FOR ALL EMERGENCIES	5
GUIDELINES FOR HANDLING SPECIFIC EMERGENCIES.....	8
AIR HANDLING PROBLEMS (LOSS OF SUPPLY OR EXHAUST)	8
BOMB THREAT/BOMBING	8
BREAK INS.....	9
CHEMICAL/RADIATION/HAZARDOUS MATERIALS SPILL	10
ELECTRICAL POWER OUTAGE	11
FIRE.....	12
FLOOD	13
PHONE/PAGING SYSTEM OUTAGE	14
PROTESTS/PICKETING/STRIKES	15
SNOW STORM/BLIZZARD/ICE STORM	16
TEMPERATURE PROBLEMS	16
TORNADO OR OTHER SEVERE STORMS.....	17
WATER SUPPLY INTERRUPTION.....	18
H1N1 EMERGENCY ANIMAL CARE COVERAGE.....	19
OTHER EMERGENCIES AND DISASTERS.....	20

CMRC RSF EMERGENCY AND DISASTER PLAN

Purpose:

The purpose of the Children's Memorial Medical Center (CMMC) Emergency Operations Plan is to coordinate and structure an emergency response among departments, appointed leaders and locations. The Incident Command Structure is used to manage an organizational response to all hazards.

The Emergency (Incident Specific) plans, policies and procedures guide organizational and department response to events that may occur as determined by the Hazard Vulnerability Analysis or other planning recommendations recommended by city, state or federal authorities. (See Emergency Policies on the POINT at <http://portal2/sites/polproc/Emergency%20Policies%20and%20Procedures/Forms/AllItems.aspx>).

Objective:

The Children's Memorial Research Center (CMRC) has prepared the following plans for addressing emergency situations and disasters in CMRC, the research center, and the Research Support Facility, (RSF) where the animal facility is located. The purpose of this plan is to offer guidelines for personnel on site at the time of an emergency or disaster and to suggest possible and likely approaches to protecting both human and animal health after the primary response teams (e.g., fire department, police, and safety officers) have responded. Professional judgment is essential in these situations.

This plan is approved by the CMRC Institutional Animal Care and Use Committee, the Senior Vice President-Chief Operating Officer; the Senior Vice President for Research, and the President and Scientific Director of CMRC. It is reviewed no less than annually as part of the CMRC Office of Research and Integrity Compliance Program and the IACUC program review.

EMERGENCY PHONE CONTACTS

EMERGENCIES AND DISASTERS, SUCH AS FIRE, FLOOD, CHEMICAL SPILLS, SECURITY, ETC...

Note: The following phone numbers have area code (773) unless otherwise stated.

	CMRC	CMH	PAGE
BUILDING SECURITY	755-6549	880-4222	
FIRE DEPT	911	880-4222	
AMBULANCE	911	880-4222	
HAZARDOUS MATERIALS/ SAFETY OFFICER	755-6312	880-3078	
VET-ON-CALL	755-6343		56343
DIRECTOR OF RSF	755-6343		56343
ANIMAL CARETAKERS	755-6319		
CMRC ENGINEERING	755-6348		
FACILITY MANAGER (HVAC)	755-6580 755-6348		56580
PHYSICAL PLANT AFTER HOURS	755-6348	880-4098	
IACUC Office	755-6302		
Chair	755-6380		
Research Compliance Specialist	755-6306		
Sr. VP,COO CMRC	755-6301		

FOR OTHER ANIMAL FACILITY PROBLEMS (room temperature variations, airflow abnormalities, equipment breakdown, etc,) the on-call Veterinarian and Supervisor as well as the following units:

CMRC Engineers	755-6348
CMH Engineers	880-4098
Director of RSF	755-6343
CMRC Facility Manager	755-6580

Evacuation Regrouping Sites:

1. North side of building (Phase 1): Altgeld
2. South side of building (Phase 2): Julia Porter Park

Tornado Shelter Areas:

1. 1st & 2nd Floor Personnel: Shipping/Receiving Doc or Garage
2. 3rd – 5th Floor Personnel: Middle stairwells near elevators or Garage

GENERAL PRINCIPLES FOR ALL EMERGENCIES

Responsibilities: The individual with overall responsibility in an incident is the Senior VP – Chief Operating Officer (“COO”), CMRC or designee (e.g., supervisor or animal caretaker). The COO or designee coordinates the overall response in an emergency or disaster and acts as the Incident Commander for CMRC. If the event is specific to CMRC then CMRC is the lead agency and CMH supports CMRC. If the event is specific to CMH then CMH becomes lead agency and CMRC supports CMH. If the area is affected then CMH and CMRC work collaboratively using a Unified Command Structure.

Facilities Covered: All animal housing areas under management of CMRC are covered by this plan.

Communications: In the event of an emergency or disaster, the individual who discovers or is advised of the situation immediately reports the problem to the RSF Director, CMRC Facilities Manager, CMH Engineering or immediate supervisor (in many cases the immediate supervisor is the Principal Investigator). If that person cannot be contacted, then any supervisor available should be contacted. In an acute emergency endangering human life, staff communicates to each person on site to protect co-workers. In a less acute emergency, the ranking Supervisor takes charge until the threat to human life has been addressed. As soon as possible, the problem is then reported to the COO or designee, who then determines additional communications. Individuals encountering human life-threatening conditions where time is critical, such as a fire or hazardous materials spill, must immediately notify the unit responsible for handling the emergency, then notify their Supervisor or designee. If the problem arises after normal hours, then the Veterinarian on-call and the Supervisor on-call are notified. In a serious emergency or disaster (e.g., one which endangers the lives of personnel or animals), all supervisor and investigators are contacted. They are informed of the problem, the plan for dealing with it, and their role in responding. If the situation arises after normal work hours, the head of each unit is responsible for gathering additional members of their staffs if they are needed. In the event of an interruption in normal communications, alternate methods (FAX, email, hand delivery of messages) may be employed-see Section 8 Phone/Paging System Outage below.

Security: The CMRC has a video surveillance as well as an Employee Proximity Badge entry system. In the event of an emergency or disaster, these systems may need to be over-ridden temporarily to allow access to response teams. As soon as safe conditions have been established and animal welfare addressed, security will be given a high priority. Hospital Security units are notified if normal animal facility security has been breached and they, along with CMRC personnel, will formulate a plan to restore or supplement compromised security. This may include posting guards or monitors at facility doors or temporarily closing facilities to non-essential traffic. Changes in security procedures should be posted on facility entrances or animal room doors and communicated to investigators as early as is practical.

Emergency Evacuation: In the event of an evacuation of an animal facility during working hours (such as due to a fire, hazardous material spill, or other emergency) the following principles apply:

1. Personnel are not to endanger themselves or others by delaying an ordered evacuation.
2. Personnel should do their best to alert others as they evacuate the premises.

3. On-site personnel employ their professional judgment for handling animals which are anesthetized, or undergoing surgery or nonsurvival procedures from which they might awaken if left unattended. Animals undergoing surgical procedures can be evacuated (small animals) along with the personnel, or they can be euthanized, or they can be left on anesthesia machines, however, every reasonable effort should be made to ensure animals will not awaken in severe pain and that personnel are not delayed from evacuating the premises promptly.
4. The CMRC has set gathering points after an evacuation in order to determine that personnel have cleared the facility and to await the all-clear signal to return. The gathering points are: North side of building (Phase 1) to meet on Altgeld Street, North of CMRC and South side of building (Phase 2) to meet in Julia Porter Park, South of CMRC.

Emergencies Covered by the Plan (details given below):

1. Air handling problems: loss of supply or exhaust
2. Bomb threat
3. Break in
4. Chemical/radiation spill
5. Electrical power outage
6. Fire
7. Flood
8. Phone or Paging System outage
9. Protests/picketing/strike
10. Snow storm/blizzard/Ice storm
11. Temperature problems (hot or cold)
12. Tornado or severe storm
13. Water supply interruption
14. Miscellaneous other emergencies or disasters

Overview of Animal Care and Support Needs (see specific emergency for details)

1. **Animal health checks and health maintenance.** Animals should be checked daily to confirm they are healthy. These observations may be performed by qualified CMRC personnel or others. The CMRC Veterinarian or Consulting Veterinarian will triage sick or injured animals and determine a treatment plan. Animals suffering ill effects may be euthanized at the discretion of the veterinarians using AVMA approved methods of euthanasia.
2. **Food and water supplies.** Food and water are critical to maintaining animal health. The appropriate food for the species and research needs, in adequate quantities, in unadulterated form, is the goal of this plan. If the usual food is not available, professional judgment must be applied to identify acceptable substitutes which are available. Water is especially important, as most animals can survive for several days with little food, but may succumb within 1-2 days without water. Water must be potable and, ideally, delivered in the same form (acidified, autoclaved, etc.) as normal. Some species are especially sensitive to food or water deprivation (*e.g., new born rats or mice*) and should be given special attention.

- 3. 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 (e.g., large animals like dogs or cats) 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 of some equipment, or deferring activities such as floor mopping may be required. The RSF Director or designee and/or the CMRC Facilities Manager 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 unusual conditions.
- 4. 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 will be dealt with by RSF Director or designee and/or the CMRC Facilities Manager, with goals of: maintaining at least some air movement in animal housing spaces, sustaining air pressure differentials in all rooms including the barrier area and keeping temperatures as close to the acceptable range as is possible. The minimal standard is to prevent animal deaths or contamination of the environment.
- 5. 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 RSF Director or designee will deploy available personnel to maintain animal health and well-being under the direction of the CMRC COO 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 RSF Director or designee, with consultation as needed from key CMRC administrative personnel makes this decision.

GUIDELINES FOR HANDLING SPECIFIC EMERGENCIES

A. AIR HANDLING PROBLEMS (loss of supply or exhaust)

The primary goal is to restore adequate supply and/or exhaust as rapidly as possible. The RSF has a Watchdog System which will notify Engineering of any fluctuations in set facility parameters of humidity, air supply and exhaust. The CMRC Engineering personnel will contact the RSF Director or designee (on-call Supervisor) of the affected facility (see Emergency Phone contacts for a list of contact numbers). After the appropriate group has been informed so that repairs can proceed, the CMRC COO/designee is notified and coordinates all CMRC activities related to the emergency/disaster. The CMRC COO or designee may delegate responsibility for handling and later reporting resolutions of minor or non-life-threatening problems. (See also Section K-Temperature Problems.)

- 1. Animal health checks:** These should be increased, if possible to confirm that animals have adequate air supplies, with special attention to animals in specialized cages such as microisolators or ventilated racks.
- 2. Food and water supplies:** Should not be affected.
- 3. Sanitation:** Should not be affected; some cage changes may need to be deferred to avoid disseminating odors and particulate matter from cage changing, and some cleaning (e.g. floor mopping) may also be deferred to avoid humidity problems.
- 4. Environmental support:** While repairs are underway, the RSF Director or designee evaluates the availability of and necessity for additional equipment such as fans or other measures such as opening doors. Animals may need to be moved if their lives are endangered, but every effort should be made to prevent contaminating barrier facility and the conventional and quarantined animals.
- 5. Personnel:** Personnel should be able to work as usual, under the considerations indicated above. Loss of air supply, exhaust, or pressure differentials may require consideration of additional personal protective measures or evacuation of building (e.g. if gas anesthetics were being vented into exhaust ducts). Available staff may be requested to perform duties outside their normal job descriptions in order to provide for essential animal care needs. The RSF Director or designee, with consultation as needed from key CMRC administrative personnel makes this decision.

B. BOMB THREAT/BOMBING

If a bomb threat is received by CMRC, the call should be immediately reported to Security. The Security department will contact CMH security to determine what action should be taken in the event of a bomb threat. Principal Investigators, their designees, and supervisors of personnel working in the affected building should be notified and placed on stand-by alert for further instructions. If facilities are evacuated, CMRC personnel should meet at the designated gathering points: North side of building (Phase 1) to meet on Altgeld and South side of building (Phase 2) to meet at Julia Porter Park. In the event of an actual bombing, animal issues will be handled as under the section for Fire (below).

1. **Animal health checks and health maintenance:** All animals will be checked as soon as access to the facility is permitted by the fire, police and safety personnel.
2. **Food and water supplies:** Food and water should not be a problem for the short term while the threat is being evaluated.
3. **Sanitation:** If a bombing or a bomb threat occurs during normal working hours, all employees must evacuate the facilities immediately and report to the gathering points and wait for further instructions. If a bombing occurs after regular operating hours an attempt will be made to notify all RSF employees to report to work. The RSF Director or designee and veterinarian on call will be notified of any bombing and report to assess any resulting damage.
4. **Environmental support:** Environmental support should not be affected by a bomb threat. If utilities are lost or facilities are searched by individuals who are not familiar with animal care systems, CMRC will advise those in charge of precautions to be taken, if possible, while these conditions persist. For handling effects of a bombing or other explosion, see the specific sections below: D. Chemical Radiation/HazMat Spill; E. Electrical Power Outage; F. Fire; G. Flood; K. Temperature Problems; M. Water Supply Interruption.
5. **Personnel:** Personnel must follow instructions from authorities to evacuate buildings where bomb threats have been received. Supervisors are responsible to communicate these orders to their staff members involved. Personnel will not re-enter buildings until the all-clear is officially announced by the authorities. Available staff may be pressed into service to perform duties outside their normal job descriptions in order to provide for essential animal care needs. The RSF Director or designee, with consultation as needed from key CMRC administrative personnel makes this decision.

C. BREAK INS

1. **Animal health checks:** Any animals loose in the facility will be captured, identified (if not individually marked, they will be held in cages labeled with the room in which they were found), and returned to their home cages or euthanized depending on their condition. Any animals killed as a result of vandalism will be disposed of according to federal regulations. If the necropsy freezer is damaged by vandalism, the dead animals will be taken to the freezer in the Biohazard Waste Holding Room, or to a dedicated freezer or refrigerator in another facility. All animals in the affected facility will be evaluated by the veterinary staff for health status and usefulness for research and treated as their condition warrants. Animals suffering ill effects may be euthanized at the discretion of the veterinarian using an AVMA approved method of euthanasia. Special consideration will be given to all animals which may have been contaminated and biohazardous animals which may have shed contamination, as a result of the break-in.
2. **Food and water supplies:** If animal feed is destroyed or contaminated by an act of vandalism, an order will be placed immediately with the local vendor for replacement. Feed will be shipped in by overnight delivery if needed, or obtained from another approved facility. If the water supply is interrupted, water will be obtained from CMH or other commercial supplier.

- 3. Sanitation:** Routine sanitation will be resumed as soon as possible, assuming equipment is functional. If equipment such as cagewashers or autoclaves are not available, they will be repaired as soon as possible. During the interim, the RSF Director or designee determines an alternate method for sanitation such as; hand washing, deferring some activities, or using equipment in other suitable facilities.
- 4. Environmental support:** Following a break-in, the RSF Director, Facilities Manager and/or CMH Engineering will evaluate the environment in each affected space. This information will be reported to the CMRC COO or designee who will determine the action to be taken (see instructions for the following emergencies as applicable: D. Chemical Radiation/HazMat Spill; E. Electrical Power Outage; F. Fire; G. Flood; K. Temperature Problems; M. Water Supply Interruption). In cases of serious damage to environmental systems, animals may be relocated to alternate facilities as determined by the RSF Director or designee.
- 5. Personnel:** Personnel will have access to the facility as permitted by authorities. Extra personnel may be called upon to deal with damage to the facility. Care should be taken to not disturb any evidence at the site. Available staff may be requested to perform duties outside their normal job descriptions in order to provide for essential animal care needs. The RSF Director or designee, with consultation as needed from key CMRC administrative personnel makes this decision.

D. CHEMICAL/RADIATION/HAZARDOUS MATERIALS SPILL

Contamination of the environment within an animal facility is reported by the CMRC staff member who observes or discovers the problem. In an acute emergency, any staff member at the scene must warn co-workers, evacuate to a safe location, and notify the CMRC Safety Officer (ext 56312) and CMH Safety Officer (ext 3078). If CMRC is notified of a contamination in adjacent space, instructions are followed from the appropriate Safety Office. The RSF Director or designee and/or the CMRC Facilities Manager are responsible for communicating the specific instructions to their staff members.

- 1. Animal health checks:** Animal health checks and treatments resume after the all-clear is declared by the Hazardous Materials Response Team. Animals which may have been exposed to any hazardous agents are evaluated for health and research usefulness or euthanized at the discretion of the veterinarian using AVMA approved methods of euthanasia.
- 2. Food and water supplies:** Food or water which is exposed to hazardous agents is discarded according to federal and state regulations. It is replaced with supplies from other facilities or new supplies are ordered..
- 3. Sanitation:** Normal sanitation resumes after the all-clear is announced by the CMRC Safety Officer. Facilities and equipment which have been exposed to hazardous agents may require special handling as determined by the appropriate Safety Office.
- 4. Environmental support:** Environmental changes created by or necessitated by the emergency (such as cutting off supplied air or altering air-pressure differentials) should be corrected as soon as the hazard is no longer a threat

- 5. Personnel:** CMRC personnel should leave the area as soon as an incident occurs (see Emergency Evacuation above). Personnel return only after an all-clear is received from the responsible safety officer. Available staff may be requested to perform duties outside their normal job descriptions in order to provide for essential animal care needs. The RSF Director or designee, with consultation as needed from key CMRC administrative personnel makes this decision.

E. ELECTRICAL POWER OUTAGE

Loss of electrical power may create problems such as: loss of lighting; loss of electrical equipment such as ventilated cage racks, cagewashers, sterilizers, surgery/intensive care equipment, sump pumps, and communication systems. The Watchdog System will, in the event of a loss of lighting, water, or temperature variations outside the facility parameters, notify the CMH Engineering Department. Top priority is given to addressing critical animal needs. Additional emergencies should be handled as addressed in other sections: A. Air Handling Problems; G, Flood; H. Phone/Paging System Outage; or K. Temperature Problems.

- 1. Animal health checks:** If the main power to the facility is off, the emergency exit signs, lighting in corridors, all red outlets (including all animal housing rooms), Fish Rooms, Chick Room, Newt Room, HVAC, Biology Safety Cabinet, and the Cold Room remain on since they are connected to emergency generators. Animals in ventilated cages or racks, aerated tanks, or otherwise dependent upon power for life support and not connected to the backup generator should be supported by alternate means as necessary, including extension cords or relocation to other sites. Flashlights and extension cords for an emergency are located in Room 266, 212, and RSF Office or may be obtained from another facility or local stores. Each Animal Technician is responsible for reviewing the condition of animals in their assigned areas.
- 2. Food and water supplies:** For the short term, these should be unaffected. Portable lights or flashlights may be deployed to accomplish feeding and watering in dark rooms. If power remains out long enough to create shortages of sanitized food receptacles, water bottles, or the processing of food or water, supplies may be brought in from other facilities after supplies on-hand are exhausted.
- 3. Sanitation:** Loss of power to automatic equipment may alter sanitization schedules. This could affect the level of sanitation by allowing bacteria and viruses to accumulate on the equipment. Other strategies such as hand washing equipment may be used. Also, cage changing intervals may need to be extended, cage pan changes substituted for whole-cage changes, spot-cleaning employed instead of cage/pan changes, etc. The RSF Director or designee and/or the CMRC Facilities Manager will determine how to provide the optimum sanitization under the prevailing conditions. When the power returns - RESET all equipment. Check for partially processed loads in equipment such as cage wash and autoclaves. Lack of lights in facilities may also require alterations of normal activities.
- 4. Environmental support:** See other sections of this document if additional environmental systems are affected. Emergency generators in the CMRC provide power to animal facilities. All operating equipment (autoclaves, washers, etc.) should be turned off. When power returns, check all equipment to assure that previous settings are still being implemented. If not - RESET. Check all operating equipment (including ventilation fans) to ensure that they have restarted. If not - contact CMRC Engineering at ext 56348 or CMH Engineering at 880-4098. Check all processing equipment for partially processed loads.

- 5. Personnel:** Animal Husbandry personnel are deployed in affected facilities as directed by the RSF Director or designee. Facility entry orders should be observed. In the event of a prolonged city-wide outage, CMRC personnel may be requested to perform duties outside their normal work responsibilities in order to prevent animal death or distress. The RSF Director or designee, with consultation as needed from key CMRC administrative personnel makes this decision.

F. FIRE

In the event of an evacuation of animal facilities, CMRC personnel are to gather at the predetermined regrouping site, which is Altgeld Street for the North side of building (Phase 1) and Julia Porter Park for the South side of the building (Phase 2).

- 1. Animal health checks:** All animals will be checked as soon as access to the facility is permitted by the fire safety personnel. Dead animals will be removed from cages and placed in the necropsy freezer, alternate freezer or refrigerators or cremated. Animals that need to be relocated due to fire damage to the facility will be relocated to another suitable housing facility. Animals suffering ill effects may be treated or euthanized at the discretion of the veterinarian using AVMA approved methods of euthanasia.
- 2. Food and water supplies:** Any food or water which might have been damaged in affected areas will be discarded. If fire or water damage destroys any or all of the feed supply, the feed vendor or distributor will be contacted for immediate replacements. Any feed that cannot be obtained from the local vendor will be ordered for overnight delivery from the distributor. Spoiled or contaminated feed will be immediately discarded.
- 3. Sanitation:** Normal sanitation resumes after the all-clear is announced by the Safety Office or Fire Department personnel on site. Facilities and equipment which have been exposed to fire, smoke, fumes, or water may require special handling as determined by the CMRC Facilities Manager. Special equipment may be needed to remove odors or smoke damage. If cagewashing equipment has been damaged, equipment may be sanitized using another facility's cagewasher or by hand washing; this is decided by the CMRC Facilities Manager and veterinarian(s) for the facilities involved.
- 4. Environmental support:** Effects on environmental systems are evaluated when occupancy is allowed. If gross outages or abnormalities are detected (e.g., loss of air supply, exhaust, or temperature control) these are reported to the Engineering Department for the building. Actions are taken as described in the sections: A. Air Handling Problems; E. Electrical Power Outage; G. Flood; K. Temperature Problems; and/or M. Water Supply Interruption. If the environmental problems are severe, animals may need to be evacuated and relocated; this is the decision of the RSF Director or designee in consultation with the veterinarian(s).

- 5. Personnel:** If a fire occurs during working hours all employees must vacate the facilities immediately and report to predetermined gathering points and wait for further instructions (see Personnel Evacuation section above). If a fire occurs after regular operating hours an attempt will be made to notify key employees to report to work at the discretion of the CMRC COO or designee. The CMRC Facilities Manager, supervisors, key personnel, as determined by the RSF Director, and the veterinarian will be notified of an after-hours fire and whether they should report to work or muster other staff. Available staff may be requested to perform duties outside their normal job descriptions in order to provide for essential animal care needs. The RSF Director or designee, with consultation as needed from key CMRC administrative personnel makes this decision.

G. FLOOD

The following indicates actions to be taken if animal facilities are flooded. If flooding affects the surrounding area, but not the facilities themselves, actions should follow those outlined under Section J.

Snowstorm/Blizzard.

- 1. Animal health checks:** If flooding occurs in an animal facility or part of an animal facility, animals in the affected area should be checked more frequently under the direction of the RSF Director or designee. Animals in danger, especially in lower cages, may be relocated to higher shelves/cages within the room or to other rooms or other facilities. Following a flood in an animal facility, all animals in the affected area are examined to determine their health status and suitability for research. Animals suffering ill effects may be treated or euthanized at the discretion of the veterinarian using AVMA approved methods of euthanasia.
- 2. Food and water supplies:** If flooding occurs in an animal facility or part of an animal facility, food and water supplies should be kept safe from contamination. Contaminated (wet) food should be discarded and replaced from other facilities or from vendors. The City Water Department will be consulted to determine that suitable (potable) water is available to the facility affected. If the water supply is compromised, bottled water will be used.
- 3. Sanitation:** During a flood in a facility, sanitation procedures will continue in unaffected areas if possible. However, care must be taken to avoid touching or operating electrical equipment in standing water (see Environmental Support below). If cagewashing equipment has been affected or transport is not possible, the Director/designee will decide on how to maintain minimal sanitation. This may involve deferring cage changes, spot cleaning cages, manual washing, or routing to other facilities. After a flood subsides, all rooms and areas which were flooded will be thoroughly decontaminated using cleaning/disinfection materials. If available, emergency pumps from Engineering may be deployed to move water out of animal areas.
- 4. Environmental support:** During a flood, efforts will be made to relocate animals if possible. Animals will remain in their housing environment if they are not in imminent danger or if their welfare would be compromised by moving them. Personnel must take care not to touch or operate electrical equipment (e.g., cagewasher, biosafety cabinets, etc.) in standing water. Areas where such equipment is in use should be avoided or breaker switches pulled or equipment unplugged if this can be done safely. After a flood, all equipment which may have been affected will be checked and serviced, calibrated, or replaced as necessary.

Other effects of a flood will be handled as indicated under the appropriate sections of this document (see A. Air handling problems; D. Chemical/radiation spill; E. Electrical power outage; F. Fire; K. Temperature problems; L. Tornado or severe storm; M. Water Supply Interruption).

- 5. Personnel:** Personnel must exercise caution when working in an area with standing water. The CMRC Facilities Manager and/or the RSF Director or designee, and the CMRC Safety Office, with consultation as needed from CMRC key administrative personnel, will determine where and when personnel may enter. Extra personnel may be needed to assist in the clean up efforts after a flood subsides. If transportation is limited due to area flooding, on-site personnel may be requested to perform duties outside their normal responsibilities to maintain the animals. The RSF Director or designee and the Facilities Manager, with consultation as needed from key CMRC administrative personnel makes this decision.

H. PHONE/PAGING SYSTEM OUTAGE

Loss of communication systems may interfere with animal ordering, recordkeeping, and notification of emergencies. In the event of a communications system loss, priority is given to communications which directly affect animal health or well-being. Alternatives which may be considered include use of other systems which are functioning (if the paging system is down but phones are working, phone calls or emails may temporarily substitute). For extreme animal health crises (e.g., reporting a seriously ill animal) hand-delivered messages can be used.

- 1. Animal health checks:** Health checks should proceed normally. However, communication about sick animals may have to be routed via alternate methods. Animal Health/Death Forms are hand delivered to the appropriate veterinarian. Veterinarians may use alternate methods to communicate with investigators (e.g., hand-delivered memo, sending someone to the investigator's office). If the communications loss is prolonged, CMRC Security and RSF support personnel function as a communications center for dropping off and receiving messages.
- 2. Food and water supplies:** These supplies should not be affected short-term. If loss of phone service is prolonged, ordering of animals, feed, and supplies may be affected. In that event, the local phone company will set up portable phone banks in the medical center. Also, cellular phones owned by the CMRC or CMRC personnel may be employed.
- 3. Sanitation:** Sanitation should proceed as usual.
- 4. Environmental support:** It is anticipated that the environment will not be affected. Communications about environmental system problems may be affected in a prolonged communications outage, but alternate methods (see 1. and 2. above) may be employed.
- 5. Personnel:** Communications with CMRC personnel, such as calling in additional staff or reporting animal emergencies on weekends, may be interrupted. In that event, alternate methods (e.g., cellular phones) may be used. Available staff may be requested to perform duties outside their normal job descriptions in order to provide for essential animal care needs. The RSF Director or designee, with consultation as needed from key CMRC administrative personnel makes this decision.

I. PROTESTS/PICKETING/STRIKES

In the event of protests or picketing (by animal rights groups, for example) or a work stoppage, all CMRC 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. The CMH Public Relations specialists handle the dissemination of information and answer questions about our research. The Security Department handles all security related issues. CMRC should request increased security measures for all animal housing and support facilities and may participate in keeping all facilities secure.

- 1. 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.
- 2. Food and water supplies:** Food and water supplies on-site should not be affected. Closing the receiving dock and deferring deliveries may be considered for some activities such as animal rights protests. If prolonged actions by outside groups hinder deliveries, supplies may be obtained by having them delivered off-site at CMH, then picked up by CMRC and delivered to our receiving dock. Similarly, if the normal waste pick-up procedure is disrupted, waste may be taken out through a different dock, incinerated, or kept in cold-storage or Biohazard Waste Holding Room temporarily.
- 3. 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.
- 4. 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: A. Air handling problems; B. Bomb Threat; C. Break-ins; D. chemical/radiation spill; E. Electrical power outage; F. Fire; H. Phone or Paging System Outage; K. Temperature problems).
- 5. Personnel:** CMRC personnel are expected to report to work. CMRC personnel may be required to perform duties outside their usual responsibilities in order to preserve animal health. The RSF Director or designee, with consultation as needed from key CMRC administrative personnel makes this decision.

J. SNOW STORM/BLIZZARD/ICE STORM

The major challenges in the event of a severe snowstorm or blizzard are related to receiving animals and supplies, and having sufficient personnel available at CMRC to care for animals. Other effects of snow storms are handled as indicated in Sections A. Air handling problems; E. Electrical Power Outage; G. Flood; H, Phone or Paging System Outage; K. Temperature Problems or M. Water Supply Interruption.

- 1. Animal health checks:** Animal health is checked by on-site RSF personnel. If the CMRC is short-staffed, some individuals may be reassigned on an emergency basis to check animals.
- 2. Food and water supplies:** Several days' supply of food is kept on hand at all times, so re-supply should be possible within a reasonable time. If stocks are running low before normal transportation is likely to be restored, supervisory personnel will decide on the most appropriate course of action. If it is necessary to save animals' lives, feed may be obtained from the nearest source, including grocery or pet stores. Efforts should be made to keep animals on species-specific diets when possible.
- 3. Sanitation:** Sanitation may be compromised by a lack of personnel. On-site personnel, under the direction of the RSF Director or designee, will attempt to maintain 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 of some equipment, or deferring activities such as floor mopping may be required. Decisions must be made by the professionals on-site to perform sanitation activities which benefit the animals most if all activities are not possible due to unusual conditions.
- 4. Environmental support:** It is not expected that the environment will be affected. If it is, see the appropriate section for handling the specific problem: A. Air handling problems; E. Electrical Power Outage; G. Flood; H Phone or Paging System Outage; or K. Temperature Problems.
- 5. Personnel:** Personnel are expected to make significant efforts to report to work. If staff shortages occur due to transportation problems or street blockage, available staff may be requested to perform duties outside their normal job descriptions in order to provide for essential animal care needs. The RSF Director or designee, with consultation as needed from key CMRC administrative personnel makes this decision.

K. TEMPERATURE PROBLEMS

Temperature problems include animal rooms which are too hot or too cold, as defined by the CMRC parameters for housing each species. CMRC/RSF Engineers will be notified by the Watchdog System of any temperature fluctuations outside the facility set parameters. Minor temperature variances (which involve only a room or two, and are not a threat to animal health) are dealt with by the on-call Engineering personnel. Serious variances (which involve large portions of facilities, endanger animal health, or are likely to be prolonged) are communicated to the RSF Director or designee and/or the CMRC Facilities Manager.

- 1. Animal health checks:** Animals are checked more frequently in affected areas. Overheating is more likely to cause serious health problems for most species, and the temperature should be monitored closely in rooms where the temperature has risen beyond the set limits. Cages with limited air flow such as microisolator caging, is of special concern. Health checks may include use of thermometers inside such cages to check the microenvironments temperature. If animals are overheating (the point at which this occurs varies with species and the length of exposure to the increased temperature) they are moved to a cooler area or one where more air flows over the cages. Portable fans or portable coolers may be considered. Animals experiencing cold conditions may benefit from having the air supply stopped so the environment can be heated by the animals body heat. In extreme conditions, portable heaters may be employed. Additional nesting or bedding material placed in cages may help animals conserve heat, and placing a covering on some cages (e.g., cat paper over the top cages in a rack) may also help. Animals which are found to be affected by extreme heat or cold are removed from the environment and then treated or euthanized at the discretion of the veterinarian using AVMA approved methods of euthanasia.
- 2. Food and water supplies:** Animals may drink more in warm conditions so water supplies are checked often. As animals in cooler than normal conditions may eat more, food is also checked more often.
- 3. Sanitation:** Sanitation may be suspended if the activities are judged by the RSF Director or designee to increase the stress experienced by the animals. In extended warm conditions, bacterial growth may be enhanced so sanitation may need to be increased to control contamination and odors.
- 4. Environmental support:** While repairs are underway, the RSF Director or designee and/or the CMRC Facilities Manager will evaluate the availability of and necessity for additional equipment such as fans, space heaters, or other measures such as opening doors. Animals may need to be moved if their lives are endangered, but every effort should be made to prevent contaminating SPF/barrier animals and the Research Support Facility. (See Health Checks above.)
- 5. Personnel:** Sufficient personnel are mobilized in the affected area to follow this plan. They may be recruited from other facilities if necessary. Available staff may be requested to perform duties outside their normal job descriptions in order to provide for essential animal care needs. The RSF Director or designee, with consultation as needed from key CMRC administrative personnel makes this decision.

L. TORNADO OR OTHER SEVERE STORMS

- 1. Animal health checks:** All animals will be checked as soon as access to the facilities is permitted by the safety personnel. Dead animals will be removed from cages and put into the necropsy freezer. If the necropsy freezer is damaged by the tornado, dead animals may be taken to a refrigerator or freezer in another facility using approved transportation vehicles and stored until arrangements for pick-up and disposal can be made. Animals to be relocated due to tornado damage to a facility will be moved as soon as possible to another suitable facility. Animals suffering from injury will be examined as quickly as possible and treated or euthanized at the discretion of the veterinarian using AVMA approved methods of euthanasia.

2. **Food and water supplies:** If a tornado or subsequent water damage destroys any or all of the feed supply, the supplier or a local vendor will be contacted for replacements. If needed, feed will be shipped by overnight delivery. Spoiled or contaminated feed will be discarded and replaced as soon as possible. In a case where a tornado disrupts the water supply to a facility, water will be transported in from CMH or a commercial vendor.
3. **Sanitation:** Normal sanitation is resumed as soon as possible, after the tornado has passed. If the facility is intact but utilities are compromised, see Section 4 below.
4. **Environmental support:** Damage to environmental systems is assessed by the staff on site. If the animal facility is undamaged but environmental systems are compromised, decisions are made by the RSF Director, CMRC Facilities Manager or CMRC COO or designee of how to minimize animal distress (see the sections which apply: A. Air handling problems; D. Chemical/radiation/haz-mat spill; E. Electrical power outage; F. Fire; K Temperature problems; M. Water Supply Interruption). In the event of major environmental problems (such as severe structural damage) which cannot be restored in a short time, the goal is to preserve animal life or to humanely euthanize animals. Animals may be relocated to other facilities if possible.
5. **Personnel:** If a tornado occurs during working hours all employees seek shelter in designated shelter areas immediately. Personnel on the first and second floors should go to the Shipping/Receiving Doc on the first floor or basement using the middle stairwells near the elevator. Personnel on floors three through five should seek shelter in the middle stairwells near the elevators or the basement. If a tornado damages animal facilities after regular working hours, personnel will have access to the facility as permitted by authorities. The RSF Director or designee, and veterinarian(s) will be notified of any tornado damage and in collaboration with the CMRC Facilities Manager, will assess any resulting damage. The CMRC COO or designee is also notified. Employees will be contacted to report to work as needed. Available staff may be requested to perform duties outside their normal job descriptions in order to provide for essential animal care needs. The RSF Director or designee, with consultation as needed from key CMRC administrative personnel makes this decision.

M. WATER SUPPLY INTERRUPTION

Animals must have a continuous supply of potable water. The Watchdog System will notify the Engineering Department of any fluctuation of the set facility parameters. The water supply to all animal facilities at CMRC is obtained from the City of Chicago's chlorinated/fluorinated water supply. Water bottles are used to provide water to most species. Water bottles and sanitized containers may be used to transport water from one facility that has water to another that does not. Facility entry orders should be observed whenever possible. If CMRC as well as all other Children's Memorial Hospital building are without water, potable water should be obtained from a commercial source. CMRC emergency water may be obtained by contacting the current water supplier. Cage changing frequency should be extended to the maximum extent practicable.

1. **Animal health checks:** Animals are checked as usual, with special attention to ensure that they have adequate water supplies, especially if bottles have been allowed to remain on cages for a longer than normal period.

- 2. Food and water supplies:** Food supplies should be unaffected. Water bottles are used to provide water to most species. Water bottles and sanitized containers may be used to transport water from one facility that has water to another that does not. Facility entry orders should be observed whenever possible. If CMH and CMRC are without water, potable water should be obtained from a commercial source (Ice Mountain).
- 3. Sanitation:** Cage changing frequency should be extended to the maximum extent practicable due to loss of cagewashing capability. Some equipment may be transported to other facilities which have water available for sanitizing.
- 4. Environmental support:** Toilets and sinks will not be operational. Hands may be cleaned using 70% ETOH. Personnel may be allowed to travel from one facility that does not have operable toilet facilities to another that does. Facility entry orders should be observed although showers may not be available in all facilities. If other environmental effects are encountered (e.g., temperature rise due to loss of chilled water units or Steam Boilers for heat to hot water humidification) consult the appropriate section(s) of this document for additional information.
- 5. Personnel:** Toilets and sinks will not be operational. Hands may be cleaned using 70% ETOH. Personnel may be allowed to travel from one facility that does not have operable toilet facilities to another that does although showers may not be available at other facilities. Facility entry orders should be observed and followed.. Available staff may be requested to perform duties outside their normal job descriptions in order to provide for essential animal care needs. The RSF Director or designee, with consultation as needed from key CMRC administrative personnel makes this decision.

N. H1N1 Emergency Animal Care Coverage

The Research Support Facility is making efforts for planning for a H1N1 pandemic.

The animal research at CMRC-RSF can be at risk by many, often unexpected, crisis such as equipment failure, disease outbreaks, natural disasters, genetic contamination or security breaches of the animal facility. The Director, Research Support Facility (RSF) will coordinate implementation of this plan.

Regardless of the cause, CMRC administration, Principal Investigators, students and staff have a shared responsibility on how to respond effectively to this unusual situation.

Preventing Spread of H1N1:

Influenza viruses, including the H1N1 virus, are spread among humans primarily by respiratory droplets from coughing or sneezing. These droplets can be transmitted by direct contact from person to person or indirect contact by touching objects such a telephone, computer keyboard, doorknob or desk. The best form of prevention is to cover your face when you sneeze or cough as well as frequent hand washing.

The Research Support Facility has outlined a plan of action as follows:

Phase 1: Low risk, when less than one third of the RSF staff is absent:

Cage changing schedule will be modified so that only cages containing more than 2 animals will be changed by available staff. Cage washing and autoclave processes will remain the same. The RSF staff will ensure that

extra feed and bedding are in stock. Extra personnel protective equipment such as masks, gloves, shoe covers, coveralls, head covers, hand sanitizers and cleaning supplies will be ordered and stocked.

Phase 2: Moderate risk, when more than 33% but less than 50% of the RSF staff is absent:

Cage changing schedule will be modified so that the cages will be changed at least every two weeks instead of once a week. Animal food and waters levels will be checked to ensure sufficient food and water is available. As stated above, extra feed and bedding will be available.

The Director, RSF will contact an outsource company to obtain temporary caretakers or cage washers as appropriate. Assistance will be requested from investigators to help with feeding and adding water bottles to their animal cages.

Phase 3: Pandemic Situation, This is when the majority of the RSF staff is absent:

The Director, RSF will contact investigators to help with checking food and water, changing cages, washing and autoclaving supplies, monitoring breeding animal colonies and feeding of their animals. Investigators who work with zebrafish will take care of this type of animals. Investigators who work with rodents will take care of these animals under the supervision of the Director, RSF or designee.

The Director, RSF or designee will contact an outsource company to obtain temporary caretakers or cage washers as appropriate.

The Director, RSF, in consultation with administration will make the financial resources available to address this type of event.

O. OTHER EMERGENCIES AND DISASTERS

Other emergencies and disasters not specifically discussed in this document are handled by the staff on-site at or after the emergency using professional judgment for the maintenance of animal health and safety while employing measures consistent with Children's Memorial Hospital's emergency policies and procedures.