SATELLITE ANIMAL FACILITIES GUIDELINES AND STANDARD OPERATING PROCEDURES

The definition of a Satellite Animal Facility is a non-Division of Laboratory Animal Medicine (DLAM) animal facility in which animals are housed on a long-term basis and are cared for by the principal investigator's laboratory personnel. Federal regulations state that the authority and oversight of these facilities lies with the institution through the Institutional Animal Care and Use Committee (IACUC).

Approval of an Animal Care Application (ACAP) and approval of a Satellite Animal Facility are two separate issues. Approval of an application with a Satellite Animal Facility request does not imply or guarantee automatic IACUC approval of the proposed Satellite Animal Facility. Satellite Animal Facilities are approved in rare instances where there is appropriate justification. In addition, IACUC approval of a proposed satellite facility will be granted only if the environment, housing, care and oversight meet the standards of the Guide for the Care and Use of Laboratory Animals (Guide), federal law, and current institutional policies. The process of Satellite Animal Facility approval is dependent on several factors and the process can take a considerable amount of time.

The required steps for development of a Satellite Animal Facility at UNC-Chapel Hill are as follows:

1. Written justification for a Satellite Animal Facility reviewed and approved at a fully convened IACUC meeting.
2. Written IACUC, DLAM, and Environment Health and Safety (EHS) approval of the following:
   a. Space assignment
   c. Satellite Disaster Plan with satellite specifics described in section F. – Available here on the IACUC website.
3. Final Inspection and approval by -- IACUC, DLAM, EHS
4. Two (2) Keys provided by PI to OACU
5. Occupancy

Approval of a Satellite:

The approval process requires that the investigator initially submit a request with justification to the IACUC through ACAP. Justification for a proposed satellite facility cannot be based on convenience. Rather, it must be based on factors such as the inability to house animals in a DLAM facility, the inability of DLAM to provide the desired space, care, or scientific reasons.

If the IACUC approves the satellite facility justification, then the investigator can begin coordinating an initial inspection of the proposed site. IACUC, DLAM, and EHS representatives

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must be included in the initial inspection. These representatives will help identify any potential problematic issues such as cluttered space, improper storage of equipment, re-circulating or inadequate air exchange, and the inability to control temperature, humidity, and light cycles. The investigator’s written documentation indicating correction of previously identified issues will prompt IACUC, DLAM and EHS representatives to re-inspect the proposed site.

Prior to using the space to house animals, the Principal Investigator (PI) requesting the Satellite Animal Facility must receive both 1) written notification from the IACUC indicating approval of the space and 2) approval of the ACAP which contains the completed Section 3.3 describing the Satellite space.

Post Approval Maintenance of a Satellite:
It is the responsibility of the PI to ensure that all federal and institutional requirements are implemented consistently. This covers the care and use of all animals, seven days a week including weekends and holidays.

The PI is responsible for ensuring compliance with EHS policies for the space including complying with the University’s Chemical Hygiene Plan (submittal of a laboratory safety plan and following policies outlined in Laboratory Safety Manual). In addition, the PI must check and maintain safety controls within the space (i.e. chemical fume hoods, biological safety cabinets, safety eye washes, safety showers).

The PI is responsible for enrolling all personnel exposed to the animals in the University Employee Occupational Health Clinic Program. The PI must ensure that all personnel involved in animal handling are properly trained in animal care and use. Veterinary and IACUC Compliance oversight will continue as if the animals were in a DLAM facility.

Semi-annual IACUC inspections are federally mandated of each Satellite Animal Facility; however, at UNC, Satellite facility inspections are conducted on a quarterly basis. Failure of the PI to meet all required expectations will result in the loss of privilege and decommissioning of the Satellite Animal Facility.

**SATELLITE ANIMAL SOP**

The PI must use this SOP form to design the proposed /space. The individual Satellite Animal Facility SOP must address each topic in a detailed manner, must be approved by DLAM Veterinarians, EHS, and the IACUC. The PI must maintain a final approved copy in the Satellite Animal Facility. Laboratory staff responsible for provision of care within the Satellite Animal Facility must review the SOP annually.

**Standardization of Procedures**

The Guide for the Care and Use of Laboratory Animals, 8th edition, indicates, “While the animal use protocol is aimed at describing the overall procedures, SOPs should be developed to standardize the completion of animal care procedures.”

1. **Physical Plant:** The facility must meet the minimum standards as set forth by the Guide for the Care and Use of Laboratory Animals. The PI is responsible for meeting or
exceeding these standards at all times. The space must be clearly designated as an area reserved for animal holding only.

2. **Experiment:** Should any experiments or procedures need to be performed in the designated space, an exception must be submitted for full committee review and approval.

3. **Biosecurity:** Animal entry or departure from the Satellite Animal Facility must be in accordance with IACUC and DLAM standard policies. If the PI wishes to return any animals to the DLAM animal facilities, the PI must first make arrangements with DLAM.

4. **Documentation:** In each satellite facility, the Investigator must maintain daily husbandry documentation which includes the date, signature of caretaker, and a description of all completed tasks (daily observation, feed, water, cage change, etc.). These log sheets must be available in the facility at all times for audit purposes (announced or unannounced). The PI must maintain the current approved animal protocol, the Satellite Animal Facility SOP, and the Satellite Disaster Plan in the satellite and should be reviewed annually by personnel handling animals.

5. **Signage:** All required safety signage (EHS), IACUC signage, husbandry documentation, and after-hours emergency contact information must be present in the facility. All animals must be identified by the current IACUC approved protocol number (i.e. with DLAM animal identification cage cards or individual acceptable method), along with any physical markings/identifications. The PI is responsible for posting and maintaining an accurate emergency contact information sheet in the Satellite Animal Facility. The posting must include the Principal Investigator, Laboratory Animal Coordinator and/or satellite manager. DLAM Veterinary Contact information must also be posted for animal health related issues. The PI or his/her designee must be contactable at all times to respond to emergencies.

6. **Accessibility/Security:** The Satellite Animal Facility must be accessible to IACUC and DLAM representatives at all times. The Satellite Animal Facility PI must provide a minimum of two (2) keys or the entry codes to facilitate IACUC and DLAM access to the facility. Additionally, the PI is responsible for maintaining and ensuring that the Satellite Animal Facility animal holding area is secured at all times.

7. **Training:** It is the responsibility of the PI to ensure that everyone providing care for animals in the Satellite Animal Facility is adequately trained by the PI, Laboratory Animal Coordinator (LAC), Office of Animal Care and Use (OACU) personnel, or DLAM.

8. **Occupational Health:** The PI is responsible for complying with all UNC-Chapel Hill Occupational Health requirements stipulated by the University Employee Occupational Health Clinic (UEOHC). This includes enrolling in the UEOHC program all persons (including non-animal handlers) exposed to animals housed in the Satellite Animal Facility.

9. **Husbandry Materials:** All caging and materials such as food, water, bedding, enrichment device(s), cage cards and cleaning materials necessary for proper husbandry and care need to be approved by DLAM veterinarians (and described within this SOP), and provided by the PI. Storage should be limited to items necessary for housing the animals and all cardboard must be removed. Stored materials must be kept
in sealed vermin proof containers. The milling date or date of expiration must be clearly indicated on animal feed.

**PROCEDURES TO BE INCLUDED IN THE SATELITE ANIMAL FACILITY SOP:**

Provide details for each of the following items. Include the frequency of each procedure and the level/position (not individual name for security purposes) responsible for the completion of each procedure. PIs should contact a DLAM Veterinarian for consultation in development of the SOP.

1. Care of Animals:
   a. Animal handling (consult with DLAM veterinarians and/or EHS)
      i. Personal protective equipment (PPE)
         • Indicate what PPE is necessary when handling the animals.
      ii. Zoonotic agents associated with this species
          • What are they?
          • What precautions should be taken to protect staff?
          • What are the clinical signs that might indicate that someone working with these animals has contracted a zoonotic disease?
          • Are there any other risks such as bite wounds, etc. associated with this species?
      iii. Describe how animals are to be handled (captured & restrained)
          • Are there tools such as nets used for their capture or restraint?
          • If so, are these tools dedicated to a particular animal or set of animals? (if, so indicate sanitization schedule in chart below)
      iv. What should be done if animal escapes?
          If animal makes contact with the floor, should it be returned to the original primary enclosure or are there additional steps for cleaning/isolating this animal?
   i. Health checks: All animals must be checked daily, including weekends and holidays. What is the procedure for checking animals?
      i. The PI is responsible for ensuring that a disaster plan is in place in the event of an emergency which endangers the health and welfare of the animals maintained in the facility. Indicate how animals will be cared for in the event that the University is operating under conditions when only ‘Mandatory’ employees are allowed access to campus. (Described in the UNC Adverse Weather and Emergency Events Policy and Pandemic and Communicable Disease Emergency Policy).

      Advance coordination and training with DLAM personnel is required to ensure emergency backup husbandry. (Include DLAM contact information to be used in the case of emergency, and describe training provided to DLAM.) Alternately, indicate the key employees who are considered ‘Mandatory’ personnel (list employees’ names with Mandatory status).

   ii. What clinical or behavioral signs denote an animal may be sick or otherwise compromised?

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i. What steps are taken with this animal and to whom does the investigator report the health case (supervisor, DLAM veterinary services)?

b. Feed/watering of animals
   i. What type of food (brand/source) is used?
   ii. How is this food stored?
   iii. How is expiration date determined?
   iv. How often and how much is given of both feed and water (if applicable)
   v. Describe water treatment and water quality assessment
   vi. What is done with excess food in enclosure?

c. Primary enclosures (tank or cage): Note: An agreement must be made with the DLAM facility supervisor on handling cages borrowed from a DLAM facility.
   i. Describe enclosure
   ii. Indicate the number of animals (minimum and maximum) per enclosure
   iii. Will animals outgrow their enclosure, and at what point will they be transferred to larger housing?
   iv. Are animals provided enrichment? If not, what is justification?

d. Procurement of animals
   i. How are animals transported to housing location (shipped, hand-delivered, etc.)?
   ii. Are health checks conducted upon arrival; who conducts the health check?

e. Quarantine procedures
   i. Is a separate tank/enclosure provided to quarantine new arrivals and/or sick animals?
   ii. Where is the location of quarantine enclosure?
   iii. Are special arrangements made to change workflow when dealing with sick or new animals so as not to introduce disease to the rest of the colony?
   iv. Is the health of newly arrived animals monitored? If so, by whom (researcher, veterinarian)
   v. Is animal quality discussed with the vendor?

2. Sanitation: The PI is responsible for complying with species-specific sanitation requirement as per DLAM’s SOPs. The housing area must be easily cleaned and sanitized. (Complete all aspects of charts below):

<table>
<thead>
<tr>
<th>Micro-environment (primary enclosures)</th>
<th>Washing/Sanitizing Method (mechanical wash, hand-wash, high-pressure sprayers, etc.)</th>
<th>Washing/Sanitizing Frequency</th>
<th>Tools and detergents used</th>
<th>Temperature of water to be used</th>
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<tbody>
<tr>
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<tr>
<td><strong>Cage Lids</strong></td>
<td>Filter</td>
<td>Cage racks and shelves</td>
<td>Aquatic, amphibian, and reptile tanks and enclosures</td>
<td>Feeders</td>
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### Macro-environment

<table>
<thead>
<tr>
<th>rooms, floors, wash areas</th>
<th>Washing/Sanitizing Frequency</th>
<th>Detergents/agents used</th>
<th>Environmental monitoring (with DLAM)</th>
<th>Yes/No</th>
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Animal room: Floors
<table>
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<tr>
<th>Animal room: Walls</th>
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<tbody>
<tr>
<td>Animal room: Ceilings</td>
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<tr>
<td>Animal room: Ducts/Pipes</td>
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<tr>
<td>Animal room: Fixtures</td>
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<tr>
<td>Support area*: Floors</td>
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<td>Support area: Walls</td>
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<td>Support area: Ceiling</td>
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<td>Support area: Ducts/Pipes</td>
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<td>Support area: Fixtures</td>
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<tr>
<td>Implement*: Mops</td>
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3. Primary Enclosures and Animal Space Provisions- Please complete the table below considering performance criteria and guiding documents (e.g. Guide, Ag Guide, ETS 123 and/or other applicable standards) used by the IACUC/OB to establish adequacy of space provided for all research animals including traditional laboratory species, agricultural animals, aquatic species and wildlife when reviewing biomedical, field and agricultural research studies.

<table>
<thead>
<tr>
<th>Species</th>
<th>Dimensions of Enclosure (cage, pen, tank*, corral, paddock, etc.)</th>
<th>Maximum Number Animals/Enclosure</th>
<th>Guiding Document Used to determine the Institution’s Space Standards (Guide, Ag Guide, ETS 123, Other)</th>
<th>Enclosure Composition &amp; Description**</th>
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</thead>
</table>

*For aquatic species, provide tank volume.

**Include descriptors such as open-topped, static microisolator, individually-ventilated cage systems (IVCS).
TO BE COMPLETED BY AQUATIC USERS

Please summarize water management and monitoring information programs for each animal facility, including all satellite facilities/rooms/enclosures. The following key will assist you in completing the form:

1. List location of aquaria, including outdoor enclosures (ponds or outdoor tanks). If indoors, list building and room number. Note that all species housed at the same location and maintained via the same design and monitoring may be listed in the same row.

2. Please indicate if embryonic (E), larval (L), juvenile (J) or Adult (A)

3. Group tanks (ponds, outdoor tanks, multiple aquaria) are arranged as arrays with shared water supply; individual aquaria have exclusive water handling systems.

4. Indicate water type, e.g., fresh, brackish, or marine.

5. Indicate water circulation, e.g., static, re-circulated, constant flow, or some combination of these. If applicable, indicate water exchange frequency and amount (percentage).

6. Provide a key word for filtration employed, e.g., biological, chemical, mechanical, etc. and type (e.g., mechanical-bead filter). A diagram may be provided showing the flow of water, filtration, source of “make-up” water and amount replaced daily.

<table>
<thead>
<tr>
<th>Part I</th>
<th>Location (1)</th>
<th>Species (2)</th>
<th>System Design</th>
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<tr>
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<td>Group / Individual (3)</td>
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<tr>
<th>Part II</th>
<th>Monitoring</th>
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<tbody>
<tr>
<td>Indicates in the boxes below the frequency of monitoring and method of control for the following parameters. (1)</td>
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<thead>
<tr>
<th>Location (from Part I)</th>
<th>Temperature</th>
<th>Salinity</th>
<th>pH</th>
<th>NH4</th>
<th>NO2</th>
<th>NO3</th>
<th>Dissolved O2</th>
<th>Total Dissolved gases</th>
<th>Other. Please List (2):</th>
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(1) In these columns, please indicate monitoring frequency, e.g. daily, weekly, monthly or other point sampling frequency; continuous/real time, or none, if applicable. Also indicate method of control (heaters versus room HVAC, hand versus auto dosing, etc.).

(2) Indicate other parameters and their monitoring frequency, e.g., alkalinity, total hardness, conductivity, chlorine/chloramine, etc.