

## LABORATORY ANIMALS SERVICES CENTRE QUALITY MANUAL AND QUALITY PROCEDURES

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## **CONTENTS**

- 1. LABORATORY ANIMAL SERVICES CENTRE**
- 2. QUALITY POLICY**
- 3. ORGANIZATION OF LASEC**
- 4. ROLES & RESPONSIBILITIES**
- 5. FACILITIES AT LASEC**
- 6. FACILITIES AT LRU**
- 7. DOCUMENT CONTROL PROCEDURE**
- 8. QUALITY RECORDS**
- 9. OPERATING PLAN**
- 10. INTERNAL AUDIT**
- 11. CONTROL OF NON-CONFORMING PRODUCT**
- 12. CORRECTIVE & PREVENTATIVE ACTION**
- 13. CONTINUAL IMPROVEMENT**

## **1. LABORATORY ANIMALS SERVICES CENTRE**

### **Introduction**

- 1.1 The Laboratory Animal Services Centre (LASEC) is a premier animal facility in Hong Kong. It is staffed with well-trained technical staff and is competently administered for the provision of animals for research purposes.
- 1.2 Animals are handled humanely on projects that have been approved by the Animal Experimentation Ethics Committee (AEEC) as being necessary while having the welfare for animals as a major part of their consideration.
- 1.3 LASEC technical support is co-operative so as that research occurs in a safe environment that is conducive to good research. LASEC makes available appropriate equipment for use and that the facilities are well maintained.

### **Scope of Quality Management System**

- 1.4 The services offered by LASEC under the Quality Management System fall into the following categories:
  - The provision of animals and associated consumables for the research functions of the CUHK.
  - The handling and care of animals whilst in LASEC and the LASEC Research Unit (LRU) at the Prince of Wales Hospital (PWH).
  - The humane culling of animals in LASEC and LRU and environmentally approved disposal of their carcasses.
  - Technical and administrative support to researchers when dealing with animals in the laboratories at LASEC and LRU.
- 1.5 LASEC does not carry out any design and development processes within the scope of its QMS. All the requirements that relate to clause 7.3 of ISO9001:2008 are excluded from this Quality Manual. This exclusion does not affect the ability of or responsibility of LASEC to provide a product that meets customer and applicable regulatory standards.

### **General Processes**

- 1.6 LASEC provides animals for research purposes. Researchers in CUHK who wish to use animals for their research purposes need to apply to the AEEC for approval.
- 1.7 This is to ensure that animals are used humanely for research purposes. Each research project therefore must have an AEEC No. that specifies the number of animals and the approved use. This must be submitted at the time of ordering

animals. If there is no AEEC No. or if the number of animals requested is greater than that authorised, the project cannot continue.

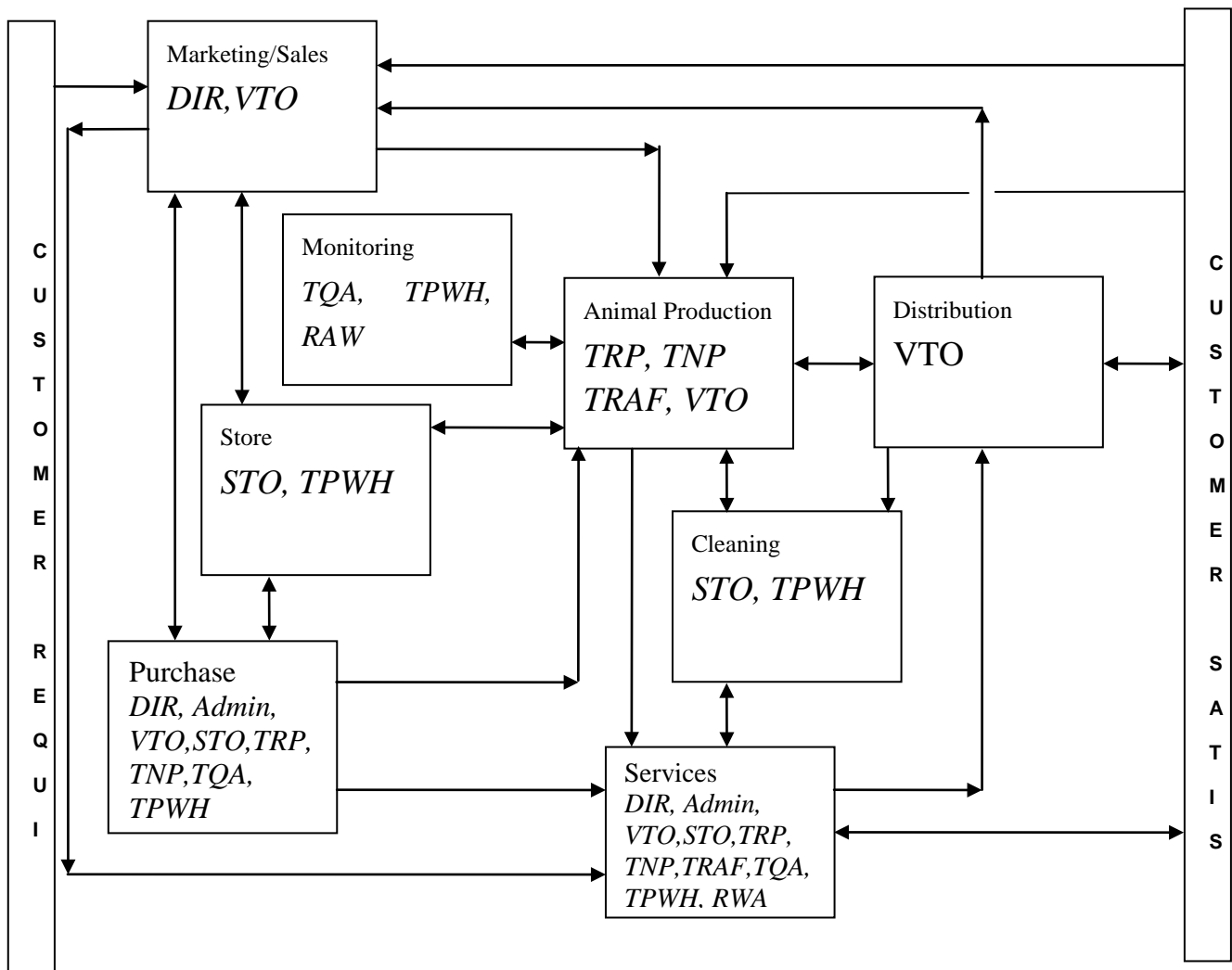
- 1.8 The majority of animals are rodents (mice and rats), hamsters, guinea pigs, musk house shrews, and rabbits. These are bred on the premises under strictly controlled environmental conditions to ensure breeding pairs remain healthy, assuring a consistent product. Unless specified, only pairs of animals from the same strain are bred assuring the offspring comply with universally accepted genetic definitions for the relevant strain. Cross-breeding of rodents can occur at the request of researchers and the breeding program will follow accepted convention. Where new, novel or other varieties of animals are requested, the relevant species will be imported. If the animals come from suppliers, accepted by LASEC as having animal colonies with a disease status the same or better than LASEC, then the animals will be placed directly into the LASEC facility but where the disease status of the imported animals are unknown or worse than LASEC, the animals will be held under quarantine and the colony will be rederived using internationally accepted techniques, before that new colony can be established and bred in the controlled conditions of LASEC. All materials and personnel, including animals are passed through a decontamination and/or sterilisation process before entering the breeding area.
- 1.9 Goats, pigs, ferrets and chickens, are not bred on the premises but are bought in from external sources. They are checked and given medication if necessary and held apart from the other animals until required.
- 1.10 Once research is completed, LASEC will organise disposal of the animals.
- 1.11 Animal handling involves a number of processes. These include:
- Feeding – animals are given fresh food and clean water
  - Housing – animals are provided with cages and bedding
  - Cleaning – cages are cleaned, sterilised and bedding changed
  - Monitoring – animals are monitored to ensure they are healthy and well treated.
- 1.12 All food, bedding, water and equipment is sterilised before it is allowed in contact with animals. This is carried out by having controlled areas. Controlled areas are known as clean areas. Sterilisation is carried out by passing bedding and equipment that can be subjected to heat and moisture either through an autoclave or a double-ended cabinet washer. Equipment that can not be sterilised as above will be wiped or sprayed with highly effective disinfection solution and passed through the airlock entrance to the controlled area. Food is received as pre-sealed sterile plastic packets that are passed through a dunk tank. All personnel pass through changing rooms and showers where they shower and change into clean shoes and clothing. The clean and non-clean sides of the facility are controlled to prevent contamination of the breeding and holding animals.

- 1.13 Depending on the species, animals have to be bred a number of weeks before they can be offered for research. This covers the gestation period and a period for them to become mature or large enough to be operated upon. These animals are known as issue stock. For this reason there is a relatively small window of use once they have grown and before they become too old. Animals that have passed their useful phase are culled.
- 1.14 Planning for the provision of animals means that requests for animals should be made to LASEC or LRU a suitable interval before they are required. Customers are reminded of this via LASEC web site and through annual training program held by the Director, LASEC for newly enrolled post-graduate students.
- 1.15 The animals are monitored to ensure they remain healthy, both individually and as a species. The equipment is suitable for the type of animal being raised. The environment is controlled through MEPA filters.
- 1.16 Animals from the breeding area are provided to researchers and delivered to the experimental area, the laboratories, the other areas of the Chinese University Campus, the HK Eye Hospital and PWH as required.

### **Customer Requirements and Feedback**

- 1.17 Contact with customers is made on two levels. The overall customer, who provides funds for the research facility and provision of animals, is the Chinese University. They manage the facility through a management committee. The LASEC Management Committee meets 2 or 3 times a year and it is through this forum that feedback is sought and given.
- 1.18 The researchers who use the facility request services through an electronic-based requisition system. Once the project is approved by the AEEC, they can liaise with the following personnel for all animals and consumables and to draw on the approved number of animals:
- The Technician in charge of Non-Rodent Production (TNP) for rabbits and guinea pigs.
  - The Technician in charge of Rodent Production (TRP) for transgenic and other novel mice
  - The Veterinary Technologist- Operations (VTO) for all other animals and consumables
  - The Technician in charge of the LASEC Research Unit in PWH (TPWH) for pigs and consumables in PWH

- 1.19 Feedback from researchers is through a survey questionnaire, which is given to a sample of customers once yearly. The Customer Survey is administered and held by the TQA.
- 1.20 The International Standard (ISO 9000) specifies generic “Requirements for a Quality Management System” but its intent is not to imply rigid conformity. It promotes adoption of a process approach to enhance customer satisfaction by meeting or exceeding customers’ expectations. The approach considers the inputs, the process and the outputs for all of the interactions of the organization.
- 1.21 For LASEC, these processes begin with an understanding of the customers’ requirements and planning the animal production accordingly. The animals are monitored and delivered according to the customer requirements. The customer satisfaction is checked and recorded. The process approach can be seen in Figure 1.



**Figure 1 – Process Approach for the Production of Animals at LASEC.**

Note:

DIR – Director - General Management; VTO - Veterinary Technologist Operations; STO - Senior Technician Operations; TRP - Technician in charge of Rodent Production; TNP - Technician in charge of Non-Rodent Production; TRAF - Technician in charge of Research Animals Facility; TQA - Technician in charge of Quality Assurance; TPWH - Technician in charge of LASEC Research Unit; RAW - Research Assistant in Charge of Animal Welfare

## 2. QUALITY POLICY

**2.1** Laboratory Animals Services Centre is committed to a quality management system (QMS) for the provision of animals for research purposes, within the Laboratory Animal Services Centre of the CUHK and the Research Unit of the Prince of Wales Hospital, and for associated technical support. The QMS complies with the requirements of the ISO 9000 series standards including the requirement to continually improve the effectiveness of the quality management system.

**2.2** This policy is communicated and understood by all people within the organization through notices and training, and it is regularly reviewed for continuing suitability.

**2.3** Quality targets and objectives are established and reviewed at the annual management review of the quality management system.

**2.4** Measurable Objectives include:

- Provision of healthy animals in a timely fashion as requested
  - as stated in 9.3 (iv)
- Husbandry of animals under appropriate environmental requirements.
  - as stated in 9.3 (i - iii)
- Use of animal in a humane manner
  - all projects are AEEC approved.
- Provision of appropriate training for researchers and students when requested.
  - All researchers and students have to go through Powerpoint training course before given access to enter the facilities
- To ensure that customers are aware that adequate, comprehensive and customer focused training is available.
  - All researchers and students are licensed before given access to enter the facilities
- To ensure the number of complaints or non-compliance do not exceed two per year.

### **Management Representative**

**2.5** The TQA is the nominated Management Representative and has authority for ensuring that a quality system is established and maintained in accordance with ISO 9001:2008. He reports to the Director on the performance of the Quality System.



## **Management Review**

- 2.6** The Director and TQA review the quality system annually to ensure its continuing suitability and effectiveness in satisfying the requirements of ISO9001:2008 and LASEC's stated quality policy and objectives. Records of such review are maintained by the Director.
- 2.7** On an annual basis, the Director and TQA and any other nominated parties come together to review the following:
- Results of audits
  - Customer feedback
  - Performance of Suppliers
  - Staff feedback
  - Process performance and product conformity
  - Status of preventive and corrective action
  - Follow-up actions from previous management review
  - Changes that could affect the quality management system
  - Recommendations for improvement
- 2.8** During the management review, any decisions and actions to be taken are minuted in relation to:
- Improvement of the effectiveness of the quality management system and its processes
  - Improvement of product related to customer requirements
  - Resource needs

## **3. ORGANIZATION OF LASEC**

- 3.1** The organisation at LASEC is under the control of the Director and VTO.
- 3.2** Staff employed by LASEC are trained and experienced to carry out the tasks assigned to them. They are responsible to carry out the duties assigned to them by the Director with minimal supervision.
- 3.3** The TQA maintains a schedule of authorized signatories.

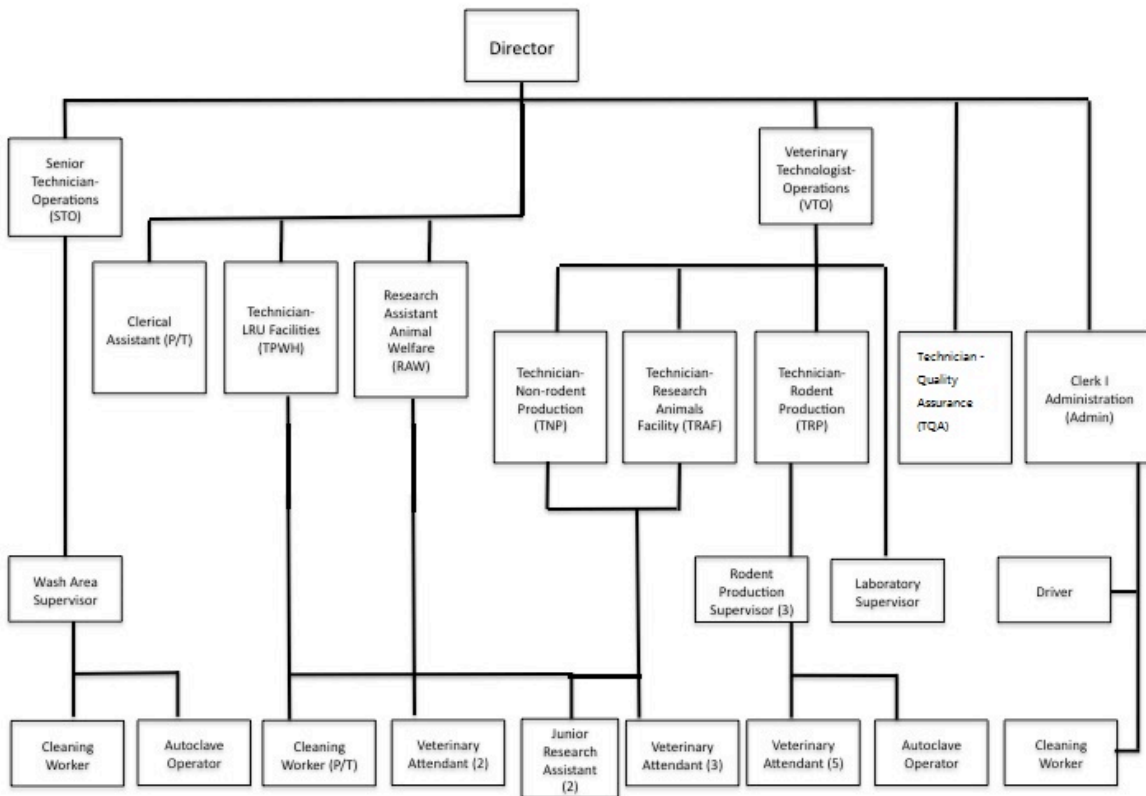


Figure 2 – Organisation Chart

## 4 ROLES & RESPONSIBILITIES

### 4.1 Director

Current Incumbent: Dewi K Rowlands

#### Responsibilities:

- The management of LASEC and the welfare of all staff and animals therein.
- Approval of the quality manual, and quality system procedures for adequacy before issue.
- Budget for the capital and revenue expenditure
- Arrange the import and export of laboratory animals (see also VTO)
- Management of human resources at LASEC
- Management of the LASEC Research Unit (LRU) facility at Prince of Wales Hospital (PWH), including the operation of the PWH Animal House.
- Budget for the capital and revenue expenditure of LRU
- Management of the School of Biomedical Sciences Animal Holding Core.
- Management of Animal Biosafety Level 2 facility.
- Service other units such as the Li Ka Shing Institute of Health Sciences, Animal Biosafety Level 3 Facility, Cancer Centre and Minimally Invasive Surgical Skills Centre.

- Advise staff and students of the university on the research aspects of animal research, including organising training workshops and seminars, and providing professional advice and assistance.

**Areas Covered:**

- LASEC and all research animal areas at CUHK

**4.2 Veterinary Technologist - Operations (VTO).**

**Current Incumbent: - John Tse**

**Responsibilities:**

- co-ordination of order receipt, overseeing production, animal dispatch and appropriate housing including location and space
- delivery of animals, bedding, diet and drugs to sites associated with CUHK for those researchers and students associated with CUHK (see also Admin).
- purchase of capital equipment to a value less than 100,000 HKD.
- purchase of medical gases.
- marketing of animals, bedding, diet, and drugs.
- booking and control of LASEC's facilities e.g. the OT rooms.
- provision of technical advice and training to researchers and their students.
- rederivation of newly arrived laboratory rodents (see also TRAF, TRP, TNP).
- implementing LASEC safety policy (see also TNP and STO).
- the maintenance of the building.
- Conduct weekly vet round in all animal holding area of CUHK facilities to monitor condition of issued animals (see also TNP and STO).
- Arrange the import and export of laboratory animals (see also DIR)

**Area covered:**

- All floors of LASEC and holding rooms of CUHK facilities.

**4.3 Senior Technician - Operations (STO).**

**Current Incumbent: - Chan Hung Sun**

**Responsibilities:**

- management of the wash area and associated equipment
- purchase of diet, bedding, and miscellaneous consumables.

- management of all bulk store areas outside of the clean (barriered) area (Individual store areas for each floor or area of responsibility are under the control of the relevant area technical staff in-charge).
- implementing LASEC safety policy. (see also TNP and VTO).
- maintenance of wash area equipment, building improvements, and building security system.
- implementation and management of the e-ordering system (see also Admin and TQA).
- Conduct weekly vet round in all animal holding area of CUHK facilities to monitor condition of issued animals (see also TNP and VTO).
- assists Director and VTO when required, e.g.
  - post mortem of dead animals in G04
  - provision of technical advice and training to researchers and their students, on the use of goats and pigs

**Area Covered:**

- All floors of LASEC.

#### **4.4 Technician in charge of Rodent Production (TRP)**

**Current Incumbent: - Joe Cho Cheuk Yin & Ng Chi Keung**

**Responsibilities:**

- production of laboratory rodents and assuring their health is maintained.
- management of all store areas inside of the clean (barriered) area.
- providing support and advice to researchers in the production of rodents for their research, this includes the satisfactory provision of rodents to research staff and their students.
- maintenance of the 3/F (see also VTO and STO).
- rederivation of newly arrived laboratory rodents (see also TRAF, VTO, TNP).
- Calibrate the balances and weight set used on 3/F

**Area Covered:**

- The 3/F including the appropriate change rooms and the air shower entry area.

#### **4.5 Technician in charge of Non-Rodent Production (TNP).**

**Current Incumbent: - Paul Chan Man Po**

**Responsibilities:**

- production of laboratory rabbits, hamsters and guinea pigs and assuring their health is maintained.
- providing support and advice to researchers in the production of rabbits, hamsters and guinea pigs for their research, this includes the satisfactory provision of these animals to research staff and their students.

- provision of technical advice and training to researchers and their students, on the use of rabbits, hamsters and guinea pigs.
- maintenance of the 4/F, B corridor (see also VTO and STO).
- chairing the safety committee of LASEC, implementing LASEC safety policy and overseeing safe operations within LASEC (see also STO and VTO)
- rederivation of newly arrived laboratory rodents (see also VTO,TRP, TRAF).
- purchase of safety equipment.
- safe storage of all laboratory chemicals.
- Conduct weekly vet round in all animal holding area of CUHK facilities to monitor condition of issued animals (see also VTO and STO).
- Calibrate the balances and weight set used on 4/F

**Area Covered:**

- All Floors of LASEC and particularly the 4/F B Corridor.

**4.6 Technician in charge of Research Animals Facility (TRAF).**

**Current Incumbent: - Lam Lik Wang**

**Responsibilities:**

- production of laboratory shrews and SCID mice and assuring their health is maintained.
- rederivation of newly arrived laboratory rodents (see also VTO,TRP, TNP).
- husbandry of laboratory goats, pigs, ferrets and poultry and assuring their health is maintained (see also STO).
- provision of technical advice and training to researchers and their students, on the use of rabbits, guinea pigs, poultry, ferrets and shrews (see also STO).
- maintenance of the 4/F, A corridor and G04 (see also VTO and STO).
- Assists Director and VTO when required, e.g.
  - post mortem of dead animals in G04
  - provision of technical advice and training to researchers and their students, on the use of goats and pigs

**Area Covered**

- 4/F, corridor A and G04.

**4.7 Technician in charge of Quality Assurance (TQA).**

**Current incumbent: - Darren Chan Kin Chung**

**Responsibilities:**

- purchase of laboratory equipment and consumables (see also VTO).
- animal health and genetic monitoring of the relevant animal colonies within LASEC and LRU (this includes the enlisting of the assistance of TRP, TNP and TPWH).

- monitoring of the environment and associated facilities of LASEC.
- maintenance of laboratory equipment (see also STO and VTO).
- Management Representative for the Quality Management System
- Implementation and management of the LASEC Quality Management system.
- Maintenance of master copies and master lists and distribution registers.
- implementation and management of the e-ordering system (see also STO and Admin)
- organization of the training programme for staff

**Area Covered:**

- All floors of LASEC.

#### **4.8 Clerk I in charge of Administration (Admin)**

**Current Incumbent: - Angelina Lau**

**Responsibilities:**

- purchase of all office equipment including furniture, computer software, computer and office hardware and consumables (see also STO).
- all correspondence files and records, animal sales records and associated faculty returns and debit and receipt accounts details.
- cleanliness and maintenance of all office, laundry and staff amenities (see also STO).
- all delivery of mail and passengers to sites associated with CUHK (see also VTO).
- implementation and management of the e-ordering system (see also STO and TQA)
- Maintains leave records.
- Maintains petty cash.

#### **4.9 Technician in charge of LASEC Research Unit Facilities (TPWH)**

**Current Incumbent: - Kenny Sin Wing Keung**

**Responsibilities:**

- maintain the daily operation of LRU, ensuring adequate materials for operations
- supervision of junior staff
- husbandry of all animals in PWH
- support research projects and collaboration
- assist in workshop from various departments in PWH
- maintenance of environment in LRU
- any other duties as directed by DIR

**Area Covered:**

- All area in LRU and G03 in LASEC

#### **4.10 Research Assistant in Charge of Animal Welfare (RAW)**

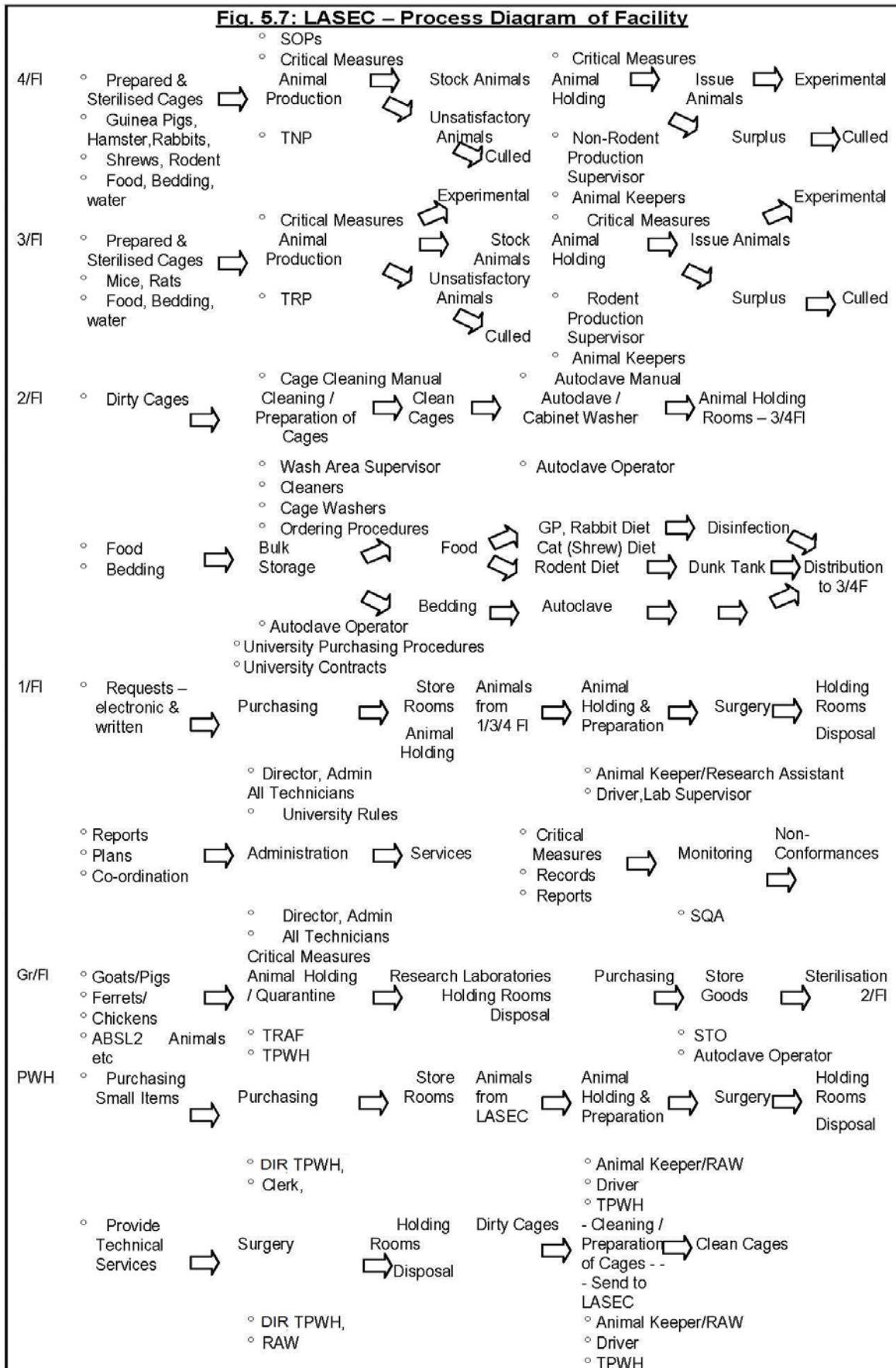
**Current Incumbent:- Tommy Chan Siu Fai**

- monitor the welfare of laboratory animals at CUHK
- assist the DIR and VTO in conducting animal handling training
- supervise operation of ABSL 2.
- assist in workshop from various departments in PWH

## **5 FACILITIES AT LASEC**

- 5.1** The LASEC facility occupies an attractive location in the grounds of the Chinese University of Hong Kong. The facility is located on 5 floors. The ground floor, comprising the entrance, the holding pens for larger animals (G04), which are not bred on the premises and the Animal Biosafety Level 2 facility (G03). On the ground floor are storage areas for bulky supplies. Goods and personnel use the lift system and entrance to the 4 upper floors is by a pass card. The facility is divided in ‘clean” areas and ‘dirty’ areas. Entry of all goods and personnel into clean areas is controlled, with access to the 3rd floor, where the mice and rats are bred, being via the 2nd floor change and shower room for personnel and cabinet washer, autoclave, dunk tank and airlock for goods.
- 5.2** The first floor houses the administration block, the laboratories and the Animal Biosafety Level 2 facility (105D). Staff are required to wear appropriate personnel safety clothing. The equipment is up to date and supplied to suit the research workers requirements. LASEC staff assist in the preparation and disposal of animals in the laboratories and monitor their welfare.
- 5.3** The second floor houses the food stores, bedding and cages. The cleaning and sterilising equipment is located here and the floor is divided into clean and dirty areas separated by the autoclave, dunk tank and airlock. Once cages are cleaned, they are returned to the clean area through the cabinet washer or autoclave. Bedding is passed through the autoclave. Food parcels are placed in a dunk tank to access the clean area. Also on the second floor are changing rooms where staff can access the 3rd Floor clean areas only after they have followed approved procedures, as outlined in Trafficking of the 3/F Rodent Barrier Area (SOP-002).
- 5.4** Clean and sterile cages, food and bedding are delivered to the 3rd Floor and 4th Floor and personnel can access the 3rd Floor by means of the clean lift.
- 5.5** The third and fourth floors house the animal production areas. Here rodents and non-rodents are bred and their offspring fed and housed until mature.
- 5.6** The fourth floor houses the experimental area, which is accessible by researchers for work on live animals.

5.7 A process diagram showing the various processes that take place on each floor is given in Fig 5.7.





## Clothing

**5.8** Different clothing is worn in different areas of LASEC to make sure that only staff who are authorised to be in a certain area are working in that area.

For Staff:

- Navy Blue Overalls – 2/F Wash Area, G04, 1/F & Goat/Pig handlers
- White Overalls – 3/F Staff from Shower / Change Facilities to Pass Through Area & 4th Floor Staff
- Light Blue two piece Work Overalls – 2/F Clean Area
- working on G03 and 105D wear disposable paper gowns

For Researchers / Students:

- working on 4/F wear white gowns with blue logo;
- working on 1/F wear white gowns with red logo; navy blue overalls (for Goat/Pig users only);
- working on G03 and 105D wear disposable paper gowns

unless exempted by the Director.

## One Way System

**5.9** The Facility uses a zonal concept of barriers

- Rodents that leaves the 3rd Floor cannot go back
- Hamsters, Rodents, Rabbits and Shrews that leaves the 4th Floor cannot go back
- Hamsters, Rodents, Rabbits and Shrews that leaves the buildings cannot return. Goats, ferrets and chicken can pass between the 1st Floor and G03.

**5.10** Where visitors, such as maintenance staff are given access to clean areas, they are individually shown the entry procedure, as in Form SOP-FRM-003.

## 6 FACILITIES AT LRU

**6.1** The LRU facility occupies the ground floor of Li Ka Shing Medical Science Building in PWH as well as ground floor of the Clinical Science Building in PWH. There are two entrance sites, one of them is from hospital and the other one is from the car park. Both entrance doors are limited to users only and controlled by electronic locks. The Clinical Science Building is composed of an office, storage room, changing room for staff, two operations rooms, three rooms for rabbits and four rooms for rodents; there is also a preparation room for clean utilizes and one for used cages.

**6.2** The Li Ka Shing Medical Science Building is composed of an office, storage room,

changing room for staff, two rooms for individual ventilating cages (IVC) and one room for cage washing machine.

**6.3** Water supply is from Water Department, Hong Kong and it is hygienic enough for the animals to consume without further treatment.

**6.4** Clothing. All LRU workers have to wear uniform provided. Users have to wear their laboratory coat or other Personnel Protective Equipment (PPE) provided.

## 7 DOCUMENT CONTROL PROCEDURE

**7.1** Documents can be in the form of any type of media, such as hard copy or electronic media.

**7.2** Documents are reviewed at least on an annual basis, and, as necessary, updated and re-approved. Changes to the documents are identified, as is their current revision status.

**7.3** The following documents provide a frame of reference for LASEC. These documents are controlled or retrieved from the Government Information System as required, to ensure that only the most up-to-date version is being used.

**7.4** The Master list of Internal documents, SOPs and Forms is held by the TQA and is shown in Appendix A.

	Title	Reference	Location
HK LAW	Animals (Control of Experiments) Ordinance	CAP 340	<a href="http://www.legislation.gov.hk">http://www.legislation.gov.hk</a>
	Boilers and Pressure Vessels Ordinance	CAP 56	<a href="http://www.legislation.gov.hk">http://www.legislation.gov.hk</a>
	Radiation Ordinance	CAP 303	<a href="http://www.legislation.gov.hk">http://www.legislation.gov.hk</a>
	Waste Disposal Ordinance	CAP 354	<a href="http://www.legislation.gov.hk">http://www.legislation.gov.hk</a>
	Control of Chemical Ordinance	CAP 145	<a href="http://www.legislation.gov.hk">http://www.legislation.gov.hk</a>
	Occupational Safety Health Ordinance and Regulations	CAP 509	<a href="http://www.legislation.gov.hk">http://www.legislation.gov.hk</a>
	Factories and Industrial Undertaking Ordinance and Regulations	CAP 59	<a href="http://www.legislation.gov.hk">http://www.legislation.gov.hk</a>
	Employees Compensation	CAP 282	<a href="http://www.legislation.gov.hk">http://www.legislation.gov.hk</a>

	Ordinance		
	Prevention of Cruelty to Animals Ordinance	CAP 169	<a href="http://www.legislation.gov.hk">http://www.legislation.gov.hk</a>
	Antibiotics Ordinance	CAP 137	<a href="http://www.legislation.gov.hk">http://www.legislation.gov.hk</a>
	Dangerous Drugs Ordinance	CAP 134	<a href="http://www.legislation.gov.hk">http://www.legislation.gov.hk</a>
	Pharmacy and Poisons Ordinance	CAP 138	<a href="http://www.legislation.gov.hk">http://www.legislation.gov.hk</a>
	Firearms and Ammunition Ordinance	CAP 238	<a href="http://www.legislation.gov.hk">http://www.legislation.gov.hk</a>
University Regulations	Employment		<a href="http://www.cuhk.edu.hk/personnel/">http://www.cuhk.edu.hk/personnel/</a>
	Purchase		<a href="http://www.cuhk.edu.hk/bursary/eng/default.htm">http://www.cuhk.edu.hk/bursary/eng/default.htm</a>
	AEEC		<a href="http://www.aeec.med.cuhk.edu.hk/">http://www.aeec.med.cuhk.edu.hk/</a>
	Safety		<a href="http://www.cuhk.edu.hk/useo/">http://www.cuhk.edu.hk/useo/</a>
	Dangerous Goods		<a href="http://www.cuhk.edu.hk/useo/safety/dg/dgview.htm">http://www.cuhk.edu.hk/useo/safety/dg/dgview.htm</a>
	Training		<a href="http://www.cuhk.edu.hk/personnel/">http://www.cuhk.edu.hk/personnel/</a>

**7.5** Documents and forms required by this quality management system are checked from time to time, typically during internal quality audit to ensure that they remain legible, identifiable and that the current issue is in use.

**7.6** Obsolete documents are prevented from unintended use by withdrawal from circulation. They suitably identified as being “obsolete” if they are retained for any purpose.

## **8 QUALITY RECORDS**

**8.1** Documents and records relating to processes are generally kept by the technical staff in-charge responsible for that process. Records are kept only for sufficient time for the purpose of the record keeping. For example, records on the environmental aspects of the animal holding are kept until the TQA is satisfied that there is no non-conformance. Other records follow CUHK custom and practice, namely invoices for 1 year, general files for 7 years, purchase orders indefinitely and staff records for the period of the employee’s employment. The TQA is responsible for the disposition of quality records that exceed their specified retention time.

**8.2** Quality records are established and maintained to provide evidence of conformity to requirements and the effective operation of the quality system. These include all management review, audit records and records of non-conformances and corrective action.

Item	Retention Period
<b>8.3 The Director holds the following records:</b>	
Budget	7 Years
LASEC Guidelines	7 Years
Expenditure Record (LRU)	3 Years
LRU Guidelines	7 Years
Charges for each department of Chinese University customer for Animals, Delivery, Operating, Holding and Workshops in LRU	3 Years
Charges to external customers	3 Years
Dangerous Drug Record Book	7 Years
Electronic door keys application	7 Years
Research records for both internal and external projects	7 Years
<b>8.4 The Admin holds the following records:</b>	
Capital equipment over \$150,000	Until written off
Orders for animal diet and bedding if they have been subject to annual tender according to University Procedures	7 Years
Record of Invoices	7 Years
Authorisation for Requisition of Animals (Internal to the University)	7 Years
Animal inventories and summaries	7 Years
Charges for each department of Chinese University customers (Internal customers) for Animals, Delivery, Operating Theatre and Holding.	7 Years
Charge to external customers	7 Years
Personnel Records	The period of the employee's employment
Leave Records	The period of the employee's employment (7 years max)
Leave Application Form	1 Year
Management Committee and Staff Meetings	7 Years

<b>8.5 The VTO holds the following records:</b>	
Special Order Requisition Forms (SOP-FRM-008)	2 Years
Gas Consumption Record	3 Years
External Animal Consumer Order Record	3 Years
Animal Record Forms for animal colonies kept under the supervision of the VTO	7 Years
Dangerous Drug Record Book	Indefinite
<b>8.6 The STO holds the following records:</b>	
Working Instructions for the machinery such as Cage Washing, Sterilising and Autoclave.	Working life of the machine
Wash Area Maintenance	7 Years
Survey and Certification Records for the relevant machinery	7 Years
LASEC Access System Record	7 Years
<b>8.7 The TNP holds the following records:</b>	
Animal Record Forms for animals kept under the supervision of the TNP.	1 Year
Guidelines for Fourth Floor Users	1 Year
Safety Policy	1 Year
Safety Procedures	1 Year
Safety Audit	1 Year
Check lists for Animal Keepers.	1 Year
<b>8.8 The TRP holds the following records:</b>	
Animal Record Forms for animals kept under the supervision of the TRP.	1 Year
Instructions for Specialist Breeding	Life of the Colony
Entry Procedures for 2 <sup>nd</sup> / 3 <sup>rd</sup> floor Clean areas	1 Year
<b>8.9 The TRAF holds the following records:</b>	
Animal Record Forms for 4 <sup>th</sup> Floor and Immuno-compromised Rodent Facility.	1 Year
Requisition for Euthanasia	1 Year
Technical Advice & Training	1 Year
Breeding Instruction for Shrew and SCID mice.	1 Year
Check Record for IVC machine	1 Year
<b>8.10 The TQA holds the following records:</b>	
Animal Health Monitoring Reports.	7 Years
Serological test requests and reports	7 Years

Laboratory Equipment and consumables	7 Years
Customer Survey Forms & Feedback	7 Years
Quality Manual & procedures	7 Years
<b>8.12 The TPWH holds the following records:</b>	
Records for animal diet ordering	1 Year
Animal inventories and summaries	1 Year
Animal welfare monitoring reports	1 Year
LRU Access System Record	7 Years
<b>8.13 The RAW holds the following records:</b>	
ABSL-2 Training Record	7 Years

## OPERATING PLAN

### Animal Supply

The main service offered by LASEC is the provision of the correct animal at the correct time as specified. The Flow Chart of Animal Supply from Production Units in LASEC is given in Fig 9.1.

**9.1** Each research project must have an AEEC number except for summer projects or special projects. Both require prior arrangement with the Director. Researchers conducting summer or special projects must have a license to conduct research issued by the Department of Health.

The electronic ordering (e-ordering) system is a web-based, requisition system for CUHK researchers to request animals, products or services. This system provides the basis for animal specifications and is the main control function for requests of animals or other supplies within the university (Internal requests). However, requests for animals, products or services can come in other forms if some reason the researcher is unable to use the e-ordering system. Any CUHK verbal, written or e-mail request requires the AEEC number to be quoted and must be followed by a Special Order Requisition Form (SOP-FRM-008), which is signed by the Principle Investigator or the appropriate department technical staff in-charge and stamped with department chop.

If the Animal Production technical staff in-charge cannot meet the customer requirements with a tolerance of  $\pm 10\%$  for the weight of the issued animals, he will contact the customer either direct or through the VTO and amend the record in e-ordering system accordingly. The balances used for weighting the animals are calibrated with M1 graded dead weight from time to time, i.e. 3 months.

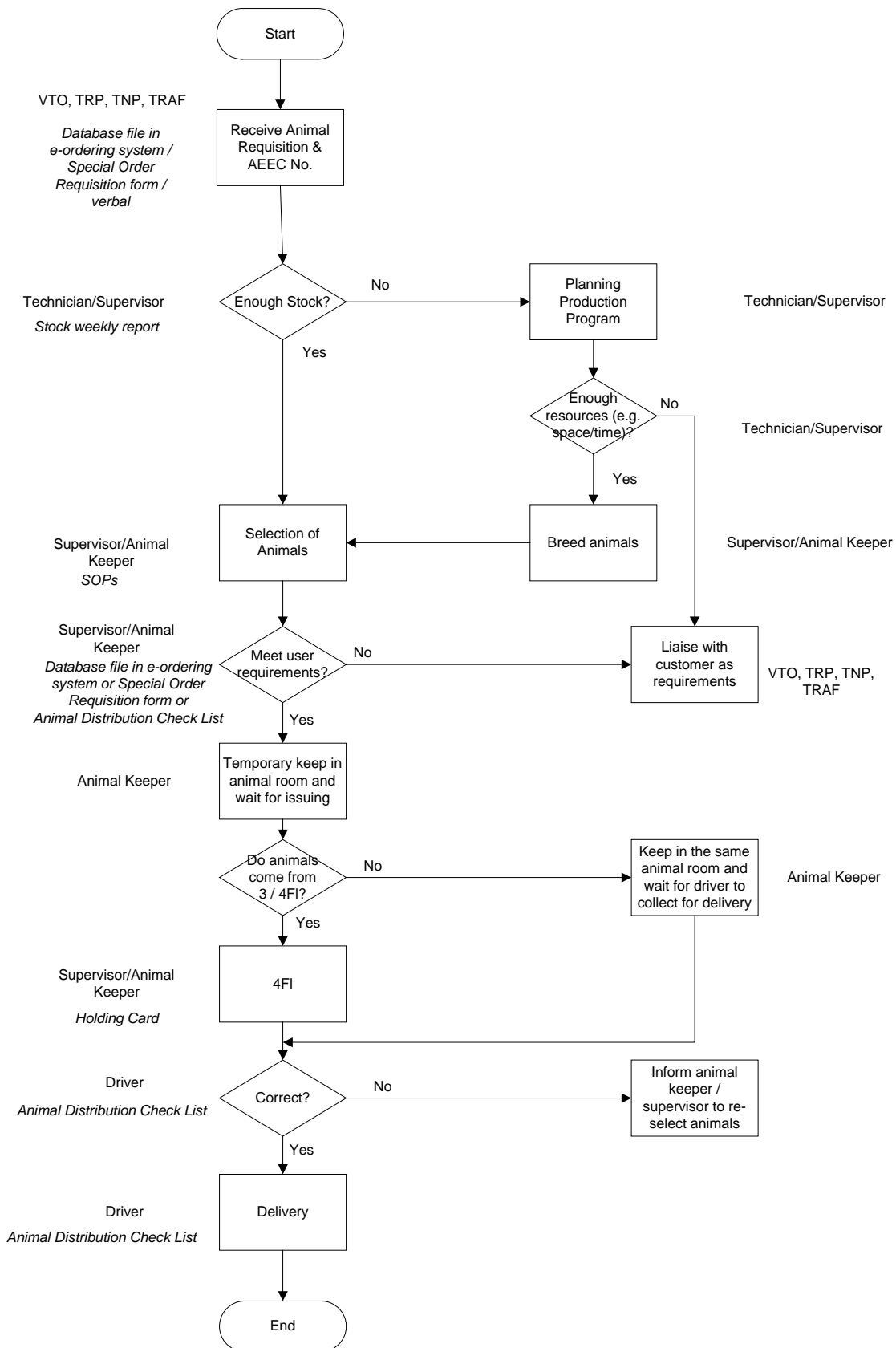
Any alteration of the order by the researcher requires the researcher to fill in a Special Order Requisition Form (SOP-FRM-008), which also must be signed by the Principle Investigator or the appropriate department technical staff-in-charge and stamped with department chop. Those Special Order Requisition Forms are returned to the VTO so that amended delivery lists can be drawn up. The Special Order Requisition forms that have not been used for cancelling or amending an e-ordering system order are passed to the Admin to process for payment.

**9.2** A list of animals to be distributed (Animal Distribution checklist) is generated each day through the e-ordering system for the animals to be delivered the following day. The driver will collect the animals and check against this list before distribution.

Each cage whether for delivery from LASEC to outside location or for LASEC use on the G/F, 1/F or 4/F must have a cage card containing details of what the cage contains, the AEEC No., the owner of the cage and their contact details.

All escaped animals must be killed or captured and placed in a clean cage and labelled as escaped animal for future extermination. If the escaped animal cannot be caught the person observing the animal must notify LASEC management, as soon as possible.

Fig. 9.1: Flow chart of Animal Supply from Production Units in LASEC





## Environmental Monitoring

- 9.3** The animals' environment is monitored to ensure that healthy animals of the correct size and weight are provided. Critical measures for the quality animals are as follows:
- (i) Microbiological standards of water - in-house sampling & in-house culturing carried out. If 1 TNTC occurs there is an investigation. TQA takes corrective action and records.
  - (ii) Microbiological standards of air - routine maintenance of MEPA filters is out-sourced. Records are kept by the STO
  - (iii) Quality standards of feed - Feed is commercially sterile. LASEC relies on the supplier to inform on non-compliance.
  - (iv) Health standards of rodents - serological and genetic tests are out-sourced and reported back. If positive, a re-sample will be carried out. In-house - TNP carries out parasitology and gross pathology and analyses data to determine whether any corrective action is required. Records are kept by the technical staff in-charge responsible for the animals being tested.

## Genetic Monitoring

- 9.4** Genetic monitoring of the inbred strains of rodents is carried once a year with electrophoretic isozyme analysis for biochemical polymorphism. This is to ensure that all inbred strains of rodents comply with recognized genetic profiles as held by the Animal Resources Centre, Australia.

## Cleaning and Sterilisation

- 9.5** Cleaning in LASEC is carried out by washing area staff. They follow procedures set out by the STO and provided to washing area staff and posted on the appropriate equipment. Checks to ensure that cleaning procedures are followed form part of the internal audit.
- 9.6** Cleaning in LRU is carried out by LRU staff. They follow procedures set out by the DIR and provided to washing area staff and posted on the appropriate equipment. Checks to ensure that cleaning procedures are followed form part of the internal audit.
- 9.7** Sterilisation is carried out by skilled autoclave operators who are trained in the use of the equipment. Checks to ensure that sterilisation procedures are followed form part of the internal audit.

## **Animal Welfare**

- 9.8** Every internal research project requires an AEEC No. If there is no number, the project cannot continue and animals are not provided.
- 9.9** Regarding project compliance, the number of animals used cannot exceed the number applied for. The compliance of this is for the technical staff in-charge of the department carrying out the research to monitor and control.
- 9.10** Animals are monitored daily by the technical staff during feeding. It is the responsibility of technical staff to inform management of any signs of distress so that corrective action can be taken.
- 9.11** RAW will periodically monitor and check compliance to AEEC procedures and will report any non-compliance to the DIR for further action.

## **Training**

- 9.12** It is the responsibility of individual technical staff in-charge to assess training needs and opportunities for their staff or for all staff in the case of quality or safety.
- 9.13** Relevant technical staff in-charge passes information regarding training to the TQA who keeps records of all internal and external training.
- 9.14** User briefing is carried out by the relevant technical staff in-charge before the user enters a part of the facility for the first time. User with a valid animal license issued by the Department of Health then has to sit for an introductory course and pass an exam before access is granted. Records of briefing and copy of the animal licenses are maintained by the STO once users' access have been granted.
- 9.15** All training programs for critical equipment (i.e. all Class II Cabinets and Toxic Chemical Cabinet, anaesthetic machine and refrigerated centrifuge) will have a 2 week post training appraisal in which the trainee will be expected to show the trainer their knowledge of the equipment. Such appraisal will be noted on their training records.
- 9.16** LASEC provides a small area for conducting work with BSL-2 pathogens (G03) and carcinogens (105D) in small animals. Use of the facility is on the understanding that ALL procedures, including water and food provision, treatment, cage changing, and equipment and area disinfection is carried out by the individual user of the facility. It will be the responsibility of individual supervisors to ensure that their staff/students are adequately trained and are competent in experiments involving BSL-2 pathogens and animals. LASEC staff will provide a brief introduction to the

facilities before use to ensure that the users fully understand the procedures in place. RAW keeps records of ABSL-2 training.

## **Administration**

- 9.17** The efficient management of the facility requires the use of animals and consumables to be monitored. The Director monitors this for the annual budget of LASEC and the annual income/expenditure of LRU. There is a ratio of expenditure of consumables and number of animals. If this is too high, LASEC can seek a price increase for internal customers.
- 9.18** There is an equal and even distribution of knowledge to senior staff and sub-ordinate staff through a series of meetings. Senior staff meetings and meetings between technical staff and units.

## **Safe Environment**

- 9.19** The TNP is the Safety Officer and maintains the Safety Policy and Safe Working Procedures.
- 9.20** An annual safety audit is carried out by the TNP to ensure safe working practices are followed.
- 9.21** The lift system in LASEC is accessed and operated by CU Link Card. Access is granted to user with a valid animal license issued by Department of Health. Each user has to sit for an introductory course and pass an exam before access is granted. Researchers and Staff can access the building at any time. The STO holds records of all user of LASEC and the TPWH holds records of all user of LRU. After office hours a camera will record entry.
- 9.22** In the event of technical failure in LASEC, the university security service will contact either the STO, the VTO or the Director in that order. In the event of technical failure in LRU, the PWH security service will contact either the DIR or the TPWH in that order.
- 9.23** All laboratories within LASEC and LRU that are being used exclusively by individual research groups must have the contact details of a responsible person on the outside of the door for emergency contact.

## **Appropriate Equipment**

**9.24** LASEC and LRU provide appropriate equipment for the use of researchers. A list of all capital equipment in the facility is kept by the STO and TPWH.

**9.25** Equipment is maintained by a number of sources, either the original supplier or the university maintenance department. The maintenance responsibility and location of records is detailed on the following Table.

<b>Equipment</b>	<b>Responsibility</b>	<b>Location of Maintenance Records</b>
MEPA Filter	STO	LASEC Rm103E
Autoclaves	STO	LASEC Rm205
Steam Boiler	STO	LASEC Rm205
Cabinet Washer	STO	LASEC Rm205
Tunnel Washer	STO	LASEC Rm205
Organic Solvents Cabinets	TNP	LASEC Rm102
Ozone Generators System 3/F	TRP	LASEC Rm102
Ozone Generators System 4/F	TRAF	LASEC Rm102
Van	STO	LASEC Rm103E
Anesthetic Machines	STO	LASEC Rm103A
Computer Security System	STO	LASEC Rm103E
Laundry Washers and Driers	VTO	LASEC Rm103A
Centrifuge	TQA	LASEC Rm103D
Dissecting Microscope	TQA	LASEC Rm103A
Cage Washer	TPWH	PWH
IVC Controls Machine	TPWH	PWH
Car	DIR	PWH
Laundry Washer and Drier	TPWH	PWH
Microscopes	TPWH	PWH
Security System	DIR	PWH
Syringe Pumps	DIR	PWH
G03D Autoclave	STO, RAW	G03D
Vacuum Cleaner	TPWH	PWH

### **Maintenance of Facilities**

**9.26** All maintenance work is outsourced. Members of the management team can request maintenance work from the university as required. The STO and TPWH keep

records of maintenance requirements and provision for LASEC and LRU respectively.

- 9.27** In order to minimize the effect to the users' experiments, any maintenance work which might produce excessive noise or vibration, a notice informing users of the maintenance work shall be posted on the web site and in the lift at least two weeks in advance of the work commencing.

### **Technical Support**

- 9.28** Support is given to researchers by the DIR, VTO, STO, TNP, TRP, TRAF, TPWH and RAW working with researchers. Where researchers are unfamiliar with animal injecting, oral administration, operating or culling procedures, they may request the services of LASEC and LRU staff for assistance or training. Support is given to hold animals, administer drugs, take blood and prepare animals for surgery as required to ensure that the animals continue to be handled in an appropriate manner. Where researchers are trained in these techniques, they are asked to complete a customer feedback form.
- 9.29** Users using equipment or carrying out procedures for the first time are given training and ongoing supervision by the appropriate technical staff in-charge.

## **10 INTERNAL AUDIT**

- 10.1** Internal audits are conducted at planned intervals to determine whether the quality management system conforms to the planned arrangements, to the requirement of ISO 9001 and to this quality management system and is effectively implemented and maintained. When planned results are not achieved, correction and corrective action shall be taken, as appropriate.
- 10.2** Internal quality audits are programmed and planned taking into consideration the status and importance of the processes and areas to be audited as well as the results of previous audits. The TQA documents and files the internal quality audit schedule and directs that the audits be conducted.
- 10.3** Internal quality audits are carried out by appropriately trained internal auditors who do not have direct responsibility for the activity being audited.
- 10.4** The current issue (revision) status of documents is checked during audit to preclude inadvertent use of obsolete documents.

- 10.5** The internal audit report records the details of the audit and the results. These results are notified to the person responsible for the activity being audited. The internal audit report is maintained as a quality record.
- 10.6** The management responsible for the area being audited takes action without undue delay to eliminate detected non-conformities and their causes.
- 10.7** Forms for Quality Audit are maintained by the TQA as set out in the Master List of Forms.

## **11 CONTROL OF NON-CONFORMING PRODUCT**

- 11.1** Any product, which does not conform to product requirements, shall be identified and controlled to prevent its unintended use or delivery. The identification can be made during internal audit or as part of the checks carried out on request or delivery of animals.
- 11.2** Nonconforming products are identified as nonconforming. Animals are checked against the records in the e-ordering system at various stages as set out in section 9.1 to 9.5.
- 11.3** Nonconforming products are controlled to prevent unintended use or delivery. This control may include action to preclude the original use or application.
- 11.4** The use, release or acceptance under concession of nonconforming product may be authorized by the relevant technical staff in-charge and where applicable by the customer as set out in Section 9.4.
- 11.5** Action is taken to eliminate the nonconformity. If any of the checks show and animal is being delivered that is not as specified, the animal will not leave the breeding area or will not be delivered.
- 11.6** The correct animal or product is subjected to re-verification to demonstrate conformity to requirements.
- 11.7** When nonconforming product is detected after delivery or use, the relevant technical staff in-charge will take action appropriate to the effects, or potential effects, of the nonconformity.
- 11.8** Records of the nature of non-conformities and any subsequent actions taken are maintained in accordance with the quality records procedure.

## 12 CORRECTIVE & PREVENTATIVE ACTION

- 12.1** This procedure documents the method for corrective and preventive action taken to eliminate the cause of actual or potential non-conformities in order to prevent recurrence.
- 12.2** The TQA administers the Customer Survey which requests feedback from customers as to their requirements
- 12.3** Any complaints from customers are brought to the attention of the Director who will review them and determine what action is required. A record of complaints and action taken is maintained by the TQA
- 12.4** When they arise, non-conformances are reviewed by the responsible technical staff in-charge and the TQA to determine the likely cause. The action needed to correct them is set out in the Corrective Action Plan (CAP) (Form QF852-1)
- 12.5** The technical staff in-charge responsible for the non-conformance records the results of the corrective action in the CAP and the TQA will review it and sign it off.
- 12.6** Potential non-conformances and the likely causes can be determined by any member of staff at any time. Formal review is carried out during the Management Review and during Senior Staff meetings. The TQA will evaluate the need for action to prevent occurrence of the potential non-conformance and record the results of any preventive action.

## 13 CONTINUAL IMPROVEMENT

The management of LASEC is committed to continuously improve the performance of the organization and identify and monitor improvements. One of the outputs of the Annual Management Review is a programme of continuous Improvement. This is reviewed and amended at each Management Review.

The initial review of continual improvements has identified the following:

- (i) More accurate costing of animals.
- (ii) E-ordering system to improve compliance with AEEC requirements.
- (iii) Review records on use and supply of animals to improve demand and supply.
- (iv) Review customer survey responses to establish whether it is an efficient means of determining customer satisfaction.

- (v) It is to be written into contract documents to require reports of Non Conformances on animal feed to be passed to LASEC.
- (vi) Consider ways of ensuring users are capable and trained to carry out appropriate techniques.

## Appendix A

### Master list of Internal documents, SOPs and Forms

Ref. No.	Guidelines	Issue No.	Date	Approved by	Distribution/Post
GL-001	LASEC guidelines	1	12/4/2002	DIR	
GL-002	Rules for Entering LASEC	1.2	11/7/2002	DIR	W,1,2,G(x2),L
GL-003	GENERAL NOTES FOR THE LASEC USER	1.5	30/9/2010	DIR	W,4,1
GL-004	SAFETY NOTES FOR THE LASEC USER	1.3	28/2/2014	DIR	W,4,1
GL-005	LASEC Policy on Technical Support	1	7/8/2002	DIR	W,4,1
GL-006	Policy on sharps disposal	1.2	28/2/2014	DIR	W,4,1
GL-007	Guideline For Dangerous Chemical-Treated Animals Holding Room In Lasec, North Wing	1	14/10/2003	DIR	
GL-008	Guideline for staffs working on short holiday	1	21/11/2003	DIR	
GL-009	Guideline for staffs working in barrier on long holiday	1	21/11/2003	DIR	
GL-010	Guideline for staffs working in non-barrier on long holiday	1	21/11/2003	DIR	
GL-011	Safety & Health Policy	1	18/3/2004	DIR	4,2,1
GL-012	Rules for post-operation treatment and sick treatment on animals in LRU	1	10/11/2009	DIR	P(x2)
GL-013	Rule for Entering LRU	1.1	22/2/2013	DIR	P
GL-014	General notes for the LRU users	3	10/1/2013	DIR	P(x2)
GL-015	SAFETY NOTES FOR THE LRU USER	1	10/11/2010	DIR	P(x2)
GL-016	Policy on Sharps Disposal in LRU	1	10/11/2009	DIR	P
GL-017	LRU policy on technical support	1	10/4/2010	DIR	P
GL-018	Guideline on Quality Objectives Report	1	10/3/2014	DIR	
GI-019	Guideline of Animal Biological Safety Level 2 (ABSL2) Facility	1	25/3/2014	DIR	

Ref. No.	SOP	Issue No.	Date	Approved by	Distribution/Post
SOP-002	Trafficking of the 3/F Rodent Barrier Area	1	19/9/2002	DIR	
SOP-003	Trafficking of the 4/F Rodent Barrier Area	1	19/9/2002	DIR	
SOP-004	Ordering	1.1	29/6/2006	DIR	
SOP-005	Omnical Steam Boiler – 33 HD 0.8 – 10 bar	1	29/6/2006	DIR	



Laboratory Animal Services Centre  
Quality Manual and Quality Procedures

SOP-006	Controlled Flame Boilers Limited – Series 4 VT Four Pass Vertical Tubeless Steam Boiler	1	29/6/2006	DIR	
SOP-007	Trafficking of Animals in LRU	1	24/11/2009	DIR	
SOP-008	Thermo 1300 Series A2 Operating Instructions	1	11/2/2011	DIR	
SOP-009	Standard Operating Procedure of Biosafety / Cytotoxic Cabinet in G03E	1	25/3/2014	DIR	
SOP-010	Standard Operating Procedure of Biosafety Cabinet in G03C	1	25/3/2014	DIR	

Ref. No.	Quality Forms	Issue No.	Date	Approved by	Distribution/Post
QF-622-1	Training Record	1.3	19/2/2003	DIR	
QF-822-1	Audit Schedule	1.2	1/7/2003	DIR	
QF-822-2	Notification of Audit	1.2	1/7/2003	DIR	
QF-822-4	Audit Meeting Register	1	10/4/2002	DIR	
QF-822-5	Audit Report	1.2	1/7/2003	DIR	
QF-852-1	Corrective Action Report	1.1	25/7/2002	DIR	
QF-852-2	Register of Corrective Actions	1.1	25/7/2002	DIR	
QF-852-3	Follow up of Internal Audit	1	11/6/2003	DIR	
QP-826-1	Evaluation of Course	1	20/7/2002	DIR	

Ref. No.	SOP Forms	Issue No.	Date	Approved by	Distribution/Post
SOP-FRM-001	Autoclave Monitoring Results	1.1	8/5/2002	DIR	
SOP-FRM-002	Record of Operating Autoclave	1.1	8/5/2002	DIR	
SOP-FRM-003	Enter to clean area	1.1	8/5/2002	DIR	
SOP-FRM-004	Water Examination Results	1.1	8/5/2002	DIR	
SOP-FRM-005	Record of Ozone Reading	1.1	8/5/2002	DIR	
SOP-FRM-006	Fecal Coliform Bacteria Result (Swab Test)	1.1	8/5/2002	DIR	
SOP-FRM-007	Application for Working in LASEC	1.2	28/10/2010	DIR	
SOP-FRM-008	Special Order Requisition Form	1.2	18/2/2013	DIR	W
SOP-FRM-010	ABSL-2 Facilities Application Form	1	5/10/2010	DIR	
SOP-FRM-011	Application for Working in LRU	1.0	18/08/2014	DIR	

Ref. No.	General Forms	Issue No.	Date	Approved by	Distribution/Post
GEN-FRM-001	Record of Postmortem Animal	1	21/2/2003	DIR	

Ref. No.	Safety Guidelines	Version	Date	Approved by	Distribution/Post
TNP-SHE-02001	ASTEC sensair general instruction	1	27/11/2002	DIR	
TNP-SHE-02002	Freezer & refrigerator in 105	1	26/10/2002	DIR	1(x2)
TNP-SHE-02003	Chemical storage cabinet in room105B	1	26/10/2002	DIR	1
TNP-SHE-02004	P.P.E. in OT room	1.1	25/4/2003	DIR	1(x3)

Laboratory Animal Services Centre  
Quality Manual and Quality Procedures

TNP-SHE-02005	P.P.E. in public	1	27/11/2002	DIR	4,1(x3)
TNP-SHE-02006	Non-office hours special procedure	1	27/11/2002	DIR	
TNP-SHE-02008	Safe work practice for chemical	1	28/11/2002	DIR	
TNP-SHE-02009	Usage safety tips for microwave oven	1	28/11/2002	DIR	
TNP-SHE-02010	Entry rule for ozone room	1	29/11/2002	DIR	4
TNP-SHE-02011	Usage of safety cabinet	1	1/12/2002	DIR	
TNP-SHE-02012	Procedure following a biohazard spill	1	9/12/2002	DIR	
TNP-SHE-02013	General procedure for clean-up biohazard spill	1	9/12/2002	DIR	
TNP-SHE-02014	General safety guidelines	1	18/12/2002	DIR	
TNP-SHE-02015	Fire precaution	1	18/12/2002	DIR	
TNP-SHE-02016	Emergency procedure	1	18/12/2002	DIR	
TNP-SHE-03001	Notice to cabinet user	1	7/4/2003	DIR	1
TNP-SHE-04001	Notice to freezer C	1	25/3/2004	DIR	1
TNP-SHE-04002	Safety hood usage record	1	16/7/2004	DIR	
TNP-SHE-04003	Procedure following a chemical spill	1	29/12/2004	DIR	
TNP-SHE-04004	Chemical exposure emergency procedure	1	29/12/2004	DIR	
TNP-SHE-05001	Equipment Usage record in LASEC	1	27/5/2005	DIR	
TNP-SHE-05003	Safety inspection record	1	28/5/2005	DIR	
TNP-SHE-05004	Occupational accidents register in LASEC	1	28/5/2005	DIR	
TNP-SHE-05005	Safety guidelines on the use of ether in animal euthanasia	1	24/6/2005	DIR	
TNP-SHE-05006	Guidelines on cleaning and disinfection of bird droppings	1	14/10/2005	DIR	
TNP-SHE-07001	Safety rules for x-ray room of LASEC	1.0	29/6/2007	DIR	1
TNP-SHE-09001	PPE in OT Room	1	7/12/2009	DIR	P

Ref. No.	TNP Forms	Issue No.	Date	Approved by	Distribution/Post
TNP-FRM-002	4/F holding area record sheet	1.3	16/7/2004	VTO	
TNP-FRM-003	Breeders record weekly report	1.1	4/10/2002	VTO	
TNP-FRM-004	4/F GP stock changing cage schedule	1.1	12/11/2009	VTO	
TNP-FRM-005	4/F daily checkform	1	21/11/2002	VTO	
TNP-FRM-006	4/F lobby cleaning/material record	1	1/10/2002	VTO	
TNP-FRM-009	4/F room cleaning record	2.0	3/4/2017	VTO	
TNP-FRM-010	First-aid box check form	1	21/11/2002	VTO	
TNP-FRM-012	Breeding record for guinea pig	1	21/11/2002	VTO	
TNP-FRM-013	Guinea pigs breeder	1.1	1/1/2007	VTO	
TNP-FRM-014	Productivity (Y/Female/Month)	1.1	4/10/2002	VTO	
TNP-FRM-015	Rabbits breeders record	1.1	4/6/2004	VTO	
TNP-FRM-016	4/F Stock report	1.1	4/10/2002	VTO	
TNP-FRM-017	Temperature of Guinea pig rooms	1	21/11/2002	VTO	

Laboratory Animal Services Centre  
Quality Manual and Quality Procedures

TNP-FRM-018	Temperature of rabbit rooms	1	21/11/2002	VTO	
TNP-FRM-020	Temperature of Hamster room	1	12/11/2009	VTO	
TNP-FRM-021	Hamster breeder record	1	12/11/2009	VTO	
TNP-FRM-022	Requisition Form for Euthanasia of Production Animal in LASEC	1	1/7/2010	VTO	
TNP-FRM-023	Temperature of 4/F animal room	1.0	17/6/2013	VTO	
TNP-FRM-024	4/F animal facility requisition form	2.0	3/6/2017	VTO	
TNP-FRM-025	Rodent breeding form	1	10/7/2014	VTO	

Ref. No.	TRAF Forms	Issue No.	Date	Approved by	Distribution/Post
TRAF-FRM-001	獨立飼養箱及安全風櫃內隔塵網之清洗時間表	1	22/11/2002.	VTO	
TRAF-FRM-005	動物安樂死申請表	1	22/11/2002.	VTO	
TRAF-FRM-007	日常記錄表	1.1	22/11/2002.	VTO	
TRAF-FRM-008	生產記錄表 (SCID)	1	22/11/2002.	VTO	
TRAF-FRM-009	生產記錄表 (SUNCUS)	1	22/11/2002.	VTO	
TRAF-FRM-011	安全風櫃維修記錄表 (WORKSTATION)	1	22/11/2002.	VTO	
TRAF-FRM-012	4/F 清潔區物品儲存記錄表	1	22/11/2002.	VTO	
TRAF-FRM-016	更換濾芯及清洗水缸記錄表	1	22/11/2002.	VTO	
TRAF-FRM-017	食水消毒系統維修記錄表	1	22/11/2002.	VTO	
TRAF-FRM-018	安全風櫃維修記錄表 (IVC)	1	22/11/2002.	VTO	
TRAF-FRM-019	量重器之調較記錄表	1	22/11/2002.	VTO	
TRAF-FRM-021	Service Record	1.1	5/8/2003.	VTO	
TRAF-FRM-022	Researcher's sundry in 4/F	1	1/11/2003.	VTO	

Ref. No.	TRP Forms	Issue No.	Date	Approved by	Distribution/Post
TRP001	Inbreed Form	1	21/11/2002	VTO	
TRP002	Breeder record report 1	1	21/11/2002	VTO	
TRP005	Stock record	1	21/11/2002	VTO	
TRP009	3/F new born record 2	1	21/11/2002	VTO	
TRP015	Animal room cleaning record	1	21/11/2002	VTO	
TRP020	Culling animal record	1	21/11/2002	VTO	
TRP021	Maintenance requisition 3/F	1	21/11/2002	VTO	
TRP028	2/F & 3/F visitor working record 2	1	25/11/2002	VTO	
TRP029	Temp. & humidity record	1	25/11/2002	VTO	
TRP032	秤重較正記錄表 mice	1	28/11/2002	VTO	
TRP033	秤重較正記錄表 rats	1	28/11/2002	VTO	
TRP035	Time pregnant mating date record	1	18/2/2003	VTO	
TRP036	3/F new born record 4	1	21/2/2003	VTO	

Laboratory Animal Services Centre  
Quality Manual and Quality Procedures

TRP037	3/F new born record 5	1	21/2/2003	VTO	
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Ref. No.	TPWH Forms	Issue No.	Date	Approved by	Distribution/Post
TPWH-FRM-001	Carcass_Disposal_Record	1	7/5/2008	DIR	
TPWH-FRM-002	Animal_Room_Checklist	1	2/2/2009	DIR	
TPWH-FRM-003	Holding Record for LRU	1	30/9/2010	DIR	
TPWH-FRM-004	LRU Pig Holding Record	1	30/9/2010	DIR	
TPWH-FRM-005	Booking List of BSC	1	25/7/2011	DIR	
TPWH-FRM-006	IVC/ISO Air Handling Unit Check list	1	22/8/2011	DIR	
TPWH-FRM-007	Temperature of G03 Area	1	1/9/2011	DIR	
TPWH-FRM-008	ABSL2 Animal holding & cage cleaning record	1	1/11/2011	DIR	
TPWH-FRM-009	醫療廢物收集記錄	1	1/11/2011	VTO	
TPWH-FRM-010	Incident Log	1	22/2/2013	DIR	
TPWH-NOT-001	Emergency_Evacuation_Route	1	10/9/2010	DIR	P
TPWH-NOT-002	Cabinet Washer 洗籠機操作守則	1	10/9/2010	DIR	P
TPWH-NOT-003	Freezer & Refrigerator user in LRU	1	26/10/2002	DIR	P
TPWH-NOT-004	G03D 室消毒爐操作守則	1	15/8/2011	DIR	
TPWH-SHE-001	Emergency Procedure	1	30/9/2010	DIR	
TPWH-SHE-002	PPE in OT Room (LRU)	1	30/9/2010	DIR	
TPWH-SHE-003	Animal Carcass Storage	1	30/9/2010	DIR	

**Remark:** W-Website, 1-1/F, 2-2/F,3-3/F,4-4/F, G-G/F, L-Lift, P-LRU, PWH, (x#) - no. of copies