



DEPARTMENT OF HEALTH & HUMAN SERVICES

PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

FOR US POSTAL SERVICE DELIVERY:

Office of Laboratory Animal Welfare
6700B Rockledge Drive, Suite 2500, MSC 6910
Bethesda, Maryland 20892-6910
Home Page: <http://grants.nih.gov/grants/olaw/olaw.htm>

FOR EXPRESS MAIL:

Office of Laboratory Animal Welfare
6700B Rockledge Drive, Suite 2500
Bethesda, Maryland 20817
Telephone: (301) 496-7163
Facsimile: (301) 480-3387

January 10, 2022

Re: Animal Welfare Assurance
A3200-01 [OLAW Case 3K]

Dr. Susan Buskirk
Vice President – Chief Accountability Officer
University of Maryland School of Medicine
620 West Lexington St. (b) (4)
Baltimore, MD 21201-1559

Dear Dr. Buskirk,

The Office of Laboratory Animal Welfare (OLAW) acknowledges receipt of your January 6, 2022 letter reporting a serious deviation from the provisions of the *Guide for the Care and Use of Laboratory Animals* at the University of Maryland- Baltimore, following up on an initial report on May 12, 2021. According to the information provided, OLAW understands that 325 salmon died and others became moribund during tank maintenance which required turning off the tank system, including the air manifold.

The immediate action taken upon discovery consisted of reattaching the air manifold to supply oxygen. The corrective actions consisted of developing a standard operating procedure (SOP) to address animal welfare during tank maintenance and dividing tasks between mechanical work and animal monitoring. The SOP, with additional clarifications, was subsequently accepted by the Aquaculture Research Center committee and the Institutional Animal Care and Use Committee (IACUC).

Based on its assessment of this explanation, OLAW understands that measures have been implemented to correct and prevent recurrence of this problem. OLAW concurs with the actions taken by the IACUC to comply with the PHS Policy on Humane Care and Use of Laboratory Animals.

Sincerely,

(b) (6)

Axel Wolff, M.S., D.V.M.
Deputy Director
Office of Laboratory Animal Welfare

cc: IACUC Chair



UNIVERSITY of MARYLAND
BALTIMORE

OFFICE OF ANIMAL WELFARE ASSURANCE (OAWA)

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January 6, 2022

Brent C. Morse, DVM, DACLAM
Director, Division of Compliance Oversight
Office of Laboratory Animal Welfare
National Institutes of Health
6700B Rockledge Drive, Suite 2500, MSC 6910
Bethesda, MD 20892

RE: Final Report of Reportable Situation (ACUPAQ0521)

Dear Dr. Morse,

The University of Maryland Baltimore (UMB), in accordance with Assurance No. D16-00125 (A3200-01) and PHS Policy IV.F.3., provides this final report on a reportable situation that resulted in a condition that jeopardized the health or well-being of animals. This incident was first reported to OLAW Division of Compliance Oversight on May 12, 2021 by the OAWA Director.

On May 6, 2021, the IACUC was promptly notified of a physical plant incident that resulted in fish fatalities earlier that day. The aquatic tanks affected housed juvenile salmon. Facility staff were performing tank maintenance to raise the return water manifold and the air manifold on the tank system. This work was being done to help with solids removal as well as provide better access to the tanks once the fish required covers to prevent escape due to leaping out of the water.

The tank system had to be turned off during the maintenance. As the work was proceeding, the condition of the fish was checked often. As work progressed and, in an effort, to complete the work quickly to avoid problems, facility staff became focused on the plumbing work which caused them to focus less on the animals. When animals were re-checked, some were observed to be in distress with some dead. Facility staff immediately reattached the air manifold to avoid further fatalities.

The Aquaculture Research Center (ARC) Facility Manager assumed full responsibility for the incident. After consulting with the ARC Veterinarian, it was determined that a standard operating procedure (SOP) should be created to prevent such actions from recurring. When work on a tank system with animals needs done, the responsibilities will be divided. The responsibilities include oversight of the fish and the completion of the repair or upgrade needed. With this current incident, splitting facility staffs' attention between the two tasks was a mistake. The work required too much attention, which took the focus off the animals. Future work of this type could be done in a safer manner with the work task and animal supervision done by different people. Once the SOP is approved by ARC facility management and the Aquaculture Committee, it will be provided for IACUC review.

ACTIONS TAKEN, COMMITTEE DELIBERATIONS AND OUTCOME

The IACUC Chair, *Interim* Attending Veterinarian (AV) and IO were notified of this incident on May 6th. On May 7th, ARC facility staff reported there were 325 fish fatalities. The IACUC Chair and *Interim* AV reviewed

the report and supplemental information provided, and requested additional information on the cause of death, maximum duration of time the fish were without oxygen and recommended items to be incorporated into the SOP.

On May 17th, the ARC Manager responded. The air supply was off for approximately 1.5 hours before facility staff observed animals in distress. Cause of death was as result of the lack of air supply. The new SOP is currently under review by ARC facility management, then requires approval from the Aquaculture Committee on May 27th.

The IACUC discussed this incident at its meeting on May 24th. It was noted that the Spring 2021 semi-annual inspection of the ARC was uneventful. This was the first incident that was as result of the ARC facility staff. The report to the IACUC was prompt and thorough. It was noted that ARC staff repair tanks when they are empty. Based on their response and the development of a new SOP, there were likely no other available tanks for fish to be transferred to during the repair. The SOP should be included or cited in the ARC contingency / disaster plan moving forward. The committee determined that this was an unfortunate accident. The corrective action taken is appropriate and the committee requested to review the ARC approved SOP prior to closing out this incident.

On June 10th, a copy of the ARC approved SOP was provided for IACUC review.

The IACUC reviewed the SOP at its meeting on June 21st and requested additional clarifications related to frequency of monitoring fish during repairs and afterwards to ensure all systems are functioning properly; ability to relocate fish to an empty tank prior to making repairs and why this may not be possible; clarification on whether any type of mobile auxiliary system (mobile back up system) exists that could be used when a system is offline but occupied to mitigate the risk of losing fish due to decreased oxygen; and to confirm the ARC contingency / disaster plan addresses loss of personnel or major equipment. The committee requested to review ARC's response prior to closing out this incident.

On July 9th, the ARC response was submitted for IACUC review.

The IACUC reviewed ARC's response for additional clarifications at its meeting on July 16th. All requested information was satisfactory addressed, and the committee determined this case could be closed.

The UMB is committed to protecting the welfare of animals used in research and appreciates the guidance and assistance provided by OLAW in this regard. Should you have any questions regarding this report, please do not hesitate to contact my office or the (b) (6).
Thank you for your consideration of this matter.

Sincerely,

(b) (6)

Susan C. Buskirk, DM, MS, CCEP
Vice President
Chief Accountability Officer
Institutional Official for Animal Research
University of Maryland, Baltimore

SCB:ap

cc: IACUC File

Wolff, Axel (NIH/OD) [E]

From: OLAW Division of Compliance Oversight (NIH/OD)
Sent: Friday, January 7, 2022 7:41 AM
To: (b) (6)
Cc: OLAW Division of Compliance Oversight (NIH/OD)
Subject: RE: UMB # D16-00125 (A3200-01): Final Report

Thank you for this report, (b) (6) We'll send a response soon.
Axel Wolff

From: (b) (6)
Sent: Thursday, January 6, 2022 10:27 AM
To: OLAW Division of Compliance Oversight (NIH/OD) <olawdco@od.nih.gov>
Cc: Buskirk, Susan <sbuskirk@umaryland.edu>; (b) (6)
Subject: [EXTERNAL] UMB # D16-00125 (A3200-01): Final Report
Importance: High

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and are confident the content is safe.

Dear OLAW Division of Compliance Oversight,

Please find attached a PDF copy of the final report signed by our Institutional Official for incident ACUPAQ0521 (*initially reported via email on 05/12/21*).

If you have any questions or require any additional information, please do not hesitate to contact me directly.
Sincerely,

(b) (6)

Wolff, Axel (NIH/OD) [E]

From: OLAW Division of Compliance Oversight (NIH/OD)
Sent: Friday, May 14, 2021 7:27 AM
To: (b) (6)
Cc: OLAW Division of Compliance Oversight (NIH/OD)
Subject: RE: UMB # D16-00125 (A3200-01) - Preliminary Notification of Reportable Incident

Thanks (b) (6) We'll open a new case file.
Axel Wolff

From: (b) (6)
Sent: Wednesday, May 12, 2021 2:31 PM
To: OLAW Division of Compliance Oversight (NIH/OD) <olawdco@od.nih.gov>
Cc: Buskirk, Susan <sbuskirk@umaryland.edu>; (b) (6)
Subject: UMB # D16-00125 (A3200-01) - Preliminary Notification of Reportable Incident
Importance: High

Dear OLAW Division of Compliance Oversight,

Please accept the following preliminary notification of an event reportable per NIH Notice NOT-OD-05-034:

1. ACUPAQ0521: Aquatic tank maintenance / enhancements performed by facility staff resulted in fish fatalities. Species: Fish (salmon). Date of Findings: 05/06/21

A final report will be forthcoming upon completion of the IACUC's investigation. If you have any questions, please do not hesitate to contact me at (b) (6)

Thank you!

(b) (6)