

Meeting Minutes**Meeting of Animal Care and Use Committee****Zoom Conference****12:00 PM, Noon, May 4th, 2020**

The following members were present:

Dr. Julie Semon	Dr. Chen Hou	Dr. Yue-Wern Huang (Chair)
Dr. Patrick Huber	Mr. Jimmy Rolufs	Mr. Bryan Donnelly
Mr. Richard Watters		

REPORTS/OLD BUSINESS

- Semi-annual Report to VCR of the 11/21/2019 meeting

Discussions: The report was submitted and maintained by the VCR's office for record keeping. The annual report to NIH OLAW was also submitted via the VCR's office. OLAW acknowledged the receipt of the report without further comments.

NEW BUSINESS

1. COVID-19, Animal Care and Use Program, and Animal Research Facility
2. Animal Research Facility Inspection
3. New Animal Research Facility Planning
4. Program Review
5. Compliance Officer
6. Other items?

Discussions:

1. Due to the federal social distancing guidelines and NIH OLAW memoir dated on March 16th, 2020, for COVID-19, a Zoom semi-annual meeting was held. A disaster plan for Missouri S&T's animal research facility was developed by Mr. Richard Watters. The plan included preparedness and response to pandemic and other contingency actions. The plan was discussed and included in this minutes.

2. Due to the pandemic, NIH OLAW allowed for one qualified person to inspect the facility. Dr. Huang, Chair of this Committee, inspected the facility on April 30th. The facility was clean and well organized. Sufficient foods and water were provided to animals. The facility was also inspected by the UM-Columbia IACUC representatives and veterinarian on February 17th, 2020, as Dr. Gu's team at UM-Columbia used the facility to conduct traumatic brain injuries. A report was later submitted to Dr. Huang and it was entered as a record in this meeting.
3. Two meetings on February 24th and May 1st, 2020, were held to plan for a new animal facility. In the second meeting, the Schrenk Hall basement was identified as the new location. The space is available now. The blueprint of the facility configuration including partitioning, mechanics, electricity, HVAC, etc was discussed. The next step is pricing and cost estimate. Once the numbers are available and reviewed by CFO, another planning meeting will be held. The Chair will keep the IACUC members informed.
4. There is no change in the S&T animal care and use program. There was no "in-life" experiments when the campus needed to be shut down on March 17th due to the pandemic. The facility personnel continued to maintain the facility with a staggered schedule. No animals were unnecessarily disposed of or euthanized due to the scale down schedule during the pandemic.
5. A candidate for the compliance officer position was in final negotiation to accept the job. The Chair will keep IACUC members in the loop of the hiring progress.
6. No other items were brought up by members.

FUTURE BUSINESS

- Date of next meeting of Missouri S&T Institutional ACUC
Discussions: The next meeting will be held sometime in November, 2020.

Subject: RE: Please comment

Date: Tuesday, May 26, 2020 at 10:46:53 AM Central Daylight Time

From: Hou, Chen

To: S&T Iacuc

Sorry about the delay. Yes, I approve it. Thanks. Chen

From: S&T Iacuc

Sent: Monday, May 25, 2020 10:04 PM

To: Hou, Chen <HouCh@mst.edu>

Subject: FW: Please comment

Importance: High

Chen,

Can you please respond to the message below?

Thanks.

Yue-Wern

From: S&T Iacuc <iacuc@mst.edu>

Date: Friday, May 22, 2020 at 3:04 PM

To: "Semon, Julie A." <semonja@mst.edu>, Chen Hou <HouCh@mst.edu>, Rolufts <rolufsjd@mst.edu>, "Huber, Patrick J." <huberp@mst.edu>, "Watters, Richard J." <wattersr@mst.edu>, Bryan and Cindy Donnelly <brycyn@fidnet.com>, Yue-wern Huang <huangy@mst.edu>

Subject: Re: Please comment

Dear committee members,

Unless you have comments, please email me "I approved the meeting minutes and the semi-annual report to VCR" so that I can move this forward.

Thanks a lot.

Yue-Wern

From: S&T Iacuc <iacuc@mst.edu>

Date: Friday, May 15, 2020 at 8:54 PM

To: "Semon, Julie A." <semonja@mst.edu>, Chen Hou <HouCh@mst.edu>, Rolufts <rolufsjd@mst.edu>, "Huber, Patrick J." <huberp@mst.edu>, "Watters, Richard J." <wattersr@mst.edu>, Bryan and Cindy Donnelly <brycyn@fidnet.com>, Yue-wern Huang <huangy@mst.edu>

Subject: Please comment

Dear IACUC members,

Attached are the draft semi-annual meeting minutes and the semi-annual report to VCR, THE Institutional Officer.

Please comment by the end of next Thursday (May 21th). As physical signatures are impossible, this is what we will do. After final editing, I will send you an email and you will reply to me indicating your approval of the final edited version. Thanks for serving the committee.

Best,

Yue-Wern

Subject: Re: Please comment

Date: Saturday, May 23, 2020 at 2:48:11 PM Central Daylight Time

From: Rich Watters

To: S&T Iacuc

Hi Dr. Huang,

I approved the meeting minutes and the semi-annual report to VCR.

Thanks,

Rich

Sent from my iPhone

On May 22, 2020, at 3:05 PM, S&T Iacuc <iacuc@mst.edu> wrote:

Dear committee members,

Unless you have comments, please email me "I approved the meeting minutes and the semi-annual report to VCR" so that I can move this forward.

Thanks a lot.

Yue-Wern

From: S&T Iacuc <iacuc@mst.edu>

Date: Friday, May 15, 2020 at 8:54 PM

To: "Semon, Julie A." <semonja@mst.edu>, Chen Hou <HouCh@mst.edu>, Rolufts <rolufsjd@mst.edu>, "Huber, Patrick J." <huberp@mst.edu>, "Watters, Richard J." <wattersr@mst.edu>, Bryan and Cindy Donnelly <brycyn@fidnet.com>, Yue-wern Huang <huangy@mst.edu>

Subject: Please comment

Dear IACUC members,

Attached are the draft semi-annual meeting minutes and the semi-annual report to VCR, THE Institutional Officer.

Please comment by the end of next Thursday (May 21th). As physical signatures are impossible, this is what we will do. After final editing, I will send you an email and you will reply to me indicating your approval of the final edited version. Thanks for serving the committee.

Best,

Yue-Wern

Subject: Re: Please comment

Date: Friday, May 22, 2020 at 6:20:53 PM Central Daylight Time

From: brycyn@fidnet.com

To: S&T Iacuc

I approved the meeting minutes and the semi-annual report to VCR"

Bryan

Sent from my iPad

On May 22, 2020, at 3:05 PM, S&T Iacuc <iacuc@mst.edu> wrote:

members,

Unless you have comments, please email me "I approved the meeting minutes and the semi-annual report to VCR" so that I can move this forward.

Subject: Re: Please comment

Date: Friday, May 22, 2020 at 4:41:01 PM Central Daylight Time

From: Semon, Julie A.

To: S&T Iacuc

I approved the meeting minutes and the semi-annual report to VCR.

Julie Semon

From: S&T Iacuc

Sent: Friday, May 22, 2020 3:05:55 PM

To: Semon, Julie A.; Hou, Chen; Rolufs Jr, Jimmy D.; Huber, Patrick J.; Watters, Richard J.; Bryan and Cindy Donnelly; Huang, Yue-wern

Subject: Re: Please comment

Dear committee members,

Unless you have comments, please email me "I approved the meeting minutes and the semi-annual report to VCR" so that I can move this forward.

Thanks a lot.

Yue-Wern

From: S&T Iacuc <iacuc@mst.edu>

Date: Friday, May 15, 2020 at 8:54 PM

To: "Semon, Julie A." <semonja@mst.edu>, Chen Hou <HouCh@mst.edu>, Rolufts <rolufsjd@mst.edu>, "Huber, Patrick J." <huberp@mst.edu>, "Watters, Richard J." <wattersr@mst.edu>, Bryan and Cindy Donnelly <brycyn@fidnet.com>, Yue-wern Huang <huangy@mst.edu>

Subject: Please comment

Dear IACUC members,

Attached are the draft semi-annual meeting minutes and the semi-annual report to VCR, THE Institutional Officer..

Please comment by the end of next Thursday (May 21th). As physical signatures are impossible, this is what we will do. After final editing, I will send you an email and you will reply to me indicating your approval of the final edited version. Thanks for serving the committee.

Best,

Yue-Wern

Subject: Re: Please comment

Date: Friday, May 22, 2020 at 4:28:43 PM Central Daylight Time

From: Huber, Patrick J.

To: S&T Iacuc

Dear Yue-Wern,

I approve the meeting minutes and the semi-annual report to VCR.

Patrick

*Dr. Patrick Huber
Professor of History
Department of History and Political Science
Missouri University of Science and Technology
118 H-SS Bldg., 500 W. 14th St.
Rolla, MO 65409*

From: S&T Iacuc

Sent: Friday, May 22, 2020 3:05:55 PM

To: Semon, Julie A.; Hou, Chen; Rolufs Jr, Jimmy D.; Huber, Patrick J.; Watters, Richard J.; Bryan and Cindy Donnelly; Huang, Yue-wern

Subject: Re: Please comment

Dear committee members,

Unless you have comments, please email me "I approved the meeting minutes and the semi-annual report to VCR" so that I can move this forward.

Thanks a lot.

Yue-Wern

From: S&T Iacuc <iacuc@mst.edu>

Date: Friday, May 15, 2020 at 8:54 PM

To: "Semon, Julie A." <semonja@mst.edu>, Chen Hou <HouCh@mst.edu>, Rolufts <rolufsjd@mst.edu>, "Huber, Patrick J." <huberp@mst.edu>, "Watters, Richard J." <wattersr@mst.edu>, Bryan and Cindy Donnelly <brycyn@fidnet.com>, Yue-wern Huang <huangy@mst.edu>

Subject: Please comment

Dear IACUC members,

Attached are the draft semi-annual meeting minutes and the semi-annual report to VCR, THE Institutional Officer.

Please comment by the end of next Thursday (May 21th). As physical signatures are impossible, this is what we will do. After final editing, I will send you an email and you will reply to me indicating your approval of the final edited version. Thanks for serving the committee.

Subject: RE: Please comment
Date: Friday, May 22, 2020 at 3:09:20 PM Central Daylight Time
From: Rolufs Jr, Jimmy D.
To: S&T Iacuc
Attachments: image001.png

Dr. Huang,

I approve the meeting minutes and the semi-annual report to VCR.

Thanks,
Jimmy

Jimmy Rolufs Jr.

Senior Environmental Health Professional
Environmental Health & Safety

108 Campus Support Facilities, 1201 North State Street
573-341-4089 | fax: 573-341-6077
rolufsjd@mst.edu | ehs.mst.edu



From: S&T Iacuc <iacuc@mst.edu>
Sent: Friday, May 22, 2020 3:06 PM
To: Semon, Julie A. <semonja@mst.edu>; Hou, Chen <HouCh@mst.edu>; Rolufs Jr, Jimmy D. <rolufsjd@mst.edu>; Huber, Patrick J. <huberp@mst.edu>; Watters, Richard J. <wattersr@mst.edu>; Bryan and Cindy Donnelly <brycyn@fidnet.com>; Huang, Yue-wern <huangy@mst.edu>
Subject: Re: Please comment
Importance: High

Dear committee members,

Unless you have comments, please email me "I approved the meeting minutes and the semi-annual report to VCR" so that I can move this forward.

Thanks a lot.

Yue-Wern

From: S&T Iacuc <iacuc@mst.edu>
Date: Friday, May 15, 2020 at 8:54 PM
To: "Semon, Julie A." <semonja@mst.edu>, Chen Hou <HouCh@mst.edu>, Rolufs <rolufsjd@mst.edu>, "Huber, Patrick J." <huberp@mst.edu>, "Watters, Richard J." <wattersr@mst.edu>, Bryan and Cindy Donnelly <brycyn@fidnet.com>, Yue-wern Huang <huangy@mst.edu>
Subject: Please comment

Dear IACUC members,

Attached are the draft semi-annual meeting minutes and the semi-annual report to VCR, THE Institutional Officer.

Please comment by the end of next Thursday (May 21th). As physical signatures are impossible, this is what we will do. After final editing, I will send you an email and you will reply to me indicating your approval of the final edited version. Thanks for serving the committee.

Best,

Yue-Wern

Flexibilities for Assured Institutions for Activities of Institutional Animal Care and Use Committees (IACUCs) Due to COVID-19

Notice Number: NOT-OD-20-088

OLAW

Key Dates

Release Date: March 16, 2020

Related Announcements

None

Issued by

Office of The Director, National Institutes of Health (OD)

Purpose

The NIH Office of Laboratory Animal Welfare (OLAW) is deeply concerned about the impact of the expanding outbreak of the respiratory illness, COVID-19, on the ability of Assured institutions to support the well-being of animals and personnel during this public health emergency.

The purpose of this Notice is to inform institutions of flexibilities provided in the Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals (Policy) that are applicable to implementing a pandemic plan for animal care and use programs. The PHS Policy also contains provisions that can be instituted as social distancing measures to prevent the spread of disease.

Institutions may implement the following measures:

Conduct of Semiannual Facility Inspections

IACUCs may consider the following flexibilities in the conduct of semiannual animal facility inspections:

- The timing of facility inspections may extend 30 days beyond the six-month interval from the last review if there is no forward drift of the date from year to year.
- The IACUC has discretion to determine the best means of conducting the facility inspections. This includes using any qualified individual as *ad hoc* consultants. For areas housing non-USDA regulated species, the IACUC may use as few as one qualified individual to conduct the inspections. The IACUC still remains responsible for the evaluation and report to the Institutional Official.

OLAW may temporarily waive specific IACUC functions in accordance with PHS Policy Section V.D. Assured institutions that are unable to inspect, at least once every six months, all of the institution's animal facilities (including satellite facilities) may request a waiver from OLAW. Authorized institutional representatives may request a waiver of the inspection requirement or other provisions of the PHS Policy by submitting a request with justification to OLAW at olawdpe@mail.nih.gov. The waiver will be reviewed and approved in writing by OLAW.

Conduct of IACUC Meetings

IACUCs may institute the following as social distancing measures to prevent the spread of disease:

- The IACUC may institute alternatives to face-to-face meetings such as teleconference or video conferencing (see [NOT-OD-06-052](#)).
- The number of IACUC meetings may be reduced to as few as one every six months.
- The IACUC may choose to expand their use of designated member review in lieu of full committee review.

Additional guidance for preparing for a pandemic can be found on the OLAW website in the Frequently Asked Questions section, under Institutional Responsibilities, [FAQ G9](#). If OLAW determines that additional measures must be implemented to meet the needs of the research community and funding components, additional guidance will be announced. OLAW is the only entity authorized to make determinations regarding waivers to provisions of the PHS Policy.

For up-to-date information and on how to prepare for COVID-19, please visit the [Centers for Disease Control and Prevention's \(CDC\) website](#).

Inquiries

Please direct all inquiries to:

Office of Laboratory Animal Welfare

Telephone: 301-496-7163

Email: olaw@od.nih.gov

[Weekly TOC for this Announcement](#)
[NIH Funding Opportunities and Notices](#)

Subject: S&T IACUC operation during COVID-19

Date: Tuesday, March 24, 2020 at 12:04:09 PM Central Daylight Time

From: S&T Iacuc

To: Tsatsoulis, Constantinos

CC: S&T Iacuc

Hi Costas,

Based upon the information that I collected pertaining to IACUC operation during the COVID-19 event, there will be changes as follows.

First is related to the ARF. I have communicated with Mr. Richard Watters about coming up with a facility contingency plan based upon the OLAW on 03/19/2020. The plan should be a preparedness plan with a disaster subplan. I specifically pointed out a few topics to be focused.

Second is related to the IACUC operation. There will be a biannual IACUC meeting and facility inspection in April. The meeting will be conducted using Zoom as telecommunication is allowed in the COVID event. The quorum still needs to be observed. OLAW allows for the facility inspection to be conducted with as few as one qualified individual. In such case, I will also ask Richard to accompany our contract vet Dr. Berger to inspect it. Both will wear necessary PPE in the tour.

There are no animal care and use protocols that will expire soon. No PIs asked for termination of ongoing studies.

All the changes and contingency plan(s) will be documented and included in the biannual report as well as the 2020 annual report, according to the OLAW specifications in the webinar.

Although we are an assured institute with USDA, we do not maintain animals that are under the USDA jurisdiction. Therefore, it may not be necessary to have a USDA specific plan. I will double check this.

Best,

Yue-Wern

Subject: Re: ARF Contingency

Date: Tuesday, March 24, 2020 at 3:26:39 PM Central Daylight Time

From: S&T Iacuc

To: Watters, Richard J.

CC: Brow, Richard K.

Hi Rich,

It looks good. Once you are done with the plan, please send to me.

For the post-approval management, it is mainly the number of animals used which should match with the protocol specified. As long as you keep the record of the number of animals used by each protocol, that will be fine.

Thanks.

YH

From: "Watters, Richard J." <wattersr@mst.edu>

Reply-To: "Watters, Richard J." <wattersr@mst.edu>

Date: Tuesday, March 24, 2020 at 2:30 PM

To: S&T Iacuc <iacuc@mst.edu>

Cc: "Brow, Richard K." <brow@mst.edu>

Subject: Re: ARF Contingency

Hi Dr. Huang,

Thank you for bringing this to my attention.

Yes, I believe it'd be prudent to create a more thorough disaster contingency plan. I created a very brief COVID-19 contingency plan for the ARF, but this was prior to the campus closing and was written simply to state that animal care and sanitation would continue. I'll briefly answer your questions below, but I'll also begin drafting a disaster plan that is specific to our facility and should answer the questions in greater detail. A disaster plan draft will take a few days.

1. **Have you developed a COVID-19 preparedness plan for the facility?** It should include a disaster plan according to the OLAW webinar. Technically, yes for the COVID-19 response. A complete disaster plan needs to be drafted though.
2. **How to know whether facility personnel is not infected by COVID-19? If they are infected, they cannot be in the facility.** Not sure how to answer this....I encourage any user (especially the student workers) that if they don't feel well to stay home and definitely don't be around animals. Even prior to the virus this was the rule. I'm not sure how to enforce this, but I'll send/post something.
3. **Have you identified alternative suppliers of animal feed and bedding?** Yes, I believe you were in that conversation with Jeff and Scott from UM-Columbia as well, but Columbia might switch to Harlan food instead of Bourne Feed. This might cost more, but we do have a few options.
4. **Posters regarding the facts of COVID-19 for prevention training.** I haven't yet but can.
5. **Post-approval monitoring plan:**

- a. The webinar suggested it is up to each institution. I'll defer to you on what you'd like to do. As of now the facility is largely closed, so the facility work is sanitation and husbandry.
 - b. It could be daily examination of animal health. We do this regardless, but I'll do whatever needs to be done.
 - c. Do you continue to keep the record of the number of animals used for each protocol?
Yes
6. The trimming of animals via euthanasia needs to meet the definition of euthanasia and the regulation of the animal welfare act. Please be specific in your plan. Will do. Anesthesia is always performed with CO2 unless an alternative (AVMA-approved) method is specifically defined in the approved IACUC protocol.

Best,

Richard Watters
 Director, Animal Care and Quality Assurance
 Center for Biomedical Research
 Missouri University of Science and Technology
 110G Schrenk Hall
 400 West 11th St.
 Rolla, MO 65409
 Tel: 573-341-4029
 E-mail: rjwhg6@mst.edu

On Tue, Mar 24, 2020 at 10:48 AM S&T Iacuc <iacuc@mst.edu> wrote:

Hi Rich,

The webinar stated the following:

"All PHS-assured institutions are required to develop disaster plans that account for both the well-being of animals and consideration of personnel during unexpected events that may compromise ongoing animal care. This includes contingency planning for pandemics such as the current outbreak of COVID-19."

Since we do not have USDA regulated animals at this moment, do you think that we need to develop such a plan?

After watching the webinar, I have a couple of questions for you. They are pertaining to the OLAW requirements. A few of them are follow-ups of your previous email on 3/20/2020.

1. Have you developed a COVID-19 preparedness plan for the facility? It should include a disaster plan according to the OLAW webinar.
2. How to know whether facility personnel is not infected by COVID-19? If they are infected, they cannot be in the facility.
3. Have you identified alternative suppliers of animal feed and bedding?
4. Posters regarding the facts of COVID-19 for prevention training
5. Post-approval monitoring plan:
 - a. The webinar suggested it is up to each institution.
 - b. It could be daily examination of animal health.
 - c. Do you continue to keep the record of the number of animals used for each protocol?

6. The trimming of animals via euthanasia needs to meet the definition of euthanasia and the regulation of the animal welfare act. Please be specific in your plan.

Best,

Yue-Wern

From: "Brow, Richard K." <brow@mst.edu>
Date: Friday, March 20, 2020 at 1:52 PM
To: Yue-wern Huang <huangy@mst.edu>
Cc: "Watters, Richard J." <wattersr@mst.edu>
Subject: FW: ARF Contingency

Here's what Rich provided earlier today- note the one concern about food delivery...

From: Watters, Richard J. <wattersr@mst.edu>
Sent: Friday, March 20, 2020 12:07 PM
To: Brow, Richard K. <brow@mst.edu>
Subject: Re: ARF Contingency

Hi Dr. Brow,

Hope everything is going well for you too.

Technically, there are no "in-life" experiments right now. There are approximately five approved and on-going experiments, but the in vivo portions of these projects can wait until after the campus reopens, whether that's April 13th or at a later date.

Restricting access to the ARF until April 13th would have a minimal impact at the moment. There might be a few faculty members and students complaining, but the only other consequence could be any PI who was trying to apply for external funding in the near future and needed in vivo data. However, I haven't heard anybody voice this concern to me.

In regards to the ARF, Kaitlyn and Michael will both be gone until the 27th and 29th, respectively, but will be back the remainder of the closure. I was planning to check the laboratory animals during that time. We already implemented a staggered schedule so there should be the appropriate social distancing even it's just between 2-3 people.

My only concern at the moment is regarding a delivery of rodent food. If scheduled dates are needed now for deliveries April 2nd would be the best day. I generally keep about a two-week food reserve in the ARF, but I'm not sure if we can make it until mid-April. My plan is to thin the number of colony animals that have no scientific value now and drop the colony numbers by approximately 30%. This was going to be performed regardless as part of colony maintenance in the next several weeks.

I appreciate the offer, but I don't think I need anything at the moment. If I can help in anyway please let me know. My plan is to finish the draft SOP's for the animal program while I'm at home. I don't know if you need this, but I'm copying the four people that will for sure need access to the ARF during this closure. Thank you Dr. Brow!

Best,

Building: Animal Research Facility (Bureau of Mines Complex Building #3)

Room number: All

Does the room have a card access or key access? Key Card Access

Name	Student (Y/N)?	Student (or employee) number	Will access require supervision (Y/N)?	If supervision required, list name of supervisor
Richard Watters	No	12312418	No	N/A
Michael Khayat	Yes	12399851	No	N/A
Kaitlyn Mills	Yes	12547684	No	N/A
Yue-Wern Huang	No	-	No	N/A

Richard Watters
Director, Animal Care and Quality Assurance
Center for Biomedical Research
Missouri University of Science and Technology
110G Schrenk Hall
400 West 11th St.
Rolla, MO 65409
Tel: 573-341-4029
E-mail: riwhg6@mst.edu

On Fri, Mar 20, 2020 at 8:51 AM Brow, Richard K. <brow@mst.edu> wrote:

Hi Rich:

Hope all is well in your world.

Now that we are going to the "Level 2" campus response, we'll need to modify our contingency plan for the ARF,

- Are there any "active studies" on going? What will be the consequences of restricting activities in the ARF to at least April 13th?
- Would you pull together a schedule of who needs access to the ARF for animal care and feeding; I'll work with facilities/police to see that access is granted.
- Supply deliveries- it would help to know dates/times ahead of time...
- What else do you need?

Thanks- and stay healthy!

Richard K. Brow
Interim Deputy Provost for Academic Excellence
Director, Center for Biomedical Research
Missouri University of Science & Technology
210 Parker Hall
Rolla, MO 65409



Center for Biomedical
Research-
Animal Research
Facility

Author

Richard Watters

SOP #

450.01

Last Reviewed/Update Date

Approval Revision #

Implementation Date

Disaster Plan for Missouri S&T's Animal Research Facility

1. Table of Contents

Disaster Plan for Missouri S&T's Animal Research Facility.....	1
1. Table of Contents	1
2. Purpose and Background	2
3. Contacts List.....	2
4. Overview of Animal Care and Support Needs	2
5. Potential Disaster Events/Response	4
6. References	9
7. SOP Revision History	10

2. Purpose and Background

Public Health Service policy states that Institutions receiving federal funds have an obligation to protect the federal investment in research by exercising due diligence. This protection covers research animals, personnel, facilities, and research data. According to the Guide for Care and Use of Laboratory Animals (8th Edition), facilities must have a disaster plan. Additionally, the United States Department of Agriculture (USDA), 9 CFR parts 2 and 3, and USDA Final Rule (December 31, 2012) amends the Animal Welfare Act regulations to require research institutions to have a contingency plan and training of personnel.

This contingency plan aims to achieve the following:

1. Protect staff and minimize animal losses that would potential occurs during any event that disrupts normal care of laboratory animals, such as an emergency, natural disaster or pandemic.
2. Provide husbandry and veterinary care in order to prevent animal distress, pain, or death.
3. Minimize the animal research facility closure time and restore its operation as soon as possible during an emergency.
4. Minimize the economic impact to Missouri S&T and PHS sponsored animal research.

All personnel must comply with the Missouri S&T Campus-Wide Emergency Plan

3. Contacts List

<u>Contact</u>	<u>Telephone Number</u>
Richard Watters, Animal Facility Manager	573-341-4029
Dr. Yue-Wern Huang, IACUC Chair	573-341-6589
Environmental Health and Safety	573-341-4305
Physical Facilities	573-341-4252
University Police	573-341-4300
Emergency	911

4. Overview of Animal Care and Support Needs

4.1. Animal Health Checks and Health Maintenance

- a. Animals should be checked daily to confirm they are healthy.
Observations will be performed by qualified Missouri S&T-ARF

Documents: MST-SOP-Disaster Plan

personnel or other qualified personnel. The laboratory manager or consulting veterinarian will triage sick or injured animals and determine a treatment plan.

- b. Animals that cannot be relocated or protected from the consequences of the disaster must be humanely euthanized. When appropriate, animals will be euthanized at the discretion of the laboratory manager or designee using current American Veterinary Medical Association (AVMA) approved methods of euthanasia.

4.2. Food and Water Supplies

- a. Food and water are critical to maintaining animal health. Having the appropriate food for the species and research needs, in adequate quantities, in unadulterated form, is imperative for every disaster response. If the usual food is not available, professional judgment must be applied to identify acceptable substitutes which are available.
- b. Potable water is especially important, as many animals can survive for several days with little food, but may succumb within 1-2 days without water. Rodent species housed at the Missouri S&T-ARF are especially sensitive to food or water deprivation (e.g., new born rats or mice) and should be given special attention.

4.3. Sanitation

- a. For purposes of animal health, animal welfare and support of research, adequate sanitation must be provided in every circumstance. Cages of some species must be changed often while others may go several days without inducing health or environmental problems. The goal of this plan is to approximate normal sanitation schedules with available resources. Increasing cage change intervals, spot cleaning instead of whole-cage changes, changing bedding instead of cage changes, hand washing some equipment, or deferring activities, such as floor mopping, may be required.
- b. The Missouri S&T-ARF laboratory manager, IACUC chair, or designee will decide which sanitation activities are performed in order to provide the greatest benefit to the animals if it is not possible to perform all normal activities due to disaster/emergency conditions.

4.4. Environmental Support (Ventilation, temperature control, and utilities)

- a. Maintenance of an appropriate environment is essential to the well-being of animals and for many research projects. Ventilation

problems may include loss of or diminished air supply or exhaust, unacceptable temperature variations, contamination with agents such as chemicals or smoke, or loss of utilities such as electricity needed for lights or powered equipment (e.g., hoods, autoclaves, ventilated racks).

- b. Ventilation problems should be addressed by the Missouri S&T-ARF laboratory manager and IACUC chair in conjunction with physical facilities. The two objectives in response to lack of ventilation is maintaining at least some air movement in animal housing spaces, and keeping temperatures as close to the acceptable range as is possible. The minimum standard is to prevent animal deaths or contamination of the environment.

4.5 Personnel for Animal Care

- a. Personnel with adequate training are essential to maintaining animal colonies. They may be unable to work in facilities due to damage or dangerous conditions, physical obstructions (snow storm or chemical spill nearby), or interruption of work (bomb threat, picketing, etc.). The animal facility supervisor or designee will deploy available personnel to maintain animal health. Personnel may be asked to perform duties outside the scope of their normal responsibilities in order to protect animal health or well-being.
- b. The laboratory manager, IACUC chair, with consultation from the Office of Sponsored Programs will help make these decisions. Immediately following a disaster or prior to the incident, when known, a list of current/essential personnel needing building access to the animal facility will be provided to the Missouri S&T University Police Department.

5. Potential Disaster Events/Response

5.1. HVAC or Utility Failure (Colony Room Temperatures/Humidity)

Preparedness

- Verify all animal care staff training on acceptable temperature ranges, reporting environmental fluctuations, and appropriate response procedures.
- Maintain contingency plans to ensure animals receive adequate care in the event of power loss or abnormal temperatures.

Response

1. Manually check room temperature and humidity
2. Notify the Animal Facility Manager immediately
3. If animal room temperature falls to a critical temperature (i.e., animal lives are at risk), place portable space heaters in the room.
4. If biohazard agents are used in a room, contact EHS at 573-341-4305 before using portable fans or leaving animal room doors.
5. Call Facilities 573-341-4252 to check HVAC/Utility Failure
6. Physical facilities may bring additional portable heaters and chillers to bring temperatures into acceptable range.
7. Animal Facility Manager will maintain communication with IACUC chair, Center for Biomedical Research Director, and Vice Chancellor of Research until issue is resolved.

Recovery

- Re-establish all animal care programs and services.
- Re-establish pertinent biohazard control procedures.
- Assess program elements contributing to the occurrence of the event and program areas impacted.

5.2. Pandemic

Preparedness

- Ensure proper signage is posted in biohazard areas and lists PPE, handling, containment, and emergency response instructions.
- Promote social distancing by assigning alternating schedules
- Verify staff training on pertinent emergency response and first aid procedures.
- Verify all communications and contingency plans from the UM System, MS&T campus, and VCR office.
- Emphasize the importance of good personal hygiene and encourage frequent hand washing
- Locate hand sanitizer stations in each colony room and egress.

Response

1. Follow previously implanted COVID-19 contingency plan
2. If employees are ill, they are not allowed to work inside the facility and risk the spread of disease to other employees and laboratory animals.
3. PPE must be worn at all times and all sanitize-able surfaces should be wiped down with Sani-Wipe® or Clorox Wipe® after every use.
4. Social Distancing should be kept at all times.
 - i. Depending on the pandemic and risk, the facility response is highly variable.
5. Minimize the handling of animals whenever possible
6. Spray/Wipe all incoming food and bedding prior to entering the animal facility.

7. Surfaces will be monitored with ATP swabs and the appropriate cleaning/sanitation will be implemented.

Recovery

- Lab restrictions will continue several weeks after social distancing is officially lifted. This is to insure secondary infections do not occur both within the facility between employees, but also to the animals.
 - ***COVID 19-** Sprague Dawley rats are genetically prone to respiratory distress and are highly susceptible to many respiratory illnesses.

5.3. Biohazard Spill or Exposure

Preparedness

- Ensure proper signage is posted in biohazard areas and lists PPE, handling, containment, and emergency response instructions.
- Ensure biohazards are properly handled, and stored or contained.
- Verify staff training on the biohazard's risks in accordance with EH&S Biosafety guidance.
- Verify staff training on pertinent emergency response and first aid procedures.
 - Eye exposure: Flush exposed eyes or face immediately. Remove contacts. Hold eyelids open with thumb & fingers. Flush continuously with eyewash for 15 minutes. Roll eyes to thoroughly rinse.
 - Mouth exposure: Rinse mouth with plain water for at least 15 minutes.
 - Skin exposure: Remove contaminated clothing & place in biohazard bag. Flush exposed skin with large amounts of water for 15 minutes.
 - Seek medical attention: Contact EHS 573-341-4305 and Student Health 573-341-4284 if needed.

Response (Small Spill)

1. Secure any bio-hazardous animals in cages and/or racks to ensure containment.
2. Remove contaminated clothing and immediately administer first aid to contaminated area or wound.
3. Put on protective clothing (gloves, safety goggles or glasses, and lab coat).
4. Cover spill area with absorbent materials (e.g., paper towels).
5. Soak absorbent materials with disinfectant. (e.g., a freshly made 1:10 dilution of bleach or alternative, and allow to sit for 30 minutes.
6. Wipe down all equipment and surfaces potentially contaminated with disinfectant, allowing disinfectant to remain on surfaces for an appropriate contact time (e.g., 10 minutes for 10% bleach).

7. Dispose of contaminated material as bio-hazardous waste. Place in Stericycle container.
8. Clean surfaces with sanitizer. Disinfect any tools which may have been used to clean bio hazardous materials
9. Remove PPD and wash hands with soap and warm water

Response (Large Spill)

1. Advise personnel in the room/area of the spill to evacuate immediately.
2. Contact EHS 573-341-4305
3. Immediately administer first aid to contaminated area or wound (see below).
4. Do not re-enter the room/area until the appropriate safety officials have cleared the area for re-entry

Recovery

- Re-enter the area only upon clearance by Emergency Responder, EH&S, Facility Management
- Assess program elements contributing to the occurrence of the event and program areas impacted.
- Report the animal program status to animal facility manager and IACUC chair
- Re-establish pertinent biohazard control procedures.
- Re-establish all animal care programs and services.

5.4. Active Shooter

Preparedness

- Ensure proper emergency signage is posted provided by MS&T police department.
- Verify staff training on the appropriate response to an active shooter

Response

Missouri S&T's Police Department has implemented a RUN, HIDE, FIGHT protocol:

RUN:

- Evacuate if Possible
- Assess your situation.
- If you can, quickly evacuate from the building and call 911.
- Leave your belongings behind.
- Help others escape if possible, but do not stay behind if others will not go. Keep your hands visible to law enforcement.

HIDE:

- Hide silently in a safe a place as possible
- If it is not safe to evacuate, hide in an area out of the intruder's view.
- Lock and barricade the door to prevent entry.
- Turn off lights, close blinds, and silence cell phones and other electronics

FIGHT:

- Take action to disrupt or incapacitate the shooter
- As a last resort, and only if your life is in danger, you may choose to fight.
- Take action to incapacitate the shooter.
- Act with physical aggression against the shooter.
- Commit to your actions- your life depends on it.

Recovery

- Remain Calm and follow instructions by police officers
- Re-enter the area only upon clearance by Missouri S&T Police

5.5. Tornado

Preparedness

- Human safety is the primary concern.
- Ensure personnel can find building exits even if directional signs are obscured by smoke or power outage.
- Identify at least two building evacuation routes and keep all egress routes and hallways clear

Response

1. If time permits, move animal racks away from exterior walls and preferably into the interior hallway.
2. Evacuate personnel to interior basement if time permits.
3. Report building structure and service problems to the Physical Facilities 573-341-4252

Recovery

- Report the animal program status to IACUC chair, Center for Biomedical Research Director, and Vice Chancellor of Research.
- Inventory animal population and account for any potentially escaped animals.
- Perform triage of animals to determine most appropriate course of action (i.e., relocation within facility, euthanasia, and evacuation)
- Re-establish all animal care programs and services.

5.6. Civil Disturbance (Animal Rights Activists, Disgruntled Employee)

Preparedness

- Do not place yourself or others at risk. Contact MS&T University Police 573-341-4300 if situation appears to be escalating.
- Verify staff training on security and response procedures.

Response

1. Do NOT confront the individual(s)
2. Check to see if anyone was injured and seek medical care, if needed
3. Use the following list to assist in gathering specific details for the Police:
 - Identify yourself as a person working at an animal research facility
 - Location of the activity - including building, floor, and room number(s), etc.
 - Number of people involved
 - Characteristics of the people, i.e., gender, type of clothing, distinctive features, etc.
 - Type of activities being conducted, i.e., picketing, yelling, vandalism, releasing animals etc.
 - Type and number of weapons visible
 - Type and number of other tools and equipment, i.e., bullhorns, rope, spray paint cans, electrical wiring, backpacks, gym bags, signs, etc.
4. Remain at your general location until the Police arrive.
5. If necessary, move to a safe place or exit the facility (if this is occurring inside).
6. Take photographs of the activists and their activities, but only if this can be done safely

Recovery

- Re-enter the area only upon clearance by MS&T Police
- Report the animal program status to IACUC chair, Center for Biomedical Research Director, and Vice Chancellor of Research.

6. References

1. https://www.aalas.org/iacuc/iacuc_resources/disaster-preparedness
2. <https://olaw.nih.gov/resources/disaster-planning.htm>
3. http://surgery.ucla.edu/workfiles/research/Animal_Disaster_Plan_Template.pdf
4. https://www.jumpjet.info/Emergency-Preparedness/Protecting-Dependents/Animals/Disaster_Planning_for_Animal_Facilities.pdf
5. <https://iacuc.wsu.edu/documents/2016/06/wsudisasterpreparedness.pdf/>
6. <http://www.umt.edu/research/LAR/sops/SOPDisaster%20Plan.php>

7. SOP Revision History

Version #

450.01

Approved

Author

Richard Watters

Documents: MST-SOP-Disaster Plan



PROGRAM LAYOUT REVIEW – AGENDA

client	Missouri S&T	
project	Schrenk – Vivarium Study	
location	Zoom Video Conference	
date	May 01, 2020 10:00-11:00am	
prepared by	Julia Hartman jhartman@odimo.us 816 708 1504	
attendees	Pat Litty, MS&T Richard Watters, MS&T Dr. Nuran Ercal, MS&T Dr. Paul Nam, MS&T Dr. Richard Brow, MS&T Dr. Sutapa Barua, MS&T Honglan Shi, MS&T	Qingbo Yang, MS&T Dr. Costas Tsatsoulis, MS&T Yue-Wern Huang, MS&T Fred Stone, MS&T Jeffrey Coffelt, Ross & Baruzzini Amy Slattery, Odimo Julia Hartman, Odimo

Issued: 05/01/2020

1. Introductions

2. Goals for the Relocation / Renovation

3. Review of overall layout:

- General review through equipment and space needs in each space
- Quarantine Room – ideal location?
- Door size and location
- Sink locations
- Wall Finishes, Ceiling heights

4. Functionality and preferred equipment sizes:

- BSC size & location needs
- Autoclave sizing

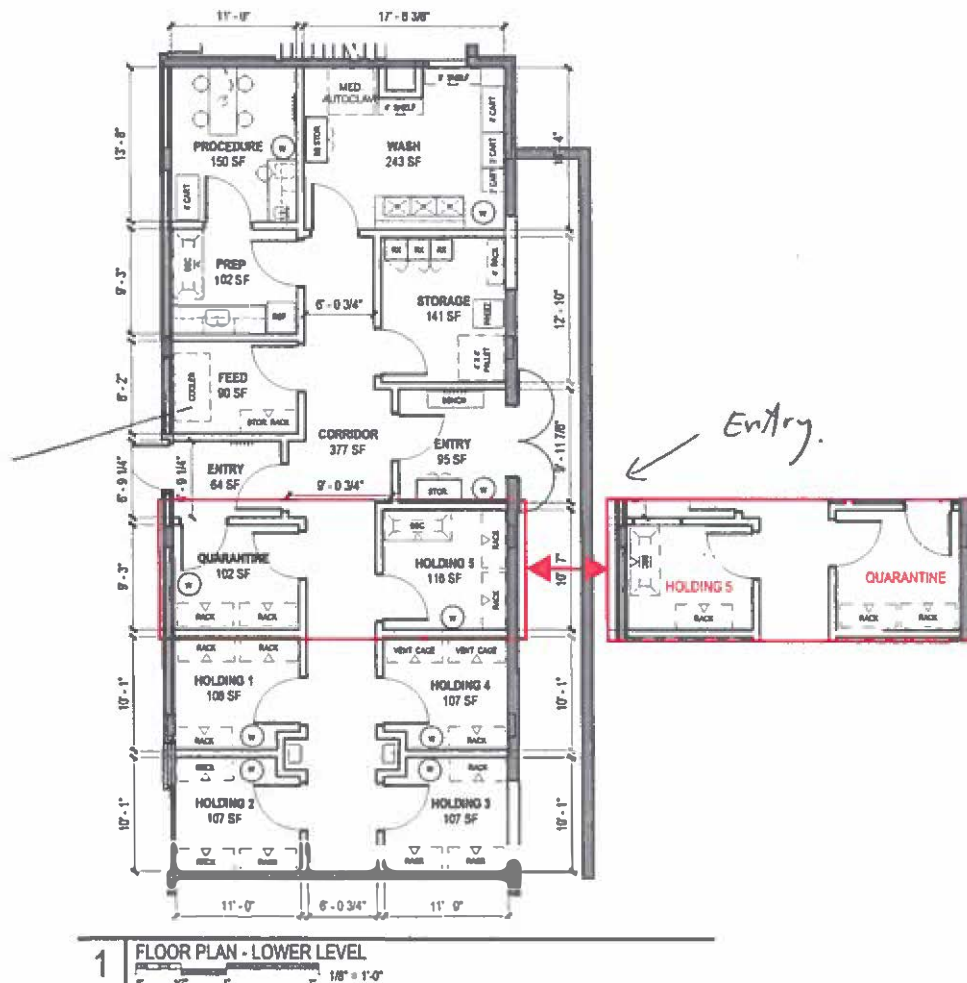
5. Schedule:

23-April-20	Project Check-In Call
01-May-20	User Review Meeting
08-May-20	Project Check-In Call + Cost Estimate
15-May-20	Deliver Final Feasibility Study + Proposal for Next Phase

6. Next Steps:

- Pricing & cost estimate
- Set Next Review Meeting

END OF AGENDA.



701 E. 63rd St. Ste. 210
Kansas City, MO 64110
odimo inc | 816.706.1500

Blanchard & T
Schwartz Hall
400 W 119th St
Rolla, MO 65409

Ross & Benvenuti
8 South Old Orchard
St. Louis, MO 63119

VIVARIUM LAB
RENOVATION
PROGRAM STUDY

2020.04.29
PROGRAM
LAYOUT



PROGRAM LAYOUT REVIEW – MEETING NOTES

client	Missouri S&T	
project	Schrenk – Vivarium Study	
location	Zoom Video Conference	
date	May 01, 2020 10:00-11:00am	
prepared by	Julia Hartman jhartman@odimo.us 816.708.1504	
attendees	Pat Litty, MS&T Richard Walters, MS&T Dr. Richard Brow, MS&T Dr. Costas Tsatsoulis, MS&T Yue-Wern Huang, MS&T Fred Stone, MS&T	Jeffrey Coffelt, Ross & Baruzzini Amy Slattery, Odimo Julia Hartman, Odimo

Issued: 05.01.2020

1. Introductions

2. Goals for the Relocation / Renovation

- Current space – slated for demolition, wall paint peeling, problems with current mechanical
- Initial proposed space – Schrenk East – is slated for demolition
- After evaluating in Schrenk West – best option
 - Smaller than initial proposal but is currently sprinkled.
 - Betterment in quality of space but with limited future growth

3. Review of overall layout:

- General review:
 - Overall approval of program layout
 - Observation / Responses discussed:
 - Observation – Corridors are to be between 6'-0" and 8'-0" in width.
 - Response – Corridor is just over 6'-0" minimum required width. Will maintain width over minimum.
 - Observation – Fire alarm in corridor is in proximity
 - Response – This will be relocated as needed to reduce possible noise/vibration disruption.
 - Observation – Dumpsters at exterior in proximity
 - Response – Fresh air will be pulled from the roof, proper protocol and positive pressurization occur at main entry. The team will study sound/vibration transmission and existing concrete isolation joints at the exterior wall.
 - Observation – Adequate electrical needs
 - Response – A separate, new generator will be added.
 - Observation – Wall treatment in new space
 - Response – New interior walls will be CMU with marine-grade epoxy paint. Existing perimeter walls will be studied, will feature a new marine-grade gyp wall with epoxy paint (considering available types of gyp wall for improved isolation). Floors will be seamless epoxy with cove base.
 - Observation – Potential future demolition of adjacent building wing
 - Response – Consideration will be given at that time regarding relocation/temporary facilities.
 - Observation – Temperature needs vary per species (example: dry bulb = 20-26 celsius for mice and 16-22 celsius for rabbits)
 - Response – Each room will have individual controls regarding temperature and humidity to address needs.
 - General note – Requirement of at least 4sf per rabbit in holding rooms, could fit up (3) racks = 18 total per room.

project, M S&T Vivarium
date, 05.01.2020

page 1 of 2

- (c) General note – Space will have separate, dedicated AHU instead of tying into an existing unit. The existing building system will be used for emergency backup only.
- (8) Observation – Lighting needs vary per species (example: 25 lux for albino mice)
 - (a) Response – Each room will have individual controls. LED can be variable with color, intensity, timer, override capabilities.
- b) Door size – generally approved.
 - i) All doors are 4'-0" w x 8'-0" h.
- c) Wall Finishes, Ceiling heights
 - i) Wall finishes are noted above.
 - ii) Ceiling heights will be 9'-0". Ceiling will be gypsum board.
 - (1) If possible to not have ceiling in feed/storage ~ eliminates access panel needs in Holding Rooms (preferred).
- d) Mechanical additions
 - i) New generator – ideal location will be studied and identified.
 - ii) New AHU – initial study shows new AHU fits in existing Mechanical space.
- 4. Space functionality and preferred equipment sizes:
 - a) General arrangement of room is approved, will be studied further in next phases of development.
 - b) Sink locations – generally approved.
 - c) Feed room – cooler is acceptable, cool room is not needed.
 - d) BSC – (1) necessary, (2) would be nice. A new BSC would be smaller than existing unit.
 - e) Autoclave – current autoclave used fits (3) individual animal cages – 430 liter Tuttnauer
 - i) Richard Watters to confirm actual size needed
- 5. Comparison between existing space and new proposed space
 - a) Initial ideal size was 3,000 SF.
 - b) New location is approximately 2,000 SF.
 - i) Despite only being 2,000 SF, improved HVAC (per standards and accreditation needs) will allow higher density of animals.
 - c) Existing space is estimated at 1,460 SF.
 - i) Pat Litty to provide SF of existing room sizes.
 - d) Odimo to provide comparison in final study document.
- 6. General proposal update will be shared at Monday's IACUC meeting.

7. Schedule:

23-April-20	Project Check-In Call
01-May-20	User Review Meeting
08-May-20	Project Check-In Call + Cost Estimate
15-May-20	Deliver Final Feasibility Study + Proposal for Next Phase

8. Next Steps:

- i) Pricing & cost estimate
- ii) Set Next Check-in Meeting – Odimo to reach out and schedule with Pat.
- iii) Set Final Review of Feasibility Study – Odimo to request availability for May 15.

END OF MEETING NOTES.

Vivarium Relocation- Meeting Minutes

Date: February 24th, 2020
Location: Conference Room 101A-Shared General Services
Subject: Relocation of Animal Research Facility

Recorder: Richard Watters

Attendees:	Dr. Stephen Roberts	Dr. David Duvernell	Patricia Litty
	Dr. Kate Drowne	Dr. Rainer Glaser	John Wright
	Dr. Richard Brow	Dr. Yue-Wern Huang	Richard Watters
	Dr. Melanie Mormile	Fred Stone	

Summary: The purpose of this meeting was to discuss a recent feasibility study to relocate the Missouri S&T Animal Research Facility into the Mezzanine of Schrenk Hall. Fred began by summarizing the university's efforts to identify sufficient space for the animal facility. Pat Litty provided the hard requirements (vertical penetrations for HVAC and 2,000-3,000 square feet) necessary for any proposed space including the Schrenk Mezzanine. Provost Roberts identified some of the challenges of relocating into the proposed location in Schrenk East and asked about the feasibility of relocating the animal research facility into Dr. Whitefield's lab space or the machine shop on the ground floor of Schrenk West. These two locations will be explored in the next several months.

Provost Roberts provided background information on a potential sizeable gift from a philanthropist. The Provost reiterated some potential concerns about the proposed location which included relocating Biology faculty members, losing flexibility when Schrenk East is demolished/rebuilt, and finally the potential of a new Biomedical Engineering/Life Sciences building which would be better suited for a vivarium than the Schrenk Mezzanine. Dr. Duvernell asked about the potential of a new building for Life Sciences/Biomedical Engineering, but the Provost was not aware if there will be any restrictions on this gifted money. Dean Drowne and Provost Roberts will know more specifics in the coming months and asked that Design and Construction postpone any construction related to this project until this is identified.

Conclusion: Provost Roberts recommended that Design and Construction wait until there is more clarity from this potential capitol. This should be approximately 4-6 months, but in the meantime we should explore other options of relocating the animal facility into either Dr. Whitefield's lab or the machine shop in Schrenk West.