

Policy: SC-50-102

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Enabled by: The GuideAWA, PPM  
IACUC/AV

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## **Title: Physical Plant and Facilities Maintenance**

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### **I. Purpose:**

The purpose of this policy is to ensure that animal facilities are in good working condition and support the overall animal care and use program. The Animal Welfare Act, the Public Health Service Policy, the ILAR *Guide for the Care and Use of Laboratory Animals*, and the Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching require good working facilities as a component of the animal care program.

### **II. Policy:**

Animal facilities must be maintained to promote appropriate animal care and use. Facility managers and/or Technicians in Charge are responsible for submitting and following up on work orders to Facilities Management through the Customer Support Center for repairs and maintenance.

### **III. Procedure:**

Animal facility managers or designees can submit a work order to Customer Support Center by the following methods:

Online submission through the online portal: <https://aggiefacilities.tririga.com/>

By Phone: 530-752-1655

Email: [facilities@ucdavis.edu](mailto:facilities@ucdavis.edu)

Structural: Animal facilities must be structurally sound and in good repair to contain animals and to prevent the entrance of other animals or pests. Interior building surfaces in laboratory animal housing areas must be constructed and maintained to be impervious to moisture and easily sanitized. "Durable, moisture-proof, fire-resistant, seamless materials are most desirable for interior surfaces. Surfaces should be highly resistant to the effects of cleaning agents, scrubbing, high-pressure sprays, and impact. Paints and glazes should be nontoxic if used on surfaces with which animals will have direct contact. In the construction of outdoor facilities, consideration should be given to surfaces that withstand the elements and can be easily maintained" (*Guide*,

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pg. 134). Examples of preferred building materials include epoxy or Methyl Methacrylate MMA floors. Tile floors with grout and vinyl floors should only be used in areas with minimal exposure to moisture. Floors should be capable of supporting racks, equipment, and stored items without becoming gouged, cracked, or pitted (*Guide*, pg. 137-138)

HVAC: Secondary enclosures must maintain 10-15 fresh air changes per hour (*Guide*, pg. 46). HVAC systems and filters must be regularly evaluated and serviced. Temperature is best regulated by having thermostatic control for each holding space. The ideal relative humidity range for animal rooms should be generally maintained between 30-70%. Positive pressure airflow must be maintained in surgery rooms, animal rooms housing pathogen free animals and clean storage rooms. Negative airflow should be maintained in quarantine rooms, necropsy rooms, rooms containing aerosolized, infectious agents, and housing of nonhuman primates. In the event of an HVAC system or component failure, systems should at the minimum supply facility needs at a reduced level, address the adverse effects of loss of temperature control, and, where necessary, maintain critical pressurization gradients. (*Guide*, pg. 139-140).

Noise: Noise levels should be maintained below 85 dB to prevent stress and illness to animals and staff. Noisy animals, such as dogs, swine, goats, nonhuman primates, and some birds should be housed away from quieter animals such as rodent, rabbits and cats. (*Guide*, pg. 49). Refer to Personnel Protective Equipment policy (SC-10-102) regarding PPE for areas when noise levels exceed 85 dB. Building construction should include insulation to help muffle sound between rooms. Attention should be paid to attenuate noise generated by equipment and select equipment for rodent facilities that does not generate noise in the ultrasonic range to minimize potential animal disturbance. (*Guide*, pg. 142).

Vibration control: "Different species can detect and be affected by vibrations of different frequencies and wavelengths, so attempts should be made to identify all vibration sources and isolate or dampen them with vibration suppression" (*Guide*, pg. 142).

Lighting: In general, lighting should be diffused throughout an animal holding area and provide sufficient illumination for the animals' well-being while permitting good housekeeping practices, adequate animal inspection including for the bottom-most cages in racks, and safe working conditions for personnel (*Guide*, pg. 48). Photoperiods and light intensity must be maintained based on species specific requirements. Light fixtures, timers, switches and outlets should be properly sealed to prevent vermin from living there". Light bulbs and fixtures must have protective coverings to ensure the safety of animals and staff (*Guide*, pg. 141).

Departments must have an established program to ensure that timers are working properly. A staff member must come into the facility during the dark cycle at least quarterly to ensure the timers are working properly. Moisture resistant ground-fault interrupters (GFI) should be used in areas with high water use, such as cage-washing areas and aquarium- maintenance areas (*Guide*, pg. 141).

Temperature: The temperature in primary and secondary enclosures must be maintained based on the specific needs of the species being housed as shown in the table below (*Guide*, pg. 44).

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Recommended Dry-bulb Temperatures for Common Laboratory Animals (*Guide*, pg. 44)

Animal	Celsius	Fahrenheit
Mouse, rat, hamster, gerbil, guinea pig	20-26	68-79
Rabbits	16-22	61-72
Cat, dog, nonhuman primate	18-29	64-84
Farm animals and poultry	16-27	61-81

Environmental alarms: The IACUC has determined that temperature alarms must be installed in all indoor animal housing areas to ensure the well-being of the animals and to reduce unintended variables that may impact the research studies (IACUC policy-16: <https://research.ucdavis.edu/wp-content/uploads/IACUC-16.pdf>). To have alarms installed or to request an estimate, place a work order with Facilities Management in the online system, In case of emergency call 530-752-1655.