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	UQBR SOP 25 Rodent Cage Change – Radioactive		
	Contact: UQBR Director	Location: UQBR Facilities	Revision: 2

UQBR SOP 25 Rodent Cage Change – Radioactive
AEC Reviewed: 2015

REQUIREMENT:

1. To ensure that the requirements and regulations as set out by the following are met as far as practicable:
 - AEU UQ
 - The Code
 - OGTR
 - Department of Agriculture and Fisheries (DAF)
 - QLD Workplace Health and Safety, and
 - UQ OH&S
2. To standardise practice for all UQBR staff and researchers within UQBR facilities.
3. Annual review is required to maintain best practice and usability of this SOP.

RESPONSIBILITY:

It is the responsibility of the individual performing animal handling procedures and techniques to ensure they have been assessed as competent.

Please Note:


This UQ Biological Resources (UQBR) SOP expands upon UQ Animal Ethics Unit SOPs. This document outlines the procedures followed by UQBR and should not be referenced in Animal Ethics Applications.

No changes or deviations from this SOP are to occur unless the Director of UQBR gives prior authorisation.

NB: The use of (*) indicates this statement is dependent on the facility procedures

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Originator: UQBR Training Review Committee	UQ AEC Reviewed: April 2015
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OBJECTIVE:

To describe the cage change procedure for radioactive mice and rats that is to be used within the UQBR facilities.

I. EQUIPMENT

Cage Change Items

- Change Station or Bio-safety cabinet (*)
- Clean and chipped cage bases, lids, feed hoppers (*)
- Feed (*)
- Replacement water bottles (*)
- Nesting (*)
- Enrichment (*)

Consumables

- PPE (*)
- Disinfectant (*)
- Paper towel
- Clinical waste bin
- Extra Gloves


Administration

- Permanent Marker
- Pen
- Room diary (*)
- Room Log (*)
- Notification items e.g. health check cards or pregnancy stickers
- Litter chart (*)
- Movement Sheet (*)
- Genotrack

Radiation Related Items

- Personal dosimeter * Risk Assessment dependent
- Inspector Radiation Alert Device

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II. PREPARATION OF EQUIPMENT


1. Ensure an adequate number of cage change items are placed within the room ready for use
2. Ensure consumable levels are adequate and stocked ready for use
3. Ensure administration items are positioned for easy use during cage change
4. Turn on change station or bio-safety cabinet – refer to local facility SOP (*)
5. Setup equipment in a clean-to-dirty workflow

III. PROCEDURE

Cage Changing Procedure

1. Disinfect gloved hands. Refer to UQBR SOP 44 – Disinfection within UQBR Facilities
2. Place clean cage on the work surface
3. Place a freshly filled water bottle in the cage (*)
4. Transfer hopper to clean cage and fill – replace hopper if required here (*)
5. Move each animal to the new cage while checking:
 - Number of animals – if incorrect investigate and alert supervisor
 - Sex – if incorrect investigate and alert supervisor
 - Health – if concerned place health check card on cage and follow UQBR Veterinary Care Protocol
 - If moving a litter also move some nesting and dirty litter to the clean cage
 - If moving males also move some dirty litter to the clean cage to alleviate fighting
6. Place lid on the new cage. Replace lid if required here
7. Disinfect gloved hands
8. Move cage card and **Radioactive card** to the new cage
9. **Move dirty cage to the rack ensuring a lid is on the cage**
10. **Complete a new Radioactive card and place on the dirty cage**
11. Place clean cage onto rack
12. Proceed to next cage to be changed

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Radiation Dose Rate Check

After cage changing has occurred within the hot room it is advised that personal radiation levels are checked

Use of 'Inspector Radiation Alert device' to measure gamma radiation levels:

1. Ensure the wire on rear of device is not touched when handling
2. Move the device e.g. around hands and under shoes
3. The device will make a clicking sound at increasing intervals in relation to the amount of radiation
4. Readings higher than 0.6 $\mu\text{Sv/hr}$ should be reported to the UQBR supervisor

Post Cage Changing Procedure

1. Clean and remove all items from the work area and place in respective stores
2. Clean the change station or bio-safety cabinet – see local facility SOP (*)
3. Place lid on food and nesting storage containers
4. Move loaded dirty trolley to designated space
5. Use disinfectant to wipe the carousels/racks and room fittings – this may be completed as part of the end of week room maintenance (*)
6. Clean the floor - this may be completed as part of the end of week room maintenance (*)
7. Complete room log/diary

IV. CONSIDERATIONS

Research Considerations


The type and complexity of cage contents affects both the welfare and development of laboratory animals. Variations to the UQBR standard may have major welfare and research ramifications.

Variations cannot take place without an understanding of these ramifications and require the specific approval of the Animal Facility Manager and researcher. Variations must be in line with recommendations of *The Code* 2013 and the Code of Practice for the Housing and Care of Laboratory Mice, Rats, Guinea Pigs and Rabbits (DPI, Vic 2004).

Some longitudinal studies require regular daily cage changing to minimise artefacts from imaging.

Cage changing of radioactive (hot) animals is generally completed by the researcher so that UQBR staff are not required to handle hot caging.

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Procedure Considerations


- A personal dosimeter should be worn at all times during this procedure *
- Radiation levels higher than 0.6 $\mu\text{Sv/hr}$ do not pose risk however radiation levels higher than this are not usual and so should be investigated
- The UQBR limit of 0.6 $\mu\text{Sv/hr}$ mentioned above is set to help manage the radiation risk to staff as 'members of the public'.
- Cage change equipment items should not be placed on the floor
- Work from the clean side to the dirty side within the cage change area
- At cage change a health assessment of each rodent is performed
- Gloved hands should be sprayed between each cage
- Gloves must be changed when changing cages from different colonies or treatment groups
- Paperwork must not be placed inside the defined work area when changing cages
- Disinfect your gloved hands each time you move outside the defined work area (*)
- If items or events for recording are observed during the cage change (e.g. a new litter is observed, an animal is found dead), complete the cage change ensuring the lid is on the cage then complete the recording of the event (e.g. update cage card, Genotrack, Health check card)
- Only one cage should be opened at one time
- Adverse events should be referred to UQBR SOP 22 UQBR Veterinary Care Protocol

V. SAFETY

1. PPE use is essential when handling laboratory rodents
2. All accidents, injury or near misses are to be reported immediately to the Facility Manager and recorded on a UQ OHS Incident Report Form
3. Ergonomics must be considered when completing this task to prevent muscle and joint injuries. Ensure equipment items are arranged to lessen bending and twisting.
4. Bench height may be adjustable – ensure bench is adjusted to the correct height by using the hydraulic controls. – add this to standard when inserted
5. Any items to be lifted must be 10kg or less
6. Risk Assessments specific to the project must be read and understood prior to working within a containment room
7. Pregnant women should not complete this task

This SOP has been reviewed by the UQ Radiation Protection Advisor 23rd June 2015

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VI. REFERENCES

1. Department of Agriculture and Fisheries (DAF): <http://www.daf.qld.gov.au/>
2. Guidelines to promote the wellbeing of animals used for scientific purposes (NHMRC, 2008): <https://www.nhmrc.gov.au/files/nhmrc/publications/attachments/ea18.pdf>
3. OGTR PC2 work requirements and regulations: <http://www.ogtr.gov.au>
4. QLD WH&S Act 2011: <https://www.worksafe.qld.gov.au/laws-and-compliance/workplace-health-and-safety-laws/laws-and-legislation/work-health-and-safety-act-2011>
5. Australian code for the care and use of animals for scientific purposes (8th Edition, NHMRC 2013): <https://www.nhmrc.gov.au/guidelines/publications/ea28>
6. Code of Practice for the Housing and Care of Laboratory Mice, Rats, Guinea Pigs and Rabbits (DEPI, Vic 2004): <http://www.depi.vic.gov.au/agriculture-and-food/animal-health-and-welfare/animal-welfare/animal-welfare-legislation/victorian-codes-of-practice-for-animal-welfare/code-of-practice-for-the-housing-and-care-of-laboratory-mice,-rats,-guinea-pigs-and-rabbits>
7. UQ Animal Welfare Unit SOPs: <http://www.uq.edu.au/research/integrity-compliance/standard-operating-procedures-sops>
8. UQBR Radioactive Card Template: <V:\Resources\Common\Templates>
9. UQ OHS Unit: <http://www.uq.edu.au/ohs/>
10. UQ OHS Incident Report Form: <http://www.uq.edu.au/ohs/index.html?page=141331>
11. UQBR SOPs: <V:UQBR/SOPs/Common/UQBR SOPs> and <http://biological-resources.uq.edu.au/secure/uqbr-sops>

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