



## Memorandum

**To:** Elizabeth Cantwell, PhD, Senior Vice President, Research & Innovation

**From:** Institutional Animal Care and Use Committee

**Subject:** Semi-Annual Report of the Program Review and Facility Inspection

**Date:** June 14, 2021

This report summarizes the IACUC's results of its most recent program review and facility inspection, as required by the Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals (Policy), Section IV.B.1.-3., the *Guide for the Care and Use of Laboratory Animals (Guide)*, and the Animal Welfare Act (AWA) regulations, as applicable. Submission of semi-annual reports to the Institutional Official is a condition of this institution's Animal Welfare Assurance with the NIH Office of Laboratory Animal Welfare (OLAW).

### IACUC Updates:

- The IACUC and staff have worked to develop and implement tools to assist in tracking lab training and have been working with PIs according to the schedule set forth in the Fall 2020 semi-annual programmatic review to assure the IACUC can adequately evaluate the effectiveness of the training programs used by PIs.
  - The Committee and IACUC staff continue to assist PIs in developing appropriate documentation for training, and to emphasize the importance of training to research and animal welfare. A plan was developed in accordance with the Fall 2020 SA programmatic review requirements and is being implemented, with full roll-out and implementation by the Fall 2021 SA programmatic review.
  - The IACUC continues to follow recommendations and requirements of federal animal welfare regulations.
- The IACUC office is still in need of a Director. The staff hired after the Fall 2020 SA programmatic review exceed expectations and have been a boon to the program
- Interactions between the various aspects of the Animal Care and Use Program and investigators continue to be favorable. We strive to ensure compliance by emphasizing the positive, educational aspects of the Program, providing resources, standardizing procedures, and being responsive to investigator needs, all within our regulatory framework.

Since the last review, the following changes have occurred in the institution's program for animal care and use (PHS Policy IV.A.1.a.-i.):

The Spring 2021 **Semi Annual Review Meeting Minutes** (*attachment 1*) detail the IACUC's review of the Animal Care and Use Program. The meeting minutes were approved by the IACUC on 6/14/21. Each aspect of the Program is summarized below.

The following **IACUC programmatic changes** were implemented during the review period (November 2020 – April 2021):

1. The SVPR/IO continues to require all labs submit a COVID-19 safety checklist, and receive approval from RII/IO, prior to commencing work. The IACUC verifies receipt of checklist for new work.
2. The Committee approved document I-IC-GU-516 PI Eligibility & Expectations to align with University of Arizona RII guidelines for PI eligibility.

The **MOU Summary** document (*attachment 2*) lists animal research performed with University funds at external institutions covered by a Memorandum of Understanding. No reports of non-compliance were received over the past six months.

#### Description of the Nature and Extent of the Institution's Adherence to the PHS Policy, the *Guide*, and the AWA

Departures from the PHS Policy, the <i>Guide</i> , and the AWA.	
<input type="checkbox"/>	There were no departures during this reporting period.
<input checked="" type="checkbox"/>	<p>The <b>Departures and Exceptions Checklist</b> (<i>attachment 3</i>) lists both existing and new departures to the <i>Guide</i>. No departures were approved for either the PHS Policy or AWAR. Of note:</p> <p>Must:</p> <ul style="list-style-type: none"> <li>• 3 continuing protocols with departure from requirement for space for animals to turn around and/or rest away from urine and feces (<i>Guide</i>, p. 56)</li> </ul> <p>Should:</p> <ul style="list-style-type: none"> <li>• 1 renewal, and 5 continuing protocols for a total of 6 protocols without acclimation to restraint (3 species known to acclimate well, 3 for scientific reasons). (<i>Guide</i>, p. 29)</li> <li>• 4 new, 21 renewal, and 169 continuing protocols for a total of 194 protocols with approved non-pharmaceutical grade compounds. (<i>Guide</i>, p. 31)</li> <li>• 3 renewals and 6 continuing protocols for a total of 9 protocols with approval for use of expired materials. No anesthesia, analgesia, or euthanasia agents expired. (OLAW FAQ F.5, USDA APHIS Animal Care Policy #3)</li> <li>• 2 renewal protocol and 3 continuing protocols using temperature and humidity studies and exception for humidity due to environmental factors for a total of 5 protocols (<i>Guide</i>, p. 43)</li> <li>• 6 continuing protocols using hypoxia; 1 continuing protocol with in-cage cigarette smoke exposure, for a total of 7 protocols (<i>Guide</i>, p. 45).</li> <li>• 1 renewal and 3 continuing protocols with altered light cycle for a total of 4 protocols. (<i>Guide</i>, p. 47)</li> </ul>



	<ul style="list-style-type: none"><li>• 1 renewal protocol, and 8 continuing protocols without bedding/enrichment for post-surgical care, research necessity, and/or metabolic caging for a total of 9 protocols (<i>Guide</i>, p. 52, pp. 68-69)</li><li>• 2 continuing protocols with approved departures from ability to escape or avoid aggression. (<i>Guide</i>, p. 55)</li><li>• 1 renewal and 1 continuing protocol for a total of 2 with ag animals housed singly (<i>Guide</i>, p. 60)</li><li>• 3 renewal protocols and 15 continuing protocols for a total of 18 without standard or additional enrichment for singly housed animals (<i>Guide</i> p. 64).</li><li>• 9 continuing protocols with a departure from providing <i>ad libitum</i> water (<i>Guide</i> p. 67-68).</li><li>• 1 renewal and 13 continuing protocols for a total of 14 with reduced cage &amp; bedding change frequency (<i>Guide</i>, pp. 70-71)</li><li>• All satellite housing is evaluated for scientific necessity. 3 renewal protocols and 5 continuing protocols for a total of 8 with in-lab housing (<i>Guide</i>, p. 134)</li></ul>

#### Deficiencies in the Institution's Animal Care and Use Program

Animal Care and Use Program Review Date: <b>May 6, 2021</b>	
<input checked="" type="checkbox"/>	There were no deficiencies in the program during this reporting period.
<input type="checkbox"/>	The <b>Semi-annual Program Review Checklist</b> identifies programmatic deficiencies for the IACUC and UAC.

#### Deficiencies in the Institution's Animal Facility

Animal Facility Inspection Dates: <b>Feb 1 - 28, 2021 (UAC locations); March 29 – April 30, 2021 (PI peripheral laboratories)</b>	
<input type="checkbox"/>	There were no deficiencies in the animal facility during this reporting period.
<input checked="" type="checkbox"/>	<p>The <b>IACUC Semi-Annual Inspection Documents</b> outline the 4 UAC facilities inspected in February [REDACTED] as well as 70 unique peripheral PI lab or farm locations in March/April 2021 located across campus. Total unique locations decreased significantly, largely due to labs moving and consolidating and/or pausing work due to COVID.</p> <p>The types of findings are typical of previous inspections and generally represent expired items due to periods of lab staff not being on-site.</p>

	<p>The Inspection – No Findings documents (<i>attachment 4</i>) lists locations where <b>no deficiencies</b> were noted (~82% of all findings).</p> <p>Location records reviewed with <b>resolved findings or deficiencies</b> are described as <b>Minor</b> (<i>attachment 5</i>).</p> <p>Findings were classified by the IACUC as <b>Minor</b> or suggestions for improvement. No <b>Significant</b> findings were reported for this time period.</p>
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#### Minority Views

<input checked="" type="checkbox"/>	No minority views were submitted or expressed.
<input type="checkbox"/>	<b>The following minority view was expressed:</b>

#### Status of AAALAC Accreditation

Continuing full AAALAC accreditation was received on March 4, 2020.
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# IACUC Semi-Annual Meeting

## Minutes

8:30 am, May 6, 2021

Online via Zoom

**Voting Members Present:** Chair; M-1; NA-2 (arr @ 8:44); S-1; S-3; S-4; S-6; S-7 (arr @ 8:35); S-9; V-1; V-3

**Alternate Members Present:** M-A-2; S-A-3; S-A-6; S-A-7 (arr @ 8:35); V-A-2 (left @ 8:57); V-A-3

**Voting Members Absent:** NA-1; NS-1; S-A-2; S-A-4; S-A-5; S-A-8; S-A-10; V-A-2

**Visitors Present:** IACUC Specialist 1; IACUC Specialist 2; RLSS Operations Manager; Officer, Research-Quality Assurance; Sr Director, Research, Ethics and Quality

**The meeting was brought to order at 8:32 am and quorum confirmed with 9 of 17 members present**

### Welcome and Introductions

1. The committee was thanked for their continued support to the research community and to the IACUC program

### Announcements

1. Dates of the next IACUC monthly meeting and semi-annual meeting were announced
2. Changes to membership were announced. Of note:
  - a. Chair is stepping down as at the end of his term. Current Vice-Chair will move into Chair position.
  - b. S-A-6 moving in to full member
  - c. New member joining 7/1
  - d. Additional changes will be announced
3. Instructions for voting
  - a. Voting will be virtual using Zoom via polls on the screen
  - b. Dissenting opinions can be emailed to AD, will be treated confidentially

### IACUC, UAC Management Team and Occupational Health

#### **1. Review of UAC program**

- a. The AV provided a review of the animal care program. Of note:
  - i. New veterinarian has been hired
  - ii. Numerous renovations to buildings are underway
  - iii. BSL barrier in [REDACTED] is in final stages
  - iv. [REDACTED] HVAC updated
  - v. C06 grant wasn't funded, but scored well and has been re-submitted
  - vi. NIH site visit for prior C06 projects at [REDACTED] and [REDACTED] occurred in April and was well received
  - vii. Census continues to grow
  - viii. Organizational assessment was conducted by a consultant from RII. Summary report is pending

#### **2. Occupational health/animal hazards update**

- a. The Occupational Health Manager/RLSS Operations Manager provided an update of the Occupational Health program including the Animal Hazards program. Of note:
- b. Update on status of Occupational Health program
  - i. Improvements are being developed and implemented for the Animal Hazards Program
  - ii. Focus to integrate animal hazards into a system in use by RLSS, which will allow for tracking, reminders, and information on hazards present in a lab

- iii. Goal for deployment is end of fall
- c. Statistics from the Occupational Health program
  - i. Total active participants decreased due to purge of individuals no longer active or employed by the University

## Break

### A. IACUC Executive Session

#### 1. Approve minutes

- a. The April 2021 minutes were reviewed.
  - i. **The IACUC approved as written**
  - ii. Update on 2021-001-E\* was provided.
    - 1. Performed survival procedure then euthanized to perform necropsy. PI has enough to publish so may not use remaining approved animals.

#### 2. Review of IACUC Program statistics

- a. IACUC program statistics were presented. Of note:
  - i. Total count of personnel and PIs has increased, protocols remain generally steady
  - ii. Submissions YTD remain on an upward trend from 2020
  - iii. Animal census continues to increase and has reached pre-pandemic numbers

#### 3. Review of the program checklist

- a. The IACUC Program checklist was presented and reviewed. Of note:
  - i. PAM program is being evaluated to determine best course of action for providing visits, to allow for safety
  - ii. Need for specific member roles and expertise was discussed
  - iii. Sections 1.1d and 3.3d meet expectations: training program is being developed and implemented according to schedule set forth at Fall 2020 semi-annual programmatic review. A report will be provided at the Fall 2021 SA.
    - 1. PIs are being advised of documents and program and announcement will go out soon. Documents will be made available on demand and on the IACUC website.
  - iv. Other program items were determined to meet expectations

#### b. **The IACUC approved the program checklist as written**

#### 4. Review of Departures checklist

- a. The Departures and Exceptions checklist was reviewed. Of note:
  - i. Any inconsistencies from Fall 2020 are due to reporting at that time being inaccurate and limited. Reports are working and information should be accurate.
  - ii. Any departures marked "New" are due to new protocols, not new to the program.
  - iii. Amount of details included in the comments was discussed and some updates made to the document during discussion

#### b. **The IACUC approved as written**

#### 5. IACUC semi-annual inspections with determination of plan of action

- a. Inspection metrics and semi-annual inspections were reviewed with follow up and determination and review of plans of action were discussed. Findings were verified as minor or significant. Of note:
- b. Inspection metrics

- i. Total locations were less this period due to verification that locations were not in use. Inspectable locations were determined to be those that have been in use in the last six months or are intended to be used in the next six months, as per usual practice.
- c. Winter 2021 – UAC locations
  - i. No findings were determined to be significant
  - ii. 185 locations with no findings
  - iii. No locations with unresolved findings
  - iv. 13 locations with resolved findings: Minor and suggestion for improvement
    - 1. Reviewed and determined that actions already taken are sufficient
  - v. The IACUC approved as written, no additional changes**
- d. Spring 2021 – PI locations
  - i. A few outstanding locations – can determine severity and course of action in June
  - ii. No findings were determined to be significant
  - iii. 8 locations with unresolved findings
    - 1. All have been notified, waiting for response
    - 2. Date for when they need to be complete 5/20/21
  - iv. 4 locations with resolved findings: Minor and suggestion for improvement
    - 1. 1 location updated to balanced split on vaporizer labeled for not animal use
    - 2. Remaining locations actions already taken are determined to be sufficient
  - v. 55 locations with no findings
  - vi. Discussion regarding AAALAC site visit – site visit counts as semi-annual and can count as annual inspection of all locations

## 6. IACUC programmatic changes

- a. Programmatic changes made in the past six months were reviewed. Of note:
  - i. Item 1: Spring PI location inspections were done virtually with some locations inspected in-person. Inspections were performed on any locations with inspectable activities that were in use in the last six months or plan to be in use in the next six months. This item to be removed from list of programmatic changes as it is not a change from previous review.
  - ii. Item 2: The SVPR/IO continues to open research and continues to require all labs submit a COVID-19 safety checklist, and receive approval from RII/IO, prior to commencing work. Updated document
  - iii. Item 3: Committee approved document I-IC-GU-516 PI Eligibility & Expectations to align with UArizona RII guidelines.
- b. The IACUC approved with changes to items 1 & 2**

## 7. Review of MOU activity reports

- a. No adverse events reported from other institutions

## 8. Summary of incident, non-compliance and adverse event reporting

- a. A summary of incidents, non-compliance and adverse events since the last programmatic review was reviewed. Of note:
  - i. 4 non-compliance
  - ii. 3 incident
  - iii. 7 adverse events
  - iv. All events have been discussed and plans of action approved previously at convened IACUC meetings

## 9. Items from the floor

- a. IACUC Chair will be stepping down after 9+ years and has agreed to stay on as an alternate scientific member. Chair was thanked for his service and guidance. IACUC Vice Chair will be the next chair. They will start at beginning of July and foresee a smooth transition.

**The meeting was adjourned at 9:56 and quorum was maintained for the duration.**

\* Denotes USDA species

Minutes compiled by IACUC Specialist and distributed by IACUC Assistant Director.

*This document is confidential and intended solely for the use of the individual or entity to whom it was addressed. If it is necessary to disseminate any of this information for official purposes, the non-essential information should be redacted.*

Spring 2021

No reports of non-compliance or adverse events submitted by outside institutions

Active UA Memoranda of  
Understanding (MOU)

MOU #	UA PI	External Institution
2018-011-M		Jackson Labs
2018-012-M		Eastern Virginia Medical School
2018-013-M		UC Davis
2019-001-M		UC Davis
2019-004-M		Texas Tech University Health Sciences Center
2020-002-M		Univeristy of Minnesota
2020-004-M		University of Nevada - Reno
2020-005-M		Johns Hopkins University
2020-007-M		Cincinnati Childrens Hospital
2020-009-M		Mayo Clinic - Jacksonville
2020-011-M		Joslin Diabetes Center
2021-001-M		University of South Florida

Active Non-UA MOUs

Protocol #	UA PI	External Institution
07-029		University of Arkansas
14-554		Wayne State University
13-460		BNI
16-170		Duke
[any]		SAVAMC
18-440		University of Michigan
19-600		St. Louis University
06-036		University of Chicago
12-391		University of Pennsylvania
20-638		University of Miami
17-360		Midwest University



## I. Departures and Exceptions Checklist

The Departures and Exceptions Checklist is provided to assist the IACUC in identifying IACUC-approved departures from the *Guide for the Care and Use of Laboratory Animal* as well as exceptions from specific USDA regulatory requirements that differ from or are in addition to the PHS Policy.

### A. MUSTS<sup>i</sup>

#### i. Institutional Policies and Responsibilities

E= Existing IACUC Approved Departure (existing protocols and renewals, include in semiannual report to IO)

N= New IACUC Approved Departure (new to the program and/or new protocol, include in semiannual report to IO)

NA= not applicable/no departure

1.	Animal Care and Use Program	E	N	NA
1a	Responsibility for animal well-being is assumed by all members of the program ( <i>Guide, p 1</i> ) [must]			X
Comments:				
1b	Resources necessary to manage program of veterinary care are provided ( <i>Guide, p 14</i> ) [must]			X
Comments:				
1c	Responsibilities for daily animal care and facility management are assigned to specific individual(s) when a full-time veterinarian is not available on site ( <i>Guide, p 14</i> ) [must]			X
Comments:				

2.	Disaster Planning and Emergency Preparedness	E	N	NA
2a	Disaster plans for each facility to include satellite locations are in place ( <i>Guide, p 35, p 75</i> ) [must]			X
Comments:				
2b	Plans include provisions for euthanasia ( <i>Guide, p 35</i> ) [must]			X
Comments:				

3.	IACUC	E	N	NA
3a	Meets as necessary to fulfill responsibilities ( <i>Guide, p 25</i> ) [must]			X
Comments:				
3b	IACUC Members named in protocols or with conflicts rescue themselves from protocol decisions ( <i>Guide, p 26</i> ) [must]			X
Comments:				

4.	IACUC Protocol Review – Special Considerations	E	N	NA
4a	Restraint devices are justified in the animal use protocols ( <i>Guide, p 29</i> ) [must]			X
Comments:				
4b	Veterinary care is provided if lesions or illness result from restraint ( <i>Guide, p 30</i> ) [must]			X
Comments:				

5.	IACUC Membership and Functions	E	N	NA
5a	Methods for reporting and investigating animal welfare concerns are in place ( <i>Guide, p 23</i> ) [must]			X
Comments:				

6.	Veterinary Care (see also next section – Veterinary Care)	E	N	NA
6a	Veterinary Access to all animals is provided ( <i>Guide, p 14</i> ) [must]			X
Comments:				
6b	Direct or delegated authority is given to the veterinarian to oversee all aspects of animal care and use ( <i>Guide, p 14</i> ) [must]			X
Comments:				
6c	Veterinarian provides consultation when pain and distress exceeds anticipated level in protocol ( <i>Guide, p 5</i> ) [must]			X
Comments:				
6d	Veterinarian provides consultation when interventional control is not possible ( <i>Guide, p 5</i> ) [must]			X

Comments:			
6e	Veterinarian(s) have experience and training in species used ( <i>Guide, p 15</i> ) [must]		X
Comments:			
<b>7.</b>	<b>Personnel Qualifications and Training</b>	<b>E</b>	<b>N</b> <b>NA</b>
<b>7a</b>	<b>All laboratory personnel are adequately educated, trained, and/or qualified in basic principles of laboratory animal science.</b> <b>Personnel included:</b> [must]		
7a.1	Veterinary/ other professional staff ( <i>Guide, p 15-16</i> )		X
Comments:			
7a.2	IACUC members ( <i>Guide, p 17</i> )		X
Comments:			
7a.3	Animal care personnel ( <i>Guide, p 16</i> )		X
Comments:			
7a.4	Research investigators, instructors, technicians, trainees, and students ( <i>Guide, p 16-17</i> )		X
Comments:			

<b>8.</b>	<b>Occupational Health and Safety of Personnel</b>	<b>E</b>	<b>N</b> <b>NA</b>
8a	Program is in place and is consistent with federal, state, and local regulations ( <i>Guide, p 17</i> ) [must]		X
Comments:			
<b>8b</b>	<b>Program for medical evaluation and preventative medicine for personnel includes:</b>		
8b.1	Considers confidentiality and other legal factors as required by federal, state, and local regulations ( <i>Guide, p 22</i> ) [must]		X
Comments:			
8b.2	If serum samples are collected, the purpose is consistent with federal and state laws ( <i>Guide, p 22</i> ) [must]		X
Comments:			

<b>9.</b>	<b>Investigating &amp; Reporting Animal Welfare Concerns</b>	<b>E</b>	<b>N</b> <b>NA</b>
9a	Methods for investigating and reporting animal welfare concerns are established ( <i>Guide, p 23</i> ) [must]		X
Comments:			

## ii. Veterinary Care

E= Existing IACUC Approved Departure (existing protocols and renewals, include in semiannual report to IO)

N= New IACUC Approved Departure (new to the program and/or new protocol, include in semiannual report to IO)

NA= not applicable/no departure

<b>1.</b>	<b>Clinical Care and Management</b>	<b>E</b>	<b>N</b> <b>NA</b>
1a	Veterinary program offers high quality of care and ethical standards ( <i>Guide, p 105</i> ) [must]		X
Comments:			
1b	Procedures established for timely reporting of animal injury, illness, or disease ( <i>Guide, p 114</i> ) [must]		X
Comments:			
1c	Procedures established for veterinary assessment, treatment, or euthanasia ( <i>Guide, p 114</i> ) [must]		X
Comments:			
1d	Veterinarian is authorized to treat, relieve pain, and/or euthanize ( <i>Guide, p 114</i> ) [must]		X
Comments:			

<b>2.</b>	<b>Animal Procurement and Transportation/ Preventative Medicine</b>	<b>E</b>	<b>N</b> <b>NA</b>
2a	Procedures for lawful animal procurement are in place ( <i>Guide, p 106</i> ) [must]		X
Comments:			
2b	Procedures for compliance with animal transportation regulations, including international requirements, are in place ( <i>Guide, p 107</i> ) [must]		X
Comments:			



<b>3. Surgery</b>	E	N	NA
3a Researchers have appropriate training to ensure good techniques ( <i>Guide, p 115</i> ) [must]			X
Comments:			

<b>4. Pain, Distress, Anesthesia and Analgesia</b>	E	N	NA
4a Procedures are in place to assure antinociception before surgery begins ( <i>Guide, p 122</i> ) [must]			X
Comments:			

<b>5. Euthanasia</b>	E	N	NA
5a Procedures and training are in place to ensure death is confirmed ( <i>Guide, p 124</i> ) [must]			X
Comments:			

<b>6. Drug Storage and Control</b>	E	N	NA
6a Program complies with federal regulations for human and veterinary drugs ( <i>Guide, p 115</i> ) [must]			X
Comments:			
6b Procedures are in place to ensure analgesics and anesthetics are used within expiration date ( <i>Guide, p 122</i> ) [must]			X
Comments:			

### iii. Terrestrial Animal Housing and Support Areas

E= Existing IACUC Approved Departure (existing protocols and renewals, include in semiannual report to IO)

N= New IACUC Approved Departure (new to the program and/or new protocol, include in semiannual report to IO)

NA= not applicable/no departure

<b>1. Primary Enclosure: (Protocol Exception 10)</b>	E	N	NA
1a Animals express natural postures, can turn around, access food and water, and rest away from urine and feces ( <i>Guide, p 56</i> ) [must]	X		
Comments: 3 continuing protocols with departure from requirement for space for animals to turn around and/or rest away from urine and feces			

<b>2. Sheltered or Outdoor Housing: (e.g., barns corrals, pastures, islands) (Protocol Methodology, Exception 10)</b>	E	N	NA
2a Weather protection and opportunity to retreat ( <i>Guide, p 54</i> ) [must]			X
Comments:			

<b>3. Waste Disposal:</b>	E	N	NA
3a Hazardous wastes are rendered safe before removal from facility ( <i>Guide, pp 73-74</i> ) [must]			X
Comments:			

<b>4. Emergency, Weekend, and Holiday Animal Care:</b>	E	N	NA
4a Veterinary care available after hours, weekends, and holidays ( <i>Guide, pp 74, 114</i> ) [must]			X
Comments:			

### iv. Aquatic Animal Housing and Support Areas

E= Existing IACUC Approved Departure (existing protocols and renewals, include in semiannual report to IO)

N= New IACUC Approved Departure (new to the program and/or new protocol, include in semiannual report to IO)

NA= not applicable/no departure

<b>1. Water Quality:</b>	E	N	NA
1a Chlorine, chloramines, chemical, and reactive bioproducts are removed or neutralized prior to use in aquatic systems ( <i>Guide, pp 78, 86</i> ) [must]			X
Comments:			



2.	Life Support System:	E	N	NA
2a	Biofilter is of sufficient size to process bioload ( <i>Guide, p 80</i> <b>[must]</b> )			X
Comments:				

3.	Waste Disposal:	E	N	NA
3a	Hazardous wastes are rendered safe before removal from facility ( <i>Guide, p 73-74</i> <b>[must]</b> )			X
Comments:				

4.	Emergency, Weekend, and Holiday Animal Care:	E	N	NA
4a	Veterinary care available after hours, weekends, and holidays ( <i>Guide, pp 74, 114</i> <b>[must]</b> )			X
Comments:				

## v. Special Facilities: Procedure Area, Non-Survival Surgeries, Laboratories, Rodent Surgeries, Imaging, Whole Body Irradiation, Hazardous Agent Contamination, Behavioral Studies

E= Existing IACUC Approved Departure (existing protocols and renewals, include in semiannual report to IO)

N= New IACUC Approved Departure (new to the program and/or new protocol, include in semiannual report to IO)

NA= not applicable/no departure

1.	Imaging/Whole Body Irradiation:	E	N	NA
1a	Appropriate sensors and ventilation are provided for cryogen gases ( <i>Guide, p 147</i> <b>[must]</b> )			X
Comments:				

2.	Hazardous Agent Containment:	E	N	NA
2a	Facility adheres to APHIS, USDA, and CDC Select Agent Regulations and other federal, state, and local regulations including security measures ( <i>Guide, p 148</i> <b>[must]</b> )			X
Comments:				

## B. SHOULD<sup>ii</sup>

### i. Institutional Policies and Responsibilities

E= Existing IACUC Approved Departure (existing protocols and renewals, include in semiannual report to IO)

N= New IACUC Approved Departure (new to the program and/or new protocol, include in semiannual report to IO)

NA= not applicable/no departure

1.	IACUC Protocol Review – Special Considerations	E	N	NA
1a	Training of animals to adapt to restraint is provided ( <i>Guide, p 29</i> ) ( <i>eSirius AAALAC Report</i> )	X		
Comments: 1 renewal, and 5 continuing protocols for a total of 6 protocols without acclimation to restraint (3 species known to acclimate well, 3 for scientific reasons).				
1b	Body weight of food/fluid restricted animals are recorded at least weekly ( <i>Guide, p 31</i> ) ( <i>Protocol Exception 3</i> )			X
Comments:				
1c	Daily written records are maintained for food/fluid restricted animals ( <i>Guide, p 31</i> ) ( <i>Protocol Exception 3</i> )			X
Comments:				
1d	Pharmaceutical-grade chemicals and other substances should be used, when available, for all animal-related procedures ( <i>Guide, p 31</i> ) ( <i>Protocol Exception 1</i> )	X	X	
Comments: 4 new, 21 renewal, and 169 continuing protocols for a total of 194 protocols with approved non-pharmaceutical grade compounds.				
1e	Use of expired medical materials is reviewed and approved by the IACUC. ( <i>OLAW FAQ F.5</i> , USDA APHIS Animal Care Policy #3) ( <i>Protocol Exception 12</i> )	X		
Comments: 3 renewals and 6 continuing protocols for a total of 9 protocols with approval for use of expired materials. No anesthesia, analgesia, or euthanasia agents expired.				

2.	Personnel Qualifications and Training	E	N	NA
2a	Training is available prior to starting animal activity ( <i>Guide, p 17</i> )			X
Comments:				

3.	Occupational Health and Safety Personnel	E	N	NA
3a	Program covers all personnel who work in laboratory animal facilities ( <i>Guide, p 18</i> )			X
Comments:				

## ii. Terrestrial Animal Housing and Support Areas

E= Existing IACUC Approved Departure (existing protocols and renewals, include in semiannual report to IO)

N= New IACUC Approved Departure (new to the program and/or new protocol, include in semiannual report to IO)

NA= not applicable/no departure

1.	Location:	E	N	NA
1a	Animal areas separate from personnel areas ( <i>Guide, p 134</i> )			X
Comments:				
1b	Separation of species ( <i>Guide, p 111</i> )			X
Comments:				
1c	Separation by disease status ( <i>Guide, p 111</i> )			X
Comments:				
1d	Security and access control ( <i>Guide, p 151</i> )			X
Comments:				

2.	Construction:	E	N	NA
2a	Corridors ( <i>Guide, p 136</i> )			X
Comments:				
2b	Animal room doors ( <i>Guide, p 137</i> )			X
Comments:				
2c	Exterior windows ( <i>Guide, p 137</i> )			X
Comments:				
2d	Floors ( <i>Guide, p 137</i> )			X
Comments:				
2e	Drainage ( <i>Guide, p 138</i> )			X
Comments:				
2f	Walls and ceilings ( <i>Guide, p 138</i> )			X
Comments:				
2g	Heating ventilation and air conditioning ( <i>Guide, p 139</i> )			X
Comments:				
2h	Power and lighting ( <i>Guide, p 141</i> )			X
Comments:				
2i	Noise control ( <i>Guide, p 142</i> )			X
Comments:				
2j	Vibration control ( <i>Guide, p 142</i> )			X
Comments:				
2k	Environmental monitoring ( <i>Guide, p 143</i> )			X
Comments:				

3.	Room/Cage: ( <i>Protocol Exception 10</i> )	E	N	NA
3a	Temperature and humidity ( <i>Guide, p 43</i> )	X		



Comments: 2 renewal protocol and 3 continuing protocols using temperature and humidity studies and exception for humidity due to environmental factors for a total of 5 protocols			
3b	Ventilation and air quality ( <i>Guide</i> , <a href="#">p 45</a> )	X	
Comments: 6 continuing protocols using hypoxia; 1 continuing protocol with in-cage cigarette smoke exposure, for a total of 7 protocols			
3c	Illumination ( <i>Guide</i> , <a href="#">p 47</a> )	X	
Comments: 1 renewal and 3 continuing protocols with altered light cycle for a total of 4 protocols			
3d	Noise and vibration ( <i>Guide</i> , <a href="#">p 49</a> )		X
Comments:			

<b>4.</b>	<b>Primary Enclosure: (Protocol Exceptions 5 &amp; 10)</b>	<b>E</b>	<b>N</b>	<b>NA</b>
4a	Space meets physiologic, behavioral <sup>iii</sup> , and social <sup>iv</sup> needs ( <i>Guide</i> , <a href="#">pp 51, 55-63</a> )			X
Comments:				
4b	Secure environment provided ( <i>Guide</i> , <a href="#">p 51</a> )			X
Comments:				
4c	Durable, nontoxic materials in good repair and no risk of injury ( <i>Guide</i> , <a href="#">p 51</a> )			X
Comments:				
4d	Flooring is safe and appropriate for species ( <i>Guide</i> , <a href="#">p 51</a> )			X
Comments:				
4e	Adequate bedding and structures for resting, sleeping, and breeding ( <i>Guide</i> , <a href="#">p 52</a> )	X		
Comments: 1 renewal protocol, and 8 continuing protocols without bedding/enrichment for post-surgical care, research necessity, and/or metabolic caging for a total of 9 protocols				
4f	Objective assessments of housing and management are made ( <i>Guide</i> , <a href="#">p 52</a> )			X
Comments:				
4g	Procedures for routine husbandry are documented ( <i>Guide</i> , <a href="#">p 52</a> )			X
Comments:				
4h	Socially housed animals can escape or hide to avoid aggression ( <i>Guide</i> , <a href="#">p 55</a> )	X		
Comments: 2 continuing protocols with aggression-induced stress				
4i	Cage height provides adequate clearance ( <i>Guide</i> , <a href="#">p 56</a> )			X
Comments:				
4j	Rationale <sup>v</sup> for <i>Guide</i> /USDA space exceptions approved by IACUC and based on performance indices ( <i>Guide</i> , <a href="#">p 56</a> ) (Protocol Exceptions 2, 5, & 10)			X
Comments:				
4k	Dogs and cats allowed to exercise and provided human interaction ( <i>Guide</i> , <a href="#">p 58</a> )			X
Comments:				
4l	Nonhuman primates are socially housed except for scientific, veterinary, or behavioral reasons ( <i>Guide</i> , <a href="#">p 58-59</a> )			X
Comments:				
4m	Single housing of nonhuman primates is for shortest duration possible ( <i>Guide</i> , <a href="#">p 60</a> )			X
Comments:				
4n	Opportunities for release in larger enclosures is considered for single caged nonhuman primates ( <i>Guide</i> , <a href="#">p 60</a> )			X
Comments:				
4o	Agricultural animals are housed socially ( <i>Guide</i> , <a href="#">p 60</a> )	X		
Comments: 2 continuing protocols for a total of 2 with ag animals housed singly				
4p	Foods troughs and water devices for agricultural animals allow access for all animals ( <i>Guide</i> , <a href="#">p 60</a> )			X
Comments:				

<b>5.</b>	<b>Environmental Enrichment, Behavioral and Social Management: (Protocol Exception 11)</b>	<b>E</b>	<b>N</b>	<b>NA</b>
5a	Structures and resources promote species typical behavior ( <i>Guide</i> , <a href="#">pp 52-54</a> )			X
Comments:				

5b	Novelty of enrichment is considered ( <i>Guide, p 53</i> )			X
Comments:				
5c	Specific species plans for housing including enrichment, behavior, and activity are developed and reviewed regularly by IACUC, researchers, and veterinarian ( <i>Guide, pp 53, 58, 60, 63</i> )			X
Comments:				
5d	Animal care personnel receive training to identify abnormal animal behaviors ( <i>Guide, p 53</i> )			X
Comments:				
5e	Stability of pairs or groups is monitored for incompatibility ( <i>Guide, p 64</i> )			X
Comments:				
5f	Single housing is justified, for social species ( <i>Guide, p 64</i> )			X
Comments:				
5g	Single housing is limited to the minimum period necessary ( <i>Guide, p 64</i> )			X
Comments:				
5h	Additional enrichment for single housed animals is provided ( <i>Guide, p 64</i> )	X		
Comments: 3 renewal protocols and 15 continuing protocols for a total of 18 without standard or additional enrichment for singly housed animals				
5i	Single housing is reviewed regularly by IACUC and veterinarian ( <i>Guide, p 64</i> )			X
Comments:				
5j	Habituation and training of animal to routine procedures is performed ( <i>Guide, p 64</i> )			X
Comments:				

<b>6.</b>	<b>Sheltered or Outdoor Housing:</b> (e.g., barns, corrals, pastures, islands)	E	N	NA
6a	Appropriate size ( <i>Guide, p 54</i> )			X
Comments:				
6b	Ventilation and sanitation of shelter (no waste/moisture build-up) ( <i>Guide, p 54</i> )			X
Comments:				
6c	Animal acclimation ( <i>Guide, p 55</i> )			X
Comments:				
6d	Social compatibility ( <i>Guide, p 55</i> )			X
Comments:				
6e	Roundup/restraint procedures ( <i>Guide, p 55</i> )			X
Comments:				
6f	Appropriate security ( <i>Guide, p 55</i> )			X
Comments:				

<b>7.</b>	<b>Naturalistic Environments:</b>	E	N	NA
7a	Animals added/removed with consideration of effect on group ( <i>Guide, p 55</i> )			X
Comments:				
7b	Adequate food, fresh water, and shelter ensured ( <i>Guide, p 55</i> )			X
Comments:				

<b>8.</b>	<b>Food:</b>	E	N	NA
8a	Feeding schedule and procedures including caloric intake management ( <i>Guide, pp 65-67</i> )			X
Comments:				
8b	Contamination prevention ( <i>Guide, p 65</i> )			X
Comments:				
8c	Vendor quality control ( <i>Guide, p 66</i> )			X
Comments:				
8d	Storage in sealed containers ( <i>Guide, p 66</i> )			X



Comments:				
8e	Expiration date labeling ( <i>Guide, p 66</i> )			X
Comments:				
8f	Vermin control ( <i>Guide, p 66</i> )			X
Comments:				
8g	Rotation of stocks ( <i>Guide, p 66</i> )			X
Comments:				

<b>9. Water:</b>		E	N	NA
9a	Ad libitum ( <i>Guide, pp 67-68</i> ) ( <i>Protocol Exception 3</i> )	X		
Comments: 9 continuing protocols with water restriction				
9b	QC procedures ( <i>Guide, pp 67-68</i> )			X
Comments:				

<b>10. Bedding and Nesting Materials:</b>		E	N	NA
10a	Species appropriate ( <i>Guide, pp 68-69</i> ) ( <i>Protocol Exception 10</i> )			X
Comments:				
10b	Keep animals dry ( <i>Guide, pp 68-69</i> ) ( <i>Protocol Exception 10</i> )	X		
Comments: 1 renewal protocol, and 8 continuing protocols without bedding/enrichment for post-surgical care, research necessity, and/or metabolic caging for a total of 9 protocols				
10c	QC procedures ( <i>Guide, pp 68-69</i> )			X
Comments:				
10d	Minimizes scientific variables ( <i>Guide, pp 68-69</i> )			X
Comments:				

<b>11. Sanitation: (<i>Protocol Exception 6</i>)</b>		E	N	NA
11a	Frequency of bedding/substrate change ( <i>Guide, p 70</i> )	X		
Comments: 1 renewal and 13 continuing protocols for a total of 14 with reduced cage & bedding change frequency				
11b	Cleaning and disinfection of microenvironment ( <i>Guide, pp 70-71</i> ) ( <i>Protocol Exceptions 6 &amp; 7</i> )	X		
Comments: 1 renewal and 14 continuing protocols for a total of 15 with reduced cage & bedding change frequency				
11c	Cleaning and disinfection of macroenvironment ( <i>Guide, p 72</i> )			X
Comments:				
11d	Assessing effectiveness ( <i>Guide, p 73</i> )			X
Comments:				

<b>12. Waste Disposal:</b>		E	N	NA
12a	Procedures for collection ( <i>Guide, pp 73-74</i> )			X
Comments:				
12b	Procedures for storage and disposal ( <i>Guide, pp 73-74</i> )			X
Comments:				
12c	Animal carcasses ( <i>Guide, pp 73-74</i> )			X
Comments:				

<b>13. Pest Control:</b>		E	N	NA
13a	Regularly scheduled ( <i>Guide, p 74</i> )			X
Comments:				
13b	Documented program including control of rodent pests and insecticide use ( <i>Guide, p 74</i> )			X
Comments:				

14. Emergency, Weekend, and Holiday Animal Care:	E	N	NA
14a Care provided by qualified personnel every day ( <i>Guide, p 74</i> )			X
Comments:			
14b Provision for accessible contact information ( <i>Guide, p 74</i> )			X
Comments:			
14c Monitoring of backup systems ( <i>Guide, p 143</i> )			X
Comments:			
14d A disaster plan that takes into account both personnel and animals ( <i>Guide, p 75</i> )			X
Comments:			

15. Identification:	E	N	NA
15a Cage/rack cards contain required information ( <i>Guide, p 75</i> )			X
Comments:			
15b Genotype information included, and standardized nomenclature used when applicable ( <i>Guide, p 75</i> )			X
Comments:			

16. Recordkeeping:	E	N	NA
16a Clinical records accessible and contain appropriate information ( <i>Guide, pp 75-76</i> )			X
Comments:			
16b Records are provided when animals are transferred between institutions ( <i>Guide, p 75</i> )			X
Comments:			

17. Breeding Genetics and Nomenclature:	E	N	NA
17a Appropriate genetic records, management, and monitoring procedures ( <i>Guide, p 76</i> )			X
Comments:			
17b Phenotypes that affect wellbeing are reported to IACUC and effectively managed ( <i>Guide, p 77</i> )			X
Comments:			

18. Storage:	E	N	NA
18a Adequate space for equipment, supplies, food, bedding, and refuse ( <i>Guide, p 141</i> )			X
Comments:			
18b Bedding in vermin-free area and protected from contamination ( <i>Guide, p 141</i> )			X
Comments:			
18c Food in vermin-free, temperature, and humidity controlled area and protected from contamination ( <i>Guide, p 141</i> )			X
Comments:			
18d Refuse storage is separate ( <i>Guide, p 141</i> )			X
Comments:			
18e Carcass and animal tissue storage is separate, refrigerated below 7° C and cleanable ( <i>Guide, p 142</i> )			X
Comments:			

19. Personnel:	E	N	NA
19a Adequate space for locker rooms, administration, and training ( <i>Guide, p 135</i> )			X
Comments:			

### iii. Aquatic Animal Housing and Support Areas

E= Existing IACUC Approved Departure (existing protocols and renewals, include in semiannual report to IO)

N= New IACUC Approved Departure (new to the program and/or new protocol, include in semiannual report to IO)

NA= not applicable/no departure

1.	Location:	E	N	NA
1a	Animal areas separate from personnel areas ( <i>Guide, p 134</i> )			X
Comments:				
1b	Separation of species ( <i>Guide, p 111</i> )			X
Comments:				
1c	Separation by disease state ( <i>Guide, p 111</i> )			X
Comments:				
1d	Security and access control ( <i>Guide, p 111</i> )			X
Comments:				

2.	Construction:	E	N	NA
2a	Corridors ( <i>Guide, p 136</i> )			X
Comments:				
2b	Animal room doors ( <i>Guide, pp 137, 150</i> )			X
Comments:				
2c	Exterior windows ( <i>Guide, p 137</i> )			X
Comments:				
2d	Floors ( <i>Guide, pp 137, 150</i> )			X
Comments:				
2e	Drainage ( <i>Guide, pp 138, 150</i> )			X
Comments:				
2f	Walls and ceilings ( <i>Guide, pp 138, 150</i> )			X
Comments:				
2g	Heating ventilation and air conditioning ( <i>Guide, pp 139, 150-151</i> )			X
Comments:				
2h	Power and lighting ( <i>Guide, pp 141, 150</i> )			X
Comments:				
2i	Noise control ( <i>Guide, p 142</i> )			X
Comments:				
2j	Vibration control ( <i>Guide, p 142</i> )			X
Comments:				
2k	Environmental monitoring ( <i>Guide, p 143</i> )			X
Comments:				

3.	Water Quality:	E	N	NA
3a	Standards for acceptable quality are established ( <i>Guide, p 78</i> )			X
Comments:				

4.	Life Support System:	E	N	NA
4a	Water source is based on appropriate controls and research requirements ( <i>Guide, p 79</i> )			X
Comments:				

5.	Temperature, Humidity, and Ventilation/Illumination/Noise and Vibration:	E	N	NA
5a	Temperature and humidity ( <i>Guide, pp 43, 80-81</i> )			X
Comments:				
5b	Ventilation and air quality ( <i>Guide, pp 45, 81</i> )			X
Comments:				
5c	Illumination ( <i>Guide, pp 47, 81</i> )			X



Comments:			
5d	Noise and vibration ( <i>Guide, pp 49, 81</i> )		X
Comments:			

<b>6.</b>	<b>Primary Enclosure:</b>	<b>E</b>	<b>N</b>	<b>NA</b>
6a	Allows for normal physiological and behavioral needs ( <i>Guide, p 82</i> )			X
Comments:				
6b	Allows social interaction for social species ( <i>Guide, p 82</i> )			X
Comments:				
6c	Provides a balanced, stable environment ( <i>Guide, p 82</i> )			X
Comments:				
6d	Provides appropriate water quality and monitoring ( <i>Guide, p 82</i> )			X
Comments:				
6e	Allows access to food and waste removal ( <i>Guide, p 82</i> )			X
Comments:				
6f	Restricts escape and entrapment ( <i>Guide, p 82</i> )			X
Comments:				
6g	Allows undisturbed observation ( <i>Guide, p 82</i> )			X
Comments:				
6h	Constructed of nontoxic materials ( <i>Guide, p 82</i> )			X
Comments:				
6i	Prevents electrical hazards ( <i>Guide, p 82</i> )			X
Comments:				
6j	Space needs of species are evaluated by IACUC during program evaluations and facility inspections ( <i>Guide, p 83</i> )			X
Comments:				

<b>7.</b>	<b>Environmental Enrichment, Social Housing, Behavioral and Social Management:</b>	<b>E</b>	<b>N</b>	<b>NA</b>
7a	Enrichment elicits appropriate behaviors and is safe ( <i>Guide, p 83</i> )			X
Comments:				
7b	Semi-aquatic reptiles are provided terrestrial terrain ( <i>Guide, p 83</i> )			X
Comments:				
7c	Handling is kept to a minimum and appropriate techniques are in place at facility or protocol level ( <i>Guide, p 84</i> )			X
Comments:				
7d	Nets are cleaned, disinfected, and managed to avoid contamination of systems ( <i>Guide, p 84</i> )			X
Comments:				

<b>8.</b>	<b>Food:</b>	<b>E</b>	<b>N</b>	<b>NA</b>
8a	Storage to prevent contamination, preserve nutrients, and prevent pests ( <i>Guide, p 84</i> )			X
Comments:				
8b	Delivery ensures access to all, minimizing aggression and nutrient loss ( <i>Guide, p 84</i> )			X
Comments:				
8c	Storage times are based on manufacturer recommendations or accepted practice ( <i>Guide, p 84</i> )			X
Comments:				
8d	A nutritionally complete diet is provided ( <i>Guide, p 84</i> )			X
Comments:				

<b>9.</b>	<b>Substrate:</b>	<b>E</b>	<b>N</b>	<b>NA</b>
9a	Amount, type, and presentation of substrate is appropriate for the system and the species ( <i>Guide, p 85</i> )			X



Comments:

10.	Sanitation, Cleaning, and Disinfection:	E	N	NA
10a	Frequency of tank/cage cleaning and disinfection is determined by water quality, permits adequate viewing and health monitoring ( <i>Guide, p 86</i> )			X

Comments:

10b	Cleaning and disinfection of macroenvironment ( <i>Guide, p 86</i> )			X
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Comments:

11.	Waste Disposal:	E	N	NA
11a	Procedures for collection: ( <i>Guide, pp 73-74</i> )			X

Comments:

11b	Animal carcasses ( <i>Guide, pp 73-74</i> )			X
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Comments:

12.	Pest Control:	E	N	NA
12a	Regularly scheduled ( <i>Guide, p 74</i> )			X

Comments:

12b	Documented program including control of pests and insecticide use ( <i>Guide, p 74</i> )			X
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Comments:

13.	Emergency, Weekend, and Holiday Animal Care:	E	N	NA
13a	Care provided by qualified personnel every day ( <i>Guide, pp 74, 87</i> )			X

Comments:

13b	Provision for accessible contact information ( <i>Guide, pp 74, 87</i> )			X
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Comments:

13c	Emergency response plans in place to address major system failures ( <i>Guide, p 87</i> )			X
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Comments:

14.	Identification:	E	N	NA
14a	Cage/tank cards contain required information ( <i>Guide, pp 75, 87</i> )			X

Comments:

14b	Genotype information included and standardized nomenclature used when applicable ( <i>Guide, pp 75, 87</i> )			X
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Comments:

15.	Recordkeeping:	E	N	NA
15a	Water quality parameters and frequency of testing recorded ( <i>Guide, p 88</i> )			X

Comments:

15b	Records kept on feeding, nonexpired food supplies, substrate, and refuse ( <i>Guide, p 88</i> )			X
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Comments:

16.	Storage:	E	N	NA
16a	Adequate space for equipment, supplies, food, substrate, and refuse ( <i>Guide, p 141</i> )			X

Comments:

16b	Substrate protected from contamination ( <i>Guide, p 141</i> )			X
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Comments:

16c	Food in vermin-free, temperature, and humidity-controlled area protected from contamination ( <i>Guide, p 141</i> )			X
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Comments:

16d	Refuse storage is separate ( <i>Guide, p 141</i> )			X
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Comments:				
16e	Carcass and animal tissue storage is separate, refrigerated below 7° C and cleanable ( <i>Guide, p 141</i> )			X
Comments:				
<b>17. Personnel:</b>				
17a	Adequate space for locker rooms, administration, and training ( <i>Guide, p 135</i> )			X
Comments:				

#### iv. Cagewash

E= Existing IACUC Approved Departure (existing protocols and renewals, include in semiannual report to IO)

N= New IACUC Approved Departure (new to the program and/or new protocol, include in semiannual report to IO)

NA= not applicable/no departure

<b>1. Construction and Operation:</b>		E	N	NA
1a	Dedicated central area for sanitizing cages and equipment is provided ( <i>Guide, p 143</i> )			X
Comments:				
1b	Cage-washing equipment meets need ( <i>Guide, p 143</i> )			X
Comments:				
1c	Doors, windows, floors, drainage, walls, and ceilings ( <i>Guide, pp 136-138</i> )			X
Comments:				
1d	Convenient to animal area areas/ waste disposal ( <i>Guide, p 143</i> )			X
Comments:				
1e	Ease of access (including door size) facilitates use ( <i>Guide, p 143</i> )			X
Comments:				
1f	Sufficient space for staging and maneuvering ( <i>Guide, p 143</i> )			X
Comments:				
1g	Safety precautions/clothing/equipment used for waste disposal/prewash/acid wash ( <i>Guide, p 143</i> )			X
Comments:				
1h	Traffic flow clean to dirty with no contamination of clean equipment by dirty equipment and appropriate air pressurization ( <i>Guide, p 143</i> )			X
Comments:				
1i	Insulation and/or sound attenuation present as needed ( <i>Guide, p 143</i> )			X
Comments:				
1j	Utilities are appropriate ( <i>Guide, p 143</i> )			X
Comments:				
1k	Ventilation meets heat and humidity load ( <i>Guide, p 143</i> )			X
Comments:				
1l	Safety features (e.g., SOPs, warning signs, eyewash stations) are in use ( <i>Guide, p 143</i> )			X
Comments:				
1m	Functioning safety devices to prevent entrapment in washer/sterilizers ( <i>Guide, p 143</i> )			X
Comments:				
1n	Cage wash temperatures are monitored and records are available ( <i>Guide, p 73</i> )			X
Comments:				
1o	Appropriate clean cage storage ( <i>Guide, p 141</i> )			X
Comments:				

#### v. Special Facilities: Aseptic Surgery

E= Existing IACUC Approved Departure (existing protocols and renewals, include in semiannual report to IO)

N= New IACUC Approved Departure (new to the program and/or new protocol, include in semiannual report to IO)

NA= not applicable/no departure



1.	General Considerations:	E	N	NA
1a	Location minimizes traffic/contamination ( <i>Guide, p 144</i> )			X
Comments:				
1b	Functional components (surgical support, animal preparation, surgeon scrub, operating room, postoperative recovery) are designed and separated (physically or otherwise) ( <i>Guide, p 144</i> )			X
Comments:				
1c	Appropriate drug storage, control, expiration date monitoring ( <i>Guide, pp 115, 122</i> )			X
Comments:				
1d	Safe sharps disposal system ( <i>Guide, p 74</i> )			X
Comments:				
1e	Adequate records of anesthesia and perioperative care ( <i>Guide, p 122</i> )			X
Comments:				
1f	Aseptic procedures in use for all survival surgery ( <i>Guide, pp 118-119</i> )			X
Comments:				

2.	Operating Room:	E	N	NA
2a	Effective contamination control procedures ( <i>Guide, p 144</i> )			X
Comments:				
2b	Effective cleaning procedures/dedicated tools ( <i>Guide, p 145</i> )			X
Comments:				
2c	Interior surfaces smooth and impervious to moisture ( <i>Guide, p 145</i> )			X
Comments:				
2d	HVAC system meets <i>Guide</i> requirements ( <i>Guide, p 145</i> )			X
Comments:				
2e	Lighting safe and appropriate ( <i>Guide, p 145</i> )			X
Comments:				
2f	Outlets safe and appropriate ( <i>Guide, p 145</i> )			X
Comments:				
2g	Scavenging of anesthetic gases implemented ( <i>Guide, p 145</i> )			X
Comments:				

3.	Surgical Support:	E	N	NA
3a	Facility for washing, sterilizing, storing instruments, and supplies ( <i>Guide, p 145</i> )			X
Comments:				
3b	Autoclave monitoring procedures are implemented ( <i>Guide, pp 119, 145</i> )			X
Comments:				
3c	Storage of autoclaved materials maintains sterility ( <i>Guide, p 145</i> )			X
Comments:				
3d	Cold sterilization procedures are appropriate ( <i>Guide, p 119</i> )			X
Comments:				

4.	Animal Preparation:	E	N	NA
4a	Contains large sink to facilitate cleaning of animal and operative site ( <i>Guide, p 145</i> )			X
Comments:				

5.	Surgeon Scrub:	E	N	NA
5a	Outside operating room, non-hand-operated sink ( <i>Guide, p 145</i> )			X
Comments:				

6.	Postoperative Recovery:	E	N	NA
6a	Allows adequate observation, easily cleaned, supports physiologic functions, and minimizes risk of injury (Guide, <a href="#">p 145</a> )			X
Comments:				

7.	Dressing Area:	E	N	NA
7a	Place for personnel to change (Guide, <a href="#">p 145</a> )			X
Comments:				

## vi. Special Facilities: Procedure Areas, Non-survival Surgeries, Laboratories, Rodent Surgeries, Imaging, Whole Body Irradiation, Hazardous Agent Containment, Behavioral Studies

E= Existing IACUC Approved Departure (existing protocols and renewals, include in semiannual report to IO)

N= New IACUC Approved Departure (new to the program and/or new protocol, include in semiannual report to IO)

NA= not applicable/no departure

1.	General Considerations:	E	N	NA
1a	Labs used to house animals only when scientifically required and limited to minimum period necessary (Guide, <a href="#">p 134</a> ) (Access Satellite Housing)	X		
Comments: All satellite housing is evaluated for scientific necessity. 3 renewal protocols and 5 continuing protocols for a total of 8 with in-lab housing				
1b	Drug storage, control, and expiration dates (Guide, <a href="#">pp 115, 122</a> )			X
Comments:				
1c	Sharps disposal (Guide, <a href="#">p 74</a> )			X
Comments:				
1d	Anesthetic monitoring (Guide, <a href="#">p 120</a> )			X
Comments:				
1e	Scavenging of anesthetic gases (Guide, <a href="#">p 21</a> )			X
Comments:				
1f	Safety features (e.g., SOPs, safety signs, eyewash stations, secure gas cylinders) are in place (Guide, <a href="#">p 19</a> )			X
Comments:				
1g	Carcass disposal (Guide, <a href="#">pp 73-74</a> )			X
Comments:				

2.	Additional Concerns for Survival Strategy: (rodent and minor procedures only)	E	N	NA
2a	Rodent survival surgery clean and uncluttered, not used for anything else during surgery (Guide, <a href="#">p 144</a> )			X
Comments:				
2b	Records of peri-operative care (Guide, <a href="#">p 120</a> )			X
Comments:				
2c	Aseptic procedures (Guide, <a href="#">pp 118-119</a> )			X
Comments:				
2d	Autoclave monitoring procedures (Guide, <a href="#">pp 119, 145</a> )			X
Comments:				
2e	Storage of autoclaved materials (Guide, <a href="#">p 145</a> )			X
Comments:				
2f	Cold sterilization procedures are appropriate (Guide, <a href="#">p 119</a> )			X
Comments:				

3.	Imaging/Whole Body Irradiation:	E	N	NA
3a	Location of resource limits contamination risk (Guide, <a href="#">p 147</a> )			X
Comments:				
3b	Appropriate transportation methods are in place (Guide, <a href="#">p 147</a> )			X



Comments:				
3c	Gas anesthesia provision, scavenging, and monitoring are appropriate ( <i>Guide</i> , <a href="#">p 147</a> )			X
Comments:				
3d	Imaging console is located away from radiation source ( <i>Guide</i> , <a href="#">p 147</a> )			X
Comments:				

<b>4.</b>	<b>Behavioral Studies:</b>	<b>E</b>	<b>N</b>	<b>NA</b>
4a	Facility minimizes airborne transmission of noise and ground-borne transmission of vibration ( <i>Guide</i> , <a href="#">p 149</a> )			X
Comments:				
4b	Floor covering reduce sound transmission ( <i>Guide</i> , <a href="#">p 149</a> )			X
Comments:				
4c	Testing equipment allows for surface disinfection ( <i>Guide</i> , <a href="#">p 150</a> )			X
Comments:				
4d	Components that cannot be cleaned are not in ready contact with animals and kept covered when not in use ( <i>Guide</i> , <a href="#">p 150</a> )			X
Comments:				
4e	Housing areas are contiguous with testing areas when appropriate ( <i>Guide</i> , <a href="#">p 150</a> )			X
Comments:				

## II. Endnotes

<sup>i, ii</sup> The PHS Policy requires that Assured institutions comply with the regulations (9 CFR, Subchapter A) issued by the U.S. Department of Agriculture (USDA) under the Animal Welfare Act, as applicable. The endnotes below are specific USDA regulatory requirements that differ from or are in addition to the PHS Policy. This list is not intended to be all inclusive. For additional information please refer to 9 CFR Subchapter A – Animal Welfare.

<sup>iii</sup> Part 3 Subpart A 3.8 – “...research facilities must develop, document, and follow an appropriate plan to provide dogs with the opportunity for exercise. In addition the plan must be approved by the attending veterinarian. The plan must provide written standard procedures...”

<sup>iv</sup> Part 3 Subpart D 3.81 – “...research facilities must develop, document, and follow an appropriate plan for environment enhancement adequate to promote the psychological well-being of nonhuman primates.”

<sup>v</sup> Part 3 Subpart A 3.6(c)(1) – “Each dog housed in a primary enclosure must be provided with a minimum amount of floor space, calculated as follows:  $(\text{length of dog in inches} + 6)^2 / 144 = \text{required floor space in square feet}$ .”

-Part 3 Subpart D 3.80 (b) – “Primary enclosures [for nonhuman primates] must meet the minimum space requirements provided in this subpart.”

-In situations where the USDA regulations and the *Guide* differ with respect to space requirements, the larger of the two must be followed.

Semi-Annual Inspection -  
Locations with No Findings

Total: 247

Principal Investigator    Inspection Location

[REDACTED]	
------------	--

Total: 247

Total: 247

Total: 247



## Semi-Annual Inspection - Locations with Resolved Findings [SFI/Minor]

Total: 20

PI: [REDACTED] Location: [REDACTED] ☐ SFI ☒ Minor ☐ Significant ☐ Incident ☐ Non-compliance ☐ Repeat  
 Funding Source\* [REDACTED] USDA? [REDACTED] UAC [REDACTED]

Observations Date Inspected\*\*: 2/10/2021

The anesthetic gas scavenging cannister attached to the induction chamber does not have an initial date or weight documented.

PI Response

Date Corrected: 2/23/21

Initial date and weigh added to cannister by Han lab (TGen).

PI: [REDACTED] Location: [REDACTED] ☐ SFI ☒ Minor ☐ Significant ☐ Incident ☐ Non-compliance ☐ Repeat  
 Funding Source\* [REDACTED] USDA? [REDACTED] UAC [REDACTED]

Observations Date Inspected\*\*: 2/10/2021

There is no anesthetic gas scavenging system on the isoflurane anesthetic system.

PI Response

Date Corrected: 2/23/21

Gas scavenging system has been ordered and installed by Gallitano lab

PI: [REDACTED] Location: [REDACTED] ☐ SFI ☒ Minor ☐ Significant ☐ Incident ☐ Non-compliance ☐ Repeat  
 Funding Source\* [REDACTED] USDA? [REDACTED] UAC [REDACTED]

Observations Date Inspected\*\*: 2/10/2021

There is no certification date on the isoflurane vaporizer (does not appear to be in use; should be removed from room if not in use).

PI Response

Date Corrected: 2/23/21

Certification date label added to machine and paperwork was brought down for this machine to verify date by the [REDACTED] lab. Next service due 11/2021

PI: [REDACTED] Location: [REDACTED] ☐ SFI ☒ Minor ☐ Significant ☐ Incident ☐ Non-compliance ☐ Repeat  
 Funding Source\* [REDACTED] USDA? [REDACTED] UAC [REDACTED]

Observations Date Inspected\*\*: 2/10/2021

Expired saline

PI Response

Date Corrected: 2/11/21

Disposed of

PI: [REDACTED] Location: [REDACTED] ☐ SFI ☒ Minor ☐ Significant ☐ Incident ☐ Non-compliance ☐ Repeat  
 Funding Source\* [REDACTED] USDA? [REDACTED] UAC [REDACTED]

Observations Date Inspected\*\*: 2/15/2021

Expired alochol 6/2020

PI Response

Date Corrected: 2/16/21

Disposed of

PI: [REDACTED] Location: [REDACTED] ☐ SFI ☒ Minor ☐ Significant ☐ Incident ☐ Non-compliance ☐ Repeat  
 Funding Source\* [REDACTED] USDA? [REDACTED] UAC [REDACTED]

Observations Date Inspected\*\*: 2/16/2021

Expired pre-empt 1/2021

PI Response

Date Corrected: 2/16/21

Replaced 2/16

PI: [REDACTED] Location: [REDACTED] ☐ SFI ☒ Minor ☐ Significant ☐ Incident ☐ Non-compliance ☐ Repeat  
 Funding Source\* [REDACTED] USDA? [REDACTED] UAC [REDACTED]

Observations Date Inspected\*\*: 2/16/2021

Expired pre-empt 1/2021

PI Response

Date Corrected: 2/16/21

Replaced 2/16

PI: [REDACTED]	Location: [REDACTED]	<input type="checkbox"/> SFI <input checked="" type="checkbox"/> Minor <input type="checkbox"/> Significant <input type="checkbox"/> Incident <input type="checkbox"/> Non-compliance <input type="checkbox"/> Repeat
Funding Source* [REDACTED]		USDA? [REDACTED] UAC [REDACTED]
Observations	Date Inspected**: 2/16/2021	PI Response Date Corrected:
PI: [REDACTED]	Location: [REDACTED]	<input checked="" type="checkbox"/> SFI <input type="checkbox"/> Minor <input type="checkbox"/> Significant <input type="checkbox"/> Incident <input type="checkbox"/> Non-compliance <input type="checkbox"/> Repeat
Funding Source* [REDACTED]		USDA? No [REDACTED]
Observations	Date Inspected**: 4/13/2021	PI Response Date Corrected: 4/13/21
[REDACTED] - The controlled substances lockbox has only one lock and is located on a cold storage room where everyone in the building wing can access. Inspector recommended to change for a double key lockbox, and/or install it on a room with a keylock in which only lab member listed as authorized personnel have key access. Lab representative to discuss with the PI about the different possibilities.		Working with RLSS to secure box
PI: Patwardhan, Amol	Location: [REDACTED]	<input type="checkbox"/> SFI <input checked="" type="checkbox"/> Minor <input type="checkbox"/> Significant <input type="checkbox"/> Incident <input type="checkbox"/> Non-compliance <input type="checkbox"/> Repeat
Funding Source* [REDACTED]		USDA? No [REDACTED]
Observations	Date Inspected**: 4/16/2021	PI Response Date Corrected: 4/20/21
I just completed a virtual inspection of [REDACTED] which is managed by [REDACTED]. [REDACTED] was very organized and helpful with the inspection, which went very smoothly. All aspects of surgery, euthanasia, recovery, records keeping, etc were addressed favorably. We noted one minor aspect with a isoflurine vaporizer needing calibration soon, but [REDACTED] is already trying to schedule that service and will discontinue use of the instrument if needed.		Vaporizer certified 4/20
PI: [REDACTED]	Location: [REDACTED]	<input type="checkbox"/> SFI <input checked="" type="checkbox"/> Minor <input type="checkbox"/> Significant <input type="checkbox"/> Incident <input type="checkbox"/> Non-compliance <input type="checkbox"/> Repeat
Funding Source* [REDACTED]		USDA? No [REDACTED]
Observations	Date Inspected**: 4/19/2021	PI Response Date Corrected: 5/26/21
Last date on vaporizer is 9/26/18 Surgical records do not include toe pinch or additional monitoring during surgery - be sure to complete surgical records.		Vaporizer updated Surgical records updated to include monitoring
PI: [REDACTED]	Location: [REDACTED]	<input type="checkbox"/> SFI <input checked="" type="checkbox"/> Minor <input type="checkbox"/> Significant <input type="checkbox"/> Incident <input type="checkbox"/> Non-compliance <input type="checkbox"/> Repeat
Funding Source* [REDACTED]		USDA? No [REDACTED]
Observations	Date Inspected**: 4/19/2021	PI Response Date Corrected: 5/26/21
1. Advised that preparation for surgery must be done in a separate space from the actual surgery. 2. Isoflurane Unit calibration in past due (11/2020 (New as of 11/2017)). They have already called and are awaiting recalibration. The unit is not under use at this time. Advised to wait until calibration is performed.		1. The isoflurane unit has been calibrated. 2. Surgery preparation will now be done in a space separate from the actual surgery.



PI: [REDACTED]	Location: [REDACTED]	<input checked="" type="checkbox"/> SFI	<input type="checkbox"/> Minor	<input type="checkbox"/> Significant	<input type="checkbox"/> Incident	<input type="checkbox"/> Non-compliance	<input type="checkbox"/> Repeat
		Funding Source* [REDACTED]		USDA? No			
Observations		Date Inspected**: 4/20/2021		PI Response		Date Corrected: 5/6/21	
Vaporizer cert due - be sure to schedule		Recertified					
PI: [REDACTED]	Location: [REDACTED]	<input checked="" type="checkbox"/> SFI	<input type="checkbox"/> Minor	<input type="checkbox"/> Significant	<input type="checkbox"/> Incident	<input type="checkbox"/> Non-compliance	<input type="checkbox"/> Repeat
		Funding Source* [REDACTED]		USDA? No			
Observations		Date Inspected**: 4/21/2021		PI Response		Date Corrected: 5/5/2021	
Bell-chamber for iso for non-survival not on vaporizer (suggested a y-valve split on vaporizer), charcoal scavenger used- hard to see on camera Contact for expired agent pick up (scheduled)							
PI: [REDACTED]	Location: [REDACTED]	<input type="checkbox"/> SFI	<input checked="" type="checkbox"/> Minor	<input type="checkbox"/> Significant	<input type="checkbox"/> Incident	<input type="checkbox"/> Non-compliance	<input type="checkbox"/> Repeat
		Funding Source* [REDACTED]		USDA? No			
Observations		Date Inspected**: 4/21/2021		PI Response		Date Corrected: 5/5/21	
Anesthetic Vaporizers: all expired 11/2020. The Calibration was to be performed 4/20/2021, but was postponed 1-2 days by company. They will not be using the vaporizers until they have been re-calibrated.		Certification completed					
PI: [REDACTED]	Location: [REDACTED]	<input type="checkbox"/> SFI	<input checked="" type="checkbox"/> Minor	<input type="checkbox"/> Significant	<input type="checkbox"/> Incident	<input type="checkbox"/> Non-compliance	<input type="checkbox"/> Repeat
		Funding Source* [REDACTED]		USDA? No			
Observations		Date Inspected**: 4/21/2021		PI Response		Date Corrected: 5/5/21	
Anesthetic Vaporizers: all expired 11/2020. The Calibration was to be performed 4/20/2021, but was postponed 1-2 days by company. They will not be using the vaporizers until they have been re-calibrated.		Certification complete					
PI: [REDACTED]	Location: [REDACTED]	<input type="checkbox"/> SFI	<input checked="" type="checkbox"/> Minor	<input type="checkbox"/> Significant	<input type="checkbox"/> Incident	<input type="checkbox"/> Non-compliance	<input type="checkbox"/> Repeat
		Funding Source* [REDACTED]		USDA? No			
Observations		Date Inspected**: 4/21/2021		PI Response		Date Corrected: 5/5/21	
Anesthetic Vaporizers: all expired 11/2020. The Calibration was to be performed 4/20/2021, but was postponed 1-2 days by company. They will not be using the vaporizers until they have been re-calibrated.		Certification complete					
PI: [REDACTED]	Location: [REDACTED]	<input type="checkbox"/> SFI	<input checked="" type="checkbox"/> Minor	<input type="checkbox"/> Significant	<input type="checkbox"/> Incident	<input type="checkbox"/> Non-compliance	<input type="checkbox"/> Repeat
		Funding Source* [REDACTED]		USDA? No			
Observations		Date Inspected**: 4/21/2021		PI Response		Date Corrected: 5/5/21	
Anesthetic Vaporizers: all expired 11/2020. The Calibration was to be performed 4/20/2021, but was postponed 1-2 days by company. They will not be using the vaporizers until they have been re-calibrated.		Certification complete					
PI: [REDACTED]	Location: [REDACTED]	<input type="checkbox"/> SFI	<input checked="" type="checkbox"/> Minor	<input type="checkbox"/> Significant	<input type="checkbox"/> Incident	<input type="checkbox"/> Non-compliance	<input type="checkbox"/> Repeat
		Funding Source* [REDACTED]		USDA? No			
Observations		Date Inspected**: 4/22/2021		PI Response		Date Corrected: 4/22/21	
Gas scavenging canister weight exceeds 50 grams. Needs to be replaced.		New canister ordered for replacement.					

PI: [REDACTED] Location: [REDACTED] ☒ SFI ☒ Minor ☐ Significant ☐ Incident ☐ Non-compliance ☐ Repeat  
Funding Source\* [REDACTED] USDA? No

Observations

Date Inspected\*\*: 4/22/2021

- Lab is performing anesthetic depth assessment every 15 minutes but is not recording on the surgical/anesthesia record.
- Gas scavenging canister on anesthesia system had not been weighed since April 2020. Needs to be weighed periodically and replaced when exceeds 50 gm gain.
- One empty E tank of oxygen under benchtop was not secure. Needs to be secured.

PI Response

Date Corrected: 5/26/21

As per [REDACTED] instructions we have been recording anesthetic depth assessment in the surgical forms. We have also been monitoring the weights of the gas scavenging canister on the anesthesia periodically and replaced if needed.  
The empty oxygen tank has been removed and returned to the [REDACTED]

PI: [REDACTED] Location: [REDACTED] ☒ SFI ☐ Minor ☐ Significant ☐ Incident ☐ Non-compliance ☐ Repeat  
Funding Source\* [REDACTED] USDA? No

Observations

Date Inspected\*\*: 4/26/2021

The room has not been used for animal procedures in a long time, the group typically uses a different room on [REDACTED] listed on their protocol to perform these procedures. Given the availability of an alternative approved location inspector recommend lab representatives to "deactivate" the room if no procedures are expected to be done in the next six months, since the procedures will still active and being conducted on the alternative location, a future "reactivation" of this room is anticipated to be an agile process. Lab representative to discuss with PI the possibility of "deactivating" the room.

PI Response

Date Corrected: 5/4/21

PI opted to keep active for another few months, will revisit



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## Attachments

Committee Member Signatures

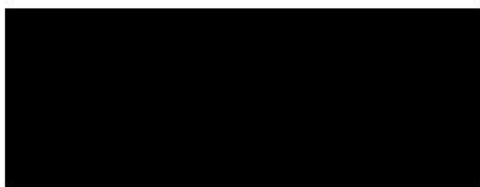
1. May 6, 2021 Meeting Minutes
2. Memoranda of Understanding Summary
3. Departures and Exceptions Checklist
4. IACUC Semi-Annual Inspection Document – No findings
5. IACUC Semi-Annual Inspection Document – Resolved findings (SFI/Minor)



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[research.arizona.edu/compliance/IACUC](http://research.arizona.edu/compliance/IACUC)

I approve the attached IACUC Semi-Annual Programmatic Report to the IO for Spring 2021



06/14/2021