Memorandum to: Dr. Harold Bockelman, RL/IO

From: Institutional Animal Care and Use Committee

Subject: Semiannual Report of the Program Review and Facility Inspection

Date: September 18, 2020

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.

I. Description of the Nature and Extent of the Institution’s Adherence to the PHS Policy, the Guide, and the AWA

Departures from the AWA and the Ag Guide.
Select A or B:
✓ A. There were no departures during this reporting period.
[ ] B. The following departures have been reviewed and approved by the IACUC: [include reason for each departure]

II. Deficiencies in the Institution’s Animal Care and Use Program

Animal Care and Use Program Review Date(s): 3/12/20 to 10/9/20

Select A or B:
✓ A. There were no deficiencies in the program during this reporting period.
[ ] B. The following deficiencies have been identified: [describe each deficiency, identify each deficiency as either minor or significant, and provide a reasonable and specific plan and schedule for the correction of each deficiency, deficiencies may be recorded on a separate table and attached, the last page of OLAW’s Sample Semiannual Program Review and Facility Inspection Checklist provides a sample table]

III. Deficiencies in the Institution’s Animal Facility

Animal Facility Inspection Date(s):

Select A or B:
✓ A. There were no deficiencies in the animal facility during this reporting period.
[ ] B. The following deficiencies have been identified: [describe each deficiency, identify each deficiency as either minor or significant, and provide a reasonable and specific plan and schedule for the correction of each deficiency, deficiencies may be recorded on a separate table and attached, the last page of OLAW’s Sample Semiannual Program Review and Facility Inspection Checklist provides a sample table]
IV. Minority Views

Select A or B:

☑️ A. No minority views were submitted or expressed.

[ ] B. The following minority views were expressed: [insert minority views here or attach]

V. Signatures [signatures of a majority of the IACUC members required by AWAR (§2.31,c,3), if applicable]

<table>
<thead>
<tr>
<th>Names of IACUC Members</th>
<th>Signatures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thomas L. Welker</td>
<td>[Signature]</td>
</tr>
<tr>
<td>Ken Overturf</td>
<td>[Signature] 9/9/20</td>
</tr>
<tr>
<td>Michael A. Becerra</td>
<td>[Signature] 9/18/20</td>
</tr>
<tr>
<td>Todd E. Wells, DVM</td>
<td>[Signature] 9/18/20</td>
</tr>
</tbody>
</table>
Institutional Animal Care and Use Committee (IACUC) Guidelines

Note: These are guidelines and are not meant to replace the Animal Welfare Act (AWA), regulations, or standards.

1. Membership of IACUC: 2.31 (a)(b) and 2.33 (a)(3)
   - 3+ members appointed by CEO. Includes at least one nonaffiliated person, one veterinarian, and a chair.

2. Program Review and Facility Inspection: 2.31 (c)(1) and (c)(2)
   - At least once every 6 months by at least two IACUC members.

3. Program Review and Facility Inspection Reports: 2.31(c)(3)
   - IACUC majority reviews, signs, and submits to Institutional Official.
   - Contains minority view.
   - Identified departures from regulations or standards and reasons.
   - Distinguishes significant from minor deficiencies.
   - Provides reasonable and specific plan and schedule for corrections.
   - Nonadherence to plan of correction for significant deficiencies reported within 15 business days to APHIS and any Federal funding agency.

4. Review/Investigate Complaints About Animal Care: 2.31 (c)(4)
   - Complaints may be from the public or from facility personnel [refer also to 2.32 (c)(4)].

5. Recommendations Concerning Animal Care Program: 2.31 (c)
   - To Institutional Official about animal care and use program, facilities, or personnel training.

6. Review of Protocols: 2.31 (c)(6) and 2.31 (d)(1-5) and (e)
   - Review of ongoing protocols no less than once a year.
   - All IACUC members given list of proposed protocols prior to review.
   - Full committee (quorum) can be convened at request of one member.
   - IACUC reviewer must have no conflict of interest with the protocol.
   - May use nonvoting consultants.
   - No study is to begin before IACUC review and approval.

7. Review Significant Changes to Approved Protocol: 2.31 (c)(7) and (d)(8), 2.31 (e)
   - IACUC must preapprove significant changes to protocol.

(continued next page...
8. Authorization to Suspend a Protocol: 2.31 (c)(8) and (d)(6), 2.32 (d)(7)
   - IACUC can suspend approved protocol with majority vote of convened quorum.
   - Report suspensions to APHIS and any Federal funding agency.

9. Field Study Exemption from Protocol and Facility Review: 2.31 (c)(2) and (d)(1)
   - Part 1 defines field study as using free-living wild animals in natural habitat without invasive procedures, harm, or altering of behavior.

10. Assurances and/or Statements Required in Written Protocols: 2.31 (d)(1) and (e)

   All Proposed Animal Activities
   - Procedure does not unnecessarily duplicate previous experiments.
   - Animals’ living conditions are appropriate.
   - Medical care is available for the animals. (also 2.33)
   - Qualified and trained personnel are involved with procedures. (also 2.32)
   - Discomfort, distress, and pain are minimized.
   - If used in two major surgeries, animal is not allowed to recover (unless justified).
   - Description of preoperative and postoperative care.
   - Survival surgery is conducted aseptically in dedicated facilities.
   - Rationale for species and number of animals.
   - Rationale for using animals.
   - Complete description of proposed use of the animals.
   - Complete description of procedures designed to assure that discomfort and pain are minimized.
   - Complete description of method of euthanasia.

All Proposed Animal Activities with Potentially Painful Procedures 2.31 (d)(1)(i-iv)
   - Discomfort, distress, and pain are minimized.
   - Method used, alternative information sources searched with a written list of parameters used for the search.
   - Procedure does not unnecessarily duplicate previous experiments.
   - Use of proper drugs for relief of pain/distress. No paralytics without anesthesia.
   - Attending veterinarian is involved in planning. (also 2.33)

11. IACUC Records: 2.35 (a)(1-3)
   - Minutes, proposed activities or significant changes, approvals or disapprovals of protocols, and semiannual reports with recommendations.

12. Exceptions to Regulations and Standards: 2.36 (b)(3)
   - IACUC-approved exceptions to regulations and standards attached to annual report (APHIS Form 7023).

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-5881 (voice) or (202) 720-7808 (TDD).

To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, DC 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

Issued August 1995

Reviewer (name and signature) ___________________________ Date: 9/6/20
Institutional Animal Care and Use Committee (IACUC) Guidelines

Note: These are guidelines and are not meant to replace the Animal Welfare Act (AWA), regulations, or standards. "Checked" box implies compliance. If an item is not relevant, place "NA" in the box.

1. Membership of IACUC: 2.31 (a)(b) and 2.33 (a)(3)
   ☑ 3+ members appointed by CEO. Includes at least one nonaffiliated person, one veterinarian, and a chair.

2. Program Review and Facility Inspection: 2.31 (c)(1) and (c)(2)
   ☑ At least once every 6 months by at least two IACUC members.

3. Program Review and Facility Inspection Reports: 2.31(c)(3)
   ☑ IACUC majority reviews, signs, and submits to Institutional Official.
   ☑ Contains minority view.
   ✔ Identified departures from regulations or standards and reasons.
   ✔ Distinguishes significant from minor deficiencies.
   ✔ Provides reasonable and specific plan and schedule for corrections
   ✔ Nonadherence to plan of correction for significant deficiencies reported within 15 business days to APHIS and any Federal funding agency.

4. Review/Investigate Complaints About Animal Care: 2.31 (c)(4)
   ✔ Complaints may be from the public or from facility personnel [refer also to 2.32 (c)(4)].

5. Recommendations Concerning Animal Care Program: 2.31 (c)
   ✔ To Institutional Official about animal care and use program, facilities, or personnel training.

6. Review of Protocols: 2.31 (c)(6) and 2.31 (d)(1-5) and (e)
   ✔ Review of ongoing protocols no less than once a year.
   ✔ All IACUC members given list of proposed protocols prior to review.
   ✔ Full committee (quorum) can be convened at request of one member.
   ✔ IACUC reviewer must have no conflict of interest with the protocol.
   ✔ May use nonvoting consultants.
   ✔ No study is to begin before IACUC review and approval.

7. Review Significant Changes to Approved Protocol: 2.31 (c)(7) and (d)(8), 2.31 (e)
   ✔ IACUC must preapprove significant changes to protocol.

(continued next page...)

xi/15
8. Authorization to Suspend a Protocol: 2.31 (c)(8) and (d)(6), 2.32 (d)(7)

✓ IACUC can suspend approved protocol with majority vote of convened quorum.
✓ Report suspensions to APHIS and any Federal funding agency.

9. Field Study Exemption from Protocol and Facility Review: 2.31 (c)(2) and (d)(1)

NA Part 1 defines field study as using free-living wild animals in natural habitat without invasive procedures, harm, or altering of behavior.

10. Assurances and/or Statements Required in Written Protocols: 2.31 (d)(1) and (e)

All Proposed Animal Activities

✓ Procedure does not unnecessarily duplicate previous experiments.
✓ Animals' living conditions are appropriate.
✓ Medical care is available for the animals. (also 2.33)
✓ Qualified and trained personnel are involved with procedures. (also 2.32)
✓ Discomfort, distress, and pain are minimized.
✓ If used in two major surgeries, animal is not allowed to recover (unless justified).
✓ Description of preoperative and postoperative care.
✓ Survival surgery is conducted aseptically in dedicated facilities.
✓ Rationale for species and number of animals.
✓ Rationale for using animals.
✓ Complete description of proposed use of the animals.
✓ Complete description of procedures designed to assure that discomfort and pain are minimized.
✓ Complete description of method of euthanasia.

11. IACUC Records: 2.35 (a)(1-3)

✓ Minutes, proposed activities or significant changes, approvals or disapprovals of protocols, and semiannual reports with recommendations.

12. Exceptions to Regulations and Standards: 2.36 (b)(3)

NA IACUC-approved exceptions to regulations and standards attached to annual report (APHIS Form 7023).

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-5881 (voice) or (202) 720-7808 (TDD).

To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, DC 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

Issued August 1995

Reviewer (name and signature) Michael Olson

Date: 9/18/20
Institutional Animal Care and Use Committee (IACUC) Guidelines

Note: These are guidelines and are not meant to replace the Animal Welfare Act (AWA), regulations, or standards.

1. Membership of IACUC: 2.31 (a)(b) and 2.33 (a)(3)
   □ 3+ members appointed by CEO. Includes at least one nonaffiliated person, one veterinarian, and a chair.

2. Program Review and Facility Inspection: 2.31 (c)(1) and (c)(2)
   □ At least once every 6 months by at least two IACUC members.

3. Program Review and Facility Inspection Reports: 2.31(c)(3)
   □ IACUC majority reviews, signs, and submits to Institutional Official.
   □ Contains minority view.
   □ Identified departures from regulations or standards and reasons.
   □ Distinguishes significant from minor deficiencies.
   □ Provides reasonable and specific plan and schedule for corrections
   □ Nonadherence to plan of correction for significant deficiencies reported within 15 business days to APHIS and any Federal funding agency.

4. Review/Investigate Complaints About Animal Care: 2.31 (c)(4)
   □ Complaints may be from the public or from facility personnel [refer also to 2.32 (c)(4)].

5. Recommendations Concerning Animal Care Program: 2.31 (c)
   □ To Institutional Official about animal care and use program, facilities, or personnel training.

6. Review of Protocols: 2.31 (c)(6) and 2.31 (d)(1-5) and (e)
   □ Review of ongoing protocols no less than once a year.
   □ All IACUC members given list of proposed protocols prior to review.
   □ Full committee (quorum) can be convened at request of one member.
   □ IACUC reviewer must have no conflict of interest with the protocol.
   □ May use nonvoting consultants.
   □ No study is to begin before IACUC review and approval.

7. Review Significant Changes to Approved Protocol: 2.31 (c)(7) and (d)(8), 2.31 (e)
   □ IACUC must preapprove significant changes to protocol.

(continued next page...
8. Authorization to Suspend a Protocol: 2.31 (c)(8) and (d)(6), 2.32 (d)(7)
- IACUC can suspend approved protocol with majority vote of convened quorum.
- Report suspensions to APHIS and any Federal funding agency.

9. Field Study Exemption from Protocol and Facility Review: 2.31 (c)(2) and (d)(1)
- Part 1 defines field study as using free-living wild animals in natural habitat without invasive procedures, harm, or altering of behavior.

10. Assurances and/or Statements Required in Written Protocols: 2.31 (d)(1) and (e)
   **All Proposed Animal Activities**
   - Procedure does not unnecessarily duplicate previous experiments.
   - Animals' living conditions are appropriate.
   - Medical care is available for the animals. (also 2.33)
   - Qualified and trained personnel are involved with procedures. (also 2.32)
   - Discomfort, distress, and pain are minimized.
   - If used in two major surgeries, animal is not allowed to recover (unless justified).
   - Description of preoperative and postoperative care.
   - Survival surgery is conducted aseptically in dedicated facilities.
   - Rationale for species and number of animals.
   - Rationale for using animals.
   - Complete description of proposed use of the animals.
   - Complete description of procedures designed to assure that discomfort and pain are minimized.
   - Complete description of method of euthanasia.

11. IACUC Records: 2.35 (a)(1-3)
- Minutes, proposed activities or significant changes, approvals or disapprovals of protocols, and semiannual reports with recommendations.

12. Exceptions to Regulations and Standards: 2.36 (b)(3)
- IACUC-approved exceptions to regulations and standards attached to annual report (APHIS Form 7023).

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-5881 (voice) or (202) 720-7808 (TDD).

To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, DC 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

Issued August 1995

Reviewer (name and signature) [Signature]

Date: 9/18/20
Institutional Animal Care and Use Committee (IACUC) Guidelines

Note: These are guidelines and are not meant to replace the Animal Welfare Act (AWA), regulations, or standards. "Checked" box implies compliance. If an item is not relevant, place "NA" in the box.

1. Membership of IACUC: 2.31 (a)(b) and 2.33 (a)(3)
   - 3+ members appointed by CEO. Includes at least one nonaffiliated person, one veterinarian, and a chair.

2. Program Review and Facility Inspection: 2.31 (c)(1) and (c)(2)
   - At least once every 6 months by at least two IACUC members.

3. Program Review and Facility Inspection Reports: 2.31(c)(3)
   - IACUC majority reviews, signs, and submits to Institutional Official.
   - Contains minority view.
   - Identified departures from regulations or standards and reasons.
   - Distinguishes significant from minor deficiencies.
   - Provides reasonable and specific plan and schedule for corrections.
   - Nonadherence to plan of correction for significant deficiencies reported within 15 business days to APHIS and any Federal funding agency.

4. Review/Investigate Complaints About Animal Care: 2.31 (c)(4)
   - Complaints may be from the public or from facility personnel [refer also to 2.32 (c)(4)].

5. Recommendations Concerning Animal Care Program: 2.31 (c)
   - To Institutional Official about animal care and use program, facilities, or personnel training.

6. Review of Protocols: 2.31 (c)(6) and 2.31 (d)(1-5) and (e)
   - Review of ongoing protocols no less than once a year.
   - All IACUC members given list of proposed protocols prior to review.
   - Full committee (quorum) can be convened at request of one member.
   - IACUC reviewer must have no conflict of interest with the protocol.
   - May use nonvoting consultants.
   - No study is to begin before IACUC review and approval.

7. Review Significant Changes to Approved Protocol: 2.31 (c)(7) and (d)(8), 2.31 (e)
   - IACUC must preapprove significant changes to protocol.

(continued next page...
8. **Authorization to Suspend a Protocol: 2.31 (c)(8) and (d)(6), 2.32 (d)(7)**

- IACUC can suspend approved protocol with majority vote of convened quorum.
- Report suspensions to APHIS and any Federal funding agency.

9. **Field Study Exemption from Protocol and Facility Review: 2.31 (c)(2) and (d)(1)**

N/A Part 1 defines field study as using free-living wild animals in natural habitat without invasive procedures, harm, or altering of behavior.

10. **Assurances and/or Statements Required in Written Protocols: 2.31 (d)(1) and (e)**

   **All Proposed Animal Activities**

- Procedure does not unnecessarily duplicate previous experiments.
- Animals’ living conditions are appropriate.
- Medical care is available for the animals. (also 2.33)
- Qualified and trained personnel are involved with procedures. (also 2.32)
- Discomfort, distress, and pain are minimized.
- If used in two major surgeries, animal is not allowed to recover (unless justified).
- Description of preoperative and postoperative care.
- Survival surgery is conducted aseptically in dedicated facilities.
- Rationale for species and number of animals.
- Rationale for using animals.
- Complete description of proposed use of the animals.
- Complete description of procedures designed to assure that discomfort and pain are minimized.
- Complete description of method of euthanasia.

   **All Proposed Animal Activities with Potentially Painful Procedures 2.31 (d)(1)(i-iv)**

- Method used, alternative information sources searched with a written list of parameters used for the search.
- Procedure does not unnecessarily duplicate previous experiments.
- Use of proper drugs for relief of pain/distress. No paralytics without anesthesia.
- Attending veterinarian is involved in planning. (also 2.33)

11. **IACUC Records: 2.35 (a)(1-3)**

   - Minutes, proposed activities or significant changes, approvals or disapprovals of protocols, and semiannual reports with recommendations.

12. **Exceptions to Regulations and Standards: 2.36 (b)(3)**

- IACUC-approved exceptions to regulations and standards attached to annual report (APHIS Form 7023).

   **Not applicable.**

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-5881 (voice) or (202) 720-7808 (TDD).

To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, DC 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

Issued August 1995

Reviewer (name and signature) THOMAS WELKER Digitally signed by THOMAS WELKER Date: 2020.09.18 12:00:36 -06'00' 09-18-2020

Date: 09-18-2020