Containment and Transitional Facility for Microorganisms, Cell Cultures, Uncleared Biological Products, and Vertebrate Laboratory Animals (2953)

Contents

Appendices

Acronyms

AEC	Animal Ethics Committee
AS/NZS	Australian/New Zealand Standards
BACC	Biosecurity Authority Clearance Certificate
BCH	Biosafety Clearing House
BRU	Biomedical Research Unit
CTO	Chief Technical Officer
CTP	Centre for Translational Physiology
EPA	Environmental Protection Authority
ERMA	Environmental Risk Management Authority
GMO	Genetically Modified Organism
HSNO	Hazardous Substances and New Organisms
IATA	International Air Transport Association
IHS	Import Health Standard
IBSC	Institutional Biological Safety Committee
ISO	International Organisation for Standardization
LMO	Living Modified Organism
MAF	Ministry of Agriculture and Forestry
MAFBNZ	Ministry of Agriculture and Forestry Biosecurity New Zealand
MPI	Ministry for Primary Industries
PC	Physical Containment
PI	Principal Investigator
QMS	Quality Management System
UO	University of Otago
UOW	University of Otago, Wellington
WSB	Ward Support Block

1. Organisation

1.1 Introduction

The organisation is the University of Otago. This Containment and Transitional Facility Manual covers those parts of the University that are located in Wellington and are involved in scientific research using imported restricted biological products, genetically modified organisms and/or genetically modified animals.

1.2 Standards Relevant to this Facility

Structural and Operating Requirements for this facility are specified in:

- MAF Biosecurity New Zealand and ERMA New Zealand Standard - Facilities for Microorganisms and Cell Cultures: 2007a
- MPI Standard 154.02.17 Amended 14 February 2014- Transitional Facilities for Biological Products
- MAF Standard 154.03.03 - Containment Facilities for Vertebrate Laboratory Animals

The following publications are also relevant:

- AS/NZS ISO9001:2000 Quality Management Systems – Requirements
- AS/NZS 2243.3:2002 Safety in Laboratories. Part 3: Microbiological Aspects and Containment Facilities
- AS/NZS 9002:1994 Quality Systems – Model for quality assurance in production, installation and servicing
- IATA Dangerous Goods Regulations
- Biosecurity Act 1993
- Hazardous Substances and New Organisms (HSNO) Act 1996
- Hazardous Substances and New Organisms (organisms not genetically modified) Regulations 1998
- HSNO (Low-Risk Genetic Modification) Regulations 2003
- Relevant Import Health Standards (http://www.biosecurity.govt.nz/regs/imports/ihs)

This manual outlines the procedures for staff in order to comply with: MAF Biosecurity New Zealand and ERMA New Zealand Standard - Facilities for Microorganisms and Cell Cultures: 2007a; MPI Standard 154.02.17. Amended 14 February 2014 - Transitional Facilities for Biological Products; and MAF Standard 154.03.03 - Containment Facilities for Vertebrate Laboratory Animals. Internal auditing of the facility will measure and monitor the effectiveness of the procedures outlined in this manual by reference to a comprehensive checklist (Appendix 1). Instances of non-compliance will be easily detected and addressed. This manual will be updated every two years.

1.3 Main Function of the University of Otago, Wellington as a Containment and Transitional Facility

This Containment and Transitional Facility covers the University of Otago laboratories located within the UOW School of Medicine and Health Sciences that are involved in work with imported restricted biological products, genetically modified organisms and/or genetically modified animals.

This facility is an educational institution, which undertakes research in a number of its laboratories. This research can involve the use of new organisms, cell cultures and/or uncleared biological products. Hence, the facility has been registered as both a Containment and Transitional Facility.

The Containment part of the facility is required for the holding of new organisms that are vertebrate laboratory animals, i.e. those vertebrate laboratory animals that have not been approved for release in New Zealand and genetically modified laboratory animals (e.g. transgenic mice).

Development or importation of a transgenic laboratory animal requires approval from the Environmental Protection Authority (EPA), and the animal must be held under the containment controls imposed by EPA. Importation of a transgenic laboratory animal also requires a permit to import from MPI, and the imported animal must be held in a Containment Facility as specified by the Import Health Standard issued with the permit. An Import Health Standard outlines the requirements that must be met before risk goods can be imported into New Zealand. The new organisms are defined as "restricted organisms" in the Biosecurity Act 1993 and are required to be held permanently in a Containment Facility approved under this Act.

Any queries relating to the structure or operation of this facility should be directed in the first instance to the Manager, Ms Ann Thornton. Contact details are listed in Section 2 entitled "Management".

This Containment and Transitional Manual is available for inspection in the Laboratory Compliance Office (E1) on Level 5 of Ward Support Block.

There are three copies of this manual within the University of Otago, Wellington:

i. Master copy in the Laboratory Compliance Office (E1 Level 5 WSB)
ii. One copy in the Co Lab Sector (Level H Link Block)
iii. One copy in the Biomedical Research Unit (Level B)

1.4 Transitional Facility

The Transitional Facility is required under the Biosecurity Act 1993 for holding uncleared restricted biological products that are imported subject to MPI import permit, and have an associated Import Health Standard that directs the "risk goods" to this facility.

The primary purpose for the quarantine of imported restricted biological products is to minimise the risk that any associated organism will:

- Cause unwanted harm to natural and physical resources or human health in New Zealand; or
- Interfere with the diagnosis, management, or treatment, in New Zealand, of pests or unwanted organisms.

Paperwork relating to each sector of the Transitional Facility is held at sector level and with the manager (or delegate). This includes a register of IBSC/EPA approvals and uncleared biological goods. Each individual laboratory keeps a register of uncleared biological goods in use in that area. These registers are audited during the six-monthly audits.

Inspection, storage, treatment, quarantine, holding or destruction of microorganisms and animal cell cultures in a Transitional Facility is now covered by MAF Biosecurity NZ and ERMA NZ Standard Facilities for Microorganisms and Cell Cultures: 2007a.

1.5 Containment Facility

The Containment Facility is required for holding new organisms that are microorganisms or animal cell cultures. New microorganisms are microorganisms that meet one or more of the following conditions:

- A member of a species that was not present in New Zealand on the 29th July 1998, the date that the HSNO Act 1996 came into effect;
- A genetically modified organism, not previously approved for release (without controls);
- An organism which has been eradicated from New Zealand;
- An organism which has not been approved for release in accordance with the HSNO Act 1996;
- An organism belonging to a species (or other defined group of organisms) listed as a "risk species", where the organism was not in New Zealand at the time the group was added to the list of risk species, and has not had a subsequent approval.

Development or importation of a new microorganism requires approval from the Environmental Protection Authority (EPA), or from the Institutional Biological Safety Committee (IBSC) acting under the delegated authority from EPA, and the organism must be held under the containment controls imposed by EPA or the IBSC. Importation of a new microorganism also requires a permit to import from MPI, and the imported organism must be held in a Containment Facility as specified by the

Import Health Standard issued with the permit. The new organisms are defined as "restricted organisms" in the Biosecurity Act 1993 and are required to be held permanently in a Containment Facility approved under this Act.

The Institutional Biological Safety Committee (IBSC) holds a central register of all approvals and containment controls set by EPA NZ or the IBSC. Documents pertaining to each sector are held by the Sector Manager. Import Health Standards and import permits are held by the Manager (or delegate). Six-monthly audits check that these are being used correctly.

Physical containment work practices must be displayed in each laboratory. Relevant control documents (EPA/IBSC approvals) for the work being undertaken in the laboratory and Import Health Standards (if appropriate) are held in each laboratory of the Containment Facility and all persons working in the laboratory are made aware of the content during training sessions.

Floor plans showing the general outline of the facility and the location and identity of each laboratory as well as storage locations for microorganisms and tissue cultures used in the facility can be found in Appendix 2.

1.6 Permits for Importation of Biological Products

It is anticipated that the laboratories will from time to time require permits for the importation of the following biological products. The University of Otago, Wellington holds permits as follows:

Restricted Biological Products – This permit will cover restricted biological products, which must be directed to a Transitional Facility and staff must record the use and disposal of these biological products as part of the quality assurance system.

General Biological Products – This permit will cover general biological products, which are not required to be held in a Transitional Facility. Staff are not required to record the use and disposal of these general biological products.

Refer to Appendix 3 for the list of items on these permits.

MPI requires the University to keep a record of all copies of the MPI import permits that are made. Electronic copies of the School's import permits are held with the Compliance Officer (Compliance/MPI/Permits).

Be aware that these requirements apply not only to biological products that are ordered and paid for but also to products that are gifted from other people or laboratories. Items that are brought into the country by University staff members must be declared in full at customs on entry.

Set procedures must be followed either for importing, transporting and transferring the restricted biological products around the University of Otago, Wellington Transitional Facility or for transporting to another facility. Refer to Section 9 of this manual for further details.

1.7 Permit for Importation of New Microorganisms

New microorganisms including genetically modified organisms are classified as restricted organisms and require an import permit for importation into New Zealand. The organisms will be required to be directed to a Containment Facility with the appropriate physical containment level for the organism being imported. If you wish to import a new organism a copy of the MPI Restricted Biological Permit must be attached to the outside of the package and the EPA Approval Number must also be written on the outside of the package. It is illegal to import any new microorganism for which you do not have a MPI permit and/or you do not have EPA approval.

The Manager (or delegate) must be informed prior to the importation of any new microorganisms.

1.8 Permits for Importation of Genetically Modified Animals

1. The University of Otago has an approval from EPA to import into containment 35 strains of genetically modified inbred mice for experimental research. The application approval along with the containment controls is situated in the BRU Senior Technician's office and the Compliance Officer's office.

   The Application Code is GMC00009

2. The University of Otago has a generic approval from EPA to import laboratory mice with specific genetic modifications to be used in a range of studies of gene or cell function and as models for human disease. The application approval along with the containment controls is situated in the BRU Senior Technician's office and the Compliance Officer's office.

   The Application Code is GMC03001

Neither of these approvals are currently active at UOW.

Details of EPA approvals can be accessed through the HSNO Application Register (http://www.epa.govt.nz/search-databases/Pages/applications-search.aspx) or the UO Biological Compliance website (http://biologicalcompliance.otago.ac.nz).

Before any existing approval is used, the IBSC is informed using the appropriate form – see the Manager.

2. Management

2.1 Operator

The Dean of the University of Otago, Wellington, currently:

Professor Catherine Collings
University of Otago, Wellington
PO Box 7343
Wellington South

Responsibilities of Operator:

- Overall responsibility for the facility, its maintenance and operation. Ensure that the technical and financial resourcing mechanisms are in place to maintain the facility.

2.2 Manager

Ms Ann Thornton
Laboratory Manager
University of Otago, Wellington
PO Box 7343
Wellington South

Responsibilities of Manager:

- Ensuring that both the structure of the facility and the operating procedures used in the facility are technically appropriate for the containment of the uncleared biological, microorganisms, cell cultures, and/or species of animal being held, and comply with the requirements issued by MPI and containment controls imposed by EPA.
- Act or delegate a person to act as safety officer responsible for microorganisms, as per Section 2.1.3 of AS/NZS 2243.3
- Liaison with the MPI Biosecurity Inspector of the facility.
- Liaison with EPA.
- Responsible for maintenance of register of EPA approvals for new animals held in the facility.
- Six-monthly internal audits of facility in order to check the effectiveness of the containment policies, risk management and operational procedures.
- Maintain records of the containment facility and operator approvals.
- Maintain copies of containment controls specified by the Authority, permits to import, import standards, biosecurity directions and movement approvals.
- Maintain records of internal audits and corrective actions.
- Maintain records of external audits and corrective actions.
- Ensure that the Quality Management System (Containment and Transitional Manual) is updated on an annual basis. A record of minor changes to the QMS will be updated in the electronic version of the manual as they occur.

- Ensure a database of all IBSC/EPA approvals is maintained. Hard copies of both the applications and the control documents are held by the Manager.
- Ensure that a register of microorganisms, tissue cultures, and restricted products and one of vertebrate laboratory animals are maintained.
- Maintain records of all transfers into and out of the facility, including those of vertebrate laboratory animals and any living modified organisms, genetically modified organisms and/or restricted products that are used with vertebrate laboratory animals. The Manager holds hard copies of both the transfer documents and the control documents accompanying these. The individual researcher and the Sector Manager also hold copies.
- Ensure annual refresher training is undertaken by all Sector Managers and Approved Users in the facility.
- Hold copies of the standards under which the facility operates, including any amendments as well as the relevant Import Health Standards.
- Hold the facility registers of documented decision documents and controls set by EPA, or an IBSC, as appropriate, and any exemptions granted by a MPI Biosecurity Inspector for the following:
    - microorganisms and/or tissue cultures that are new organisms but not genetically modified;
    - genetically modified microorganisms and/or tissue cultures that contain low-risk genetic modification;
    - genetically modified organisms and/or tissue cultures that contain genetic modifications that are not low-risk genetic modification;
    - microorganisms that are unwanted organisms;
    - vertebrate laboratory animals.
- Ensure the IBSC and Sector Managers maintain documented decision documents and controls set by EPA or an IBSC, as appropriate, and any exemptions granted by a MPI Biosecurity Inspector for the following:
    - microorganisms and/or tissue cultures that are new organisms but not genetically modified;
    - genetically modified microorganisms and/or tissue cultures that contain low-risk genetic modification;
    - genetically modified organisms and/or tissue cultures that contain genetic modifications that are not low-risk genetic modification;
    - microorganisms that are unwanted organisms;
    - vertebrate laboratory animals.
- Ensuring that all leasees of the facility operating under the MAF Biosecurity NZ and ERMA NZ Standard - Facilities for Microorganisms and Cell Cultures: 2007a are registered as sectors. The lease agreement that the University has with companies obliges them to come under the University umbrella for compliance.

Such records will be kept for a minimum of seven years after export or death of the laboratory animal.

The Manager is a member of the IBSC and will be able to seek advice and assistance of the University of Otago Institutional Biological Safety Committee as required, and will liaise with the Biological Compliance Officer to ensure that all conditions of EPA approvals are met.

2.3 Compliance Officer

Nick Greenhill
Laboratory Compliance Officer
University of Otago, Wellington
PO Box 7343
Wellington South

Responsibilities of Compliance Officer:
To prepare and process the following:

- Annual updates of the University of Otago, Wellington Containment and Transitional Manual.
- Annual updates of HSNO Exempt Laboratory Manual.
- Annual updates of the Biohazard Safety Manual.
- Update generic Laboratory SOP's every 2 years.
- Annual applications for MPI permits.
- Documentation for 6 monthly audits.
- Record minutes for the Laboratory Health and Safety meetings

2.4 Sector Managers

The facility comprises two sectors, each with its own Sector Manager as follows:

Sector	Sector Manager
Co Lab	Ms Ann Thornton
Biomedical Research Unit	Ms Katherine Wright

Responsibilities of Sector Managers:

- Responsible for ensuring that the group has EPA approvals for all projects that require such approvals.
- Ensure that records are kept for the use and disposal of genetically modified animals, and for the importation of genetically modified animals. These records must be submitted to the Manager at the end of the month.
- Responsible for holding documented evidence related to work being carried out in their sector, of decision documents and containment controls set by EPA New Zealand or an IBSC, as appropriate, and any exemptions granted by a MPI Biosecurity Inspector for the following:
    - Microorganisms and/or tissue cultures that are new organisms but not genetically modified.
    - Genetically modified microorganisms and/or tissue cultures that contain low-risk genetic modifications (as defined in the HSNO (Low-Risk Genetic Modification) Regulations 2003), specifying the category to which the modification belongs and the PC level.
    - Genetically modified microorganisms and/or tissue cultures that contain genetic modifications that are not low-risk genetic modifications (as defined in the HSNO (Low-Risk Genetic Modification) Regulations 2003).

  - Microorganisms that are unwanted organisms – a copy of the exemption granted by the CTO, which specifies the PC level and any additional conditions.

- Maintaining registers of EPA/IBSC approvals that will note whether work is active, inactive or permanently ceased.
- Responsible for ensuring registers pertaining to the sector of the following are held in the sector:

  - New organisms and/or tissue cultures that are new organisms
  - Unwanted microorganisms
  - Risk goods
  - Genetically modified organisms
  - Animal cell cultures

- Recording transfers of new organisms, cell cultures and uncleared biological products into and out of the sector in the register. For any transfers of new organisms into the facility the HSNO approval number under which these organisms are held must be noted and the control documents held. Transfer documents and any accompanying control documents must be sent to the Manager as they are received. Sector Managers must also forward to the Manager a list of all uncleared biological products that were received in their sector, used up or destroyed when this occurs, to enable a central facility register to be maintained.
- Ensuring that both the structure of the facility sector and the operating procedures used in the facility sector are technically appropriate for the containment of the species of animal, microorganism or new organisms being held, and comply with the requirements of any Import Health Standard issued by MPI and containment controls imposed by EPA.
- Ensuring that all people who work in the facility sector are familiar with the principles of containment and the procedures of the facility which ensure containment and that correct procedures are followed. This may include non-research staff, who must be made aware that they are working in a Transitional/Containment Facility and may encounter biohazardous material. Training programme requirements for those working with risk materials are listed in Section 3.
- Document training records for staff of facility sector.
- Maintain copies (for a minimum of seven years) of any import permits, containment controls specified by EPA, Import Health Standards, release approvals, biosecurity clearances and biosecurity directions relating to organisms held in sector.
- Maintain the Register of Projects for Genetically Modified Microorganisms for work associated with genetically modified organisms (microorganisms) carried out in the Sector (see Section 8.4.2 of MAF Biosecurity NZ and ERMA NZ Standard Facilities for Microorganisms and Cell Cultures: 2007a for details required).
- Maintaining records of biological products directed to the Transitional Facility including identity, quantity, date of import or transfer, and date and method of disposal.

- Authorise Approved Users of facility sector.
- Maintain records of Manager Internal Audit documents and any corrective actions.
- Inform the Manager and the Head of Department of any non-compliance issues in the Sector.
- Attending annual refreshers provided by the Laboratory Manager (or delegate).

2.5 Approved Users

Users of the facility shall be those scientists, technicians, postgraduate and undergraduate students and other laboratory staff who will use the facility for the purposes of conducting research, teaching and learning (see Appendix 4 for the current list, which will be updated on a regular basis). The Manager (or delegate) will keep up-to-date records, supplied to them by Sector Managers, of the current names of the users of the facility. These will be available for inspection on request.

Responsibilities of Approved Users:

- Responsible for ensuring that they have EPA approval for experiments that involve the importation or development of a new organism in the Containment Facility.
- Responsible for ensuring that all records required for the use of restricted biological products, cell cultures and new organisms are completed and forwarded to the Sector Manager.
- Have day-to-day responsibility for ensuring that other people who use the facility under their supervision, namely undergraduate and postgraduate students undertaking research or learning activities, and other personnel employed to undertake research or research-support activities, have appropriate training for handling the microorganisms, biological goods, cell cultures and/or animals being used; and in the BRU sector behave in an appropriate manner according to Animal Ethics Committee standards.
- Have day-to-day responsibility for ensuring that operating procedures used in that part of the facility sector for which they have supervisory responsibility are technically appropriate for the containment of the species of microorganism or animal being held and type of biological goods and cell cultures, and comply with the requirements of any Import Health Standard issued by MPI and containment controls imposed by EPA.
- Attend annual refresher training provided by the Laboratory Manager (or delegate).
- Inform the Sector Manager of any instances of non-compliance in that part of the facility for which they have responsibility.
- Users of the Biomedical Research Unit must have approval for manipulation by the Animal Ethics Committee in accordance with the University of Otago Code of Ethic Conduct. Daytime contact numbers for users are found on experimental room doors.
- Electronic master copies of the list of Approved Users are held with the Laboratory Manager, Ann Thornton and the Laboratory Compliance Officer, Nick Greenhill.

Additional Responsibilities of Project Leaders (for GM only)

- Ensure that projects involving genetically modified organisms have received approval under the HSNO Act 1996 and that the Register of Projects (held by the Sector Manager) for which they are Project Leader is up to date.

Additional Responsibilities of Curators of Culture Collections:

- Ensure that the Culture Collection register is up to date (see Section 8.4.2 of MAF Biosecurity NZ and ERMA NZ Standard Facilities for Microorganisms and Cell Cultures: 2007a for information required), and is available for inspection by Internal and External Auditors as required.
  Curator of the Culture Collection is Honorary Senior Research Fellow Chris Sissons, Department of Pathology.

2.6 University of Otago Institutional Biological Safety Committee

The Terms of Reference of the University of Otago Institutional Biological Safety Committee (IBSC) are:

- To advise Institution and its staff on all matters relating to biological safety in the Institution.
- To undertake assessment of low-risk experiments involving genetically modified organisms (GMOs) as under delegated authority from the Environmental Protection Authority (EPA).
- To act as the channel for communications between the University and EPA.
- To ensure the University of Otago complies with the HSNO Act 1996 and the Biosecurity Act 1993 with respect to its handling of GMOs and uncleared biological products.

As at 10 May 2016, the current members of the IBSC are:

Chair:	Professor Alison Heather (Dept. Physiology)
Deputy Chair:	(Vacant at present)
Biological Safety Officer:	Dr Robin Simmonds (Dept. Microbiology and Immunology)
Deputy Biological Safety Officer:	Professor Julian Eaton-Rye (Deputy Biological Safety Officer, Dept. Biochemistry)
Biological Compliance Officer:	Dr Michelle McConnell (Dept. Microbiology and Immunology)
Committee members:	
Director of Animal Welfare, Animal Welfare Unit	(Vacant at present)
Professor Iain Lamont	(Dept. Biochemistry)
Dr Lynette Brownfield	(Dept. Biochemistry)
Ms Andrea McMillan	(Head, Health and Safety Compliance Unit)
Dr Geoff Tomkins	(Dept. Oral Sciences)
Dr Janice Lord	(Dept. Botany)
Dr Chris Brown	(Dept. Biochemistry)
Dr Anthony Mitchell	(University of Otago, Christchurch)
Ms Ann Thornton	(University of Otago, Wellington)
Dr Terry Broad	(Ngai Tahu Representative)
Ms Pru Casey	(University Council-appointed Layperson)
Secretary: Dr Charlotte Wilson	(Dept. Microbiology and Immunology)

The IBSC will assist and advise the Operator and Manager in ensuring that the facility is operated in accordance with the requirements of the HSNO 1996 and Biosecurity 1993 Acts.

The secretary to the IBSC will hold an electronic database of all IBSC applications and approvals. In addition, the secretary of the IBSC will hold all EPA/IBSC approvals and containment controls for new microorganisms and/or tissue cultures for the current calendar year. The Manager (or delegate) will hold all other EPA/IBSC

approvals and containment controls for new organisms and/or tissue cultures. The Manager (or delegate) will hold a register of all transfers into the facility from the other facilities and a register of all transfers leaving the facility.

3. Training

3.1 General Safety Training

The University of Otago, Wellington runs a general induction session for new staff. This general safety training of new staff includes such things as the emergency evacuation procedures, location of first aid cabinets, accident and incident reporting and hazard reporting procedures. (See Appendix 5 for the New Staff form, (multi-coloured) and Appendix 6 for the Laboratory Training Record Form (blue)).

Each Laboratory Unit (BRU, Co Lab, CTP and Pathology) have a nominated safety officer who is nominally responsible for ensuring compliance with the University of Otago, Wellington Sciences Safety Plan in their area.

3.2 Training in the Containment and Transitional Facility

Each year the Manager (or Biological Compliance Officer) will run refresher training for all registered Approved Users and Sector Managers. The training will include:

- The legislation and standards that the facility operates under
- The role of the IBSC
- The principles of working with microorganisms in containment
- Controls specified by EPA NZ or the IBSC associated with approvals to import, develop or transfer GMOs
- Working with genetically modified organisms, cell cultures and uncleared biological products (including registers)
- BACC forms
- Applications to develop or import GMOs
- Transfer of GMOs within NZ and overseas
- Transfer of uncleared biological products
- Any amendments to standards or legislation since the last session
- IATA Regulations

Attendance and topics covered will be documented. Each attendee is required to sit a 10-question test at the training in order to demonstrate understanding of that training. The results of this test will highlight any deficiencies in training that will be improved on at the next session. This documentation will be kept and updated by the Manager (or delegate).

Sector Managers are responsible for training those Approved Users who do not attend the training. Training sessions are available on DVD/USB from the Compliance Officer.

Other topics that may be included in training sessions include hazards, safety requirements, safety and waste disposal procedures as covered in this manual and any other specific requirements relevant to the type of work carried out in the laboratory including EPA controls of projects and use of uncleared biological products.

In addition, all new laboratory staff are required to receive appropriate training according to their responsibilities (DVD's/USB's available). In these training seminars the requirements covered in the standards: 154.02.17 – Transitional Facilities for Biological Products (amended 14 February 2014); MAF Biosecurity NZ and ERMA NZ Standard – Facilities for Microorganisms and Cell Cultures: 2007a; 154.03.03 – Containment Facilities for Vertebrate Laboratory Animals; and AS/NZS 2243.3: 2002 – Microbiological Aspects and Containment Facilities may be covered as appropriate.

The responsibility for training cleaning staff within the University resides with the University Health and Safety Manager, who is a member of the IBSC. A video has been produced by the University Property Services, Dunedin, with input from the Health and Safety (H and S), which shows various hazards etc. that cleaners may encounter in laboratories. This video is held by the cleaning company who conduct their own training with staff sign off and the successful completion of a questionnaire. This paperwork is then passed back to H and S, Dunedin.

Sector Managers will have the overall responsibility for training existing staff in safety and containment procedures and for the initiation and maintenance of appropriate records within their specific areas.

Sector Managers will be responsible for training new staff and students as they arrive, on the hazards, safety requirements, safety and waste disposal procedures covered in this manual and any other specific requirements relevant to the type of work carried out in the laboratory. It is essential that records of this training are made and updated as the staff member progresses.

Sector Managers will advise the Manager (or delegate) of new staff, when they will be given an induction pack which includes all documentation of required reading for Containment and Transitional Facility staff.

New Researchers using the Biomedical Research Unit must undergo relevant training and complete the Training Record form (purple), (Appendix 7) before commencement of work.

Any staff/students who are not Approved Users and who wish to undertake basic laboratory tasks are required to have appropriate training and complete the Basic Laboratory Training Record form (pink), (Appendix 8) before commencement of work.

Should major changes occur in procedures or legal requirements, a course will be run and/or documentation supplied for all Approved Users, to address these issues at the time the changes are implemented.

Should a new EPA or IBSC approval commence, a training course will be run by the PI to ensure all personnel involved in that approval are aware of the controls and additional procedures required under that approval. Documentation of this training will be held by the Sector Manager.

When a staff member leaves the University a Leaving Form is filled in and returned to the Manager (or delegate), (see Appendix 9). If that staff member has additional responsibilities, the person taking over those responsibilities will be named on the Leaving Form. If that staff member is the named PI for any HSNO Act Approval, the new PI will inform the IBSC/EPA of their new responsibilities. The Leaving Form is held by the Manager (or delegate).

4. Internal Controls

The facility is audited every six months to assess the effectiveness of containment policies, risk management and operational procedures. The Manager (or delegate) will organise the internal audits. At mid-year and end of each year Sector Managers will be given a series of forms (see Appendix 10) which includes questions about the operation of the Sector and any changes/concerns that the Sector Manager may have, as well as forms to be filled in by each Approved User in their Sector (see Appendix 111). This form asks about the type of work being carried out in their laboratory, their current training status and the training of the people working in their laboratory, as well as checking that they have filled out audit forms for uncleared biologicals, cell cultures and culture collection records for GMOs. These forms are returned to the Sector Manager who will collate them and fill out a Sector Manager Form before returning all forms to the Manager (or delegate). These forms will advise the Manager (or delegate) of any corrective actions required in each sector. The Manager collates these forms and a list of corrective actions is compiled and acted upon by the Manager (or delegate) (e.g. corrections to the Quality Manual).

Also at mid-year and end of each year the Manager (or delegate) performs a physical audit of the Sector.

The audit will include:

- An inspection of the facility, storage areas, safety and protective equipment, and disposal procedures.
- Inspection of training records and training content.
- Assessment of the effectiveness of training (in the form of spot questions).
- Inspection of register of microorganisms, uncleared biologicals, animal cell cultures and project registers.
- Inspection of transfer records.

The results of the audit shall be recorded and brought to the attention of the personnel having responsibility in the area audited. Any area of non-compliance noted from the above points will be followed up in a timely manner (up to three months) and additional training will be offered.

The management personnel responsible for the area shall take timely corrective action on deficiencies found during the audit. A date of completion is included with the results of the audit and the Sector Manager will inform the Manager (or delegate), either by e-mail or letter, when all corrective actions are complete. The Manager (or delegate) will file these responses with the audit documents.

Records of internal audits and corrective actions are held in the Laboratory Compliance Office.

Controls of approvals granted by EPA or the IBSC will be held in the Laboratory Compliance Office. Controls accompanying transfers from another facility will be held in the Laboratory Compliance Office and in the laboratory where the transfer is housed.

The Quality Manual will be reviewed in June (or designated date) after the mid-year internal audit. Reviewers will include the Manager (or delegate) and the Sector Managers. Any amendments to the Quality Manual will be notified to the MPI Biosecurity Inspector responsible for the supervision of the facility for approval.

The Quality Manual will be published in hard copy every two years and distributed to the various sectors. The version number and date of issue will be recorded on each page.

The Manager (or delegate) will hold an electronic master copy of the Quality Manual. The Manager (or delegate) will make all amendments to this. As part of the Quality Manual system physical copies of all controls of approvals granted by EPA or an IBSC, controls accompanying transfers from another facility, import permits, exemptions granted by a CTO (Chief Technical Officer), amendments made to standards and any other relevant Import Health Standards or operational standards will be held by the Manager (or delegate).

The Quality Manual will be updated between reviews if required (e.g. if Approved Users or Sector Managers change). Dates of these amendments will be recorded in the electronic copy.

An audit checklist to be used for each laboratory is attached in Appendix 1.

Each Approved User shall complete an internal audit form prior to the six-monthly internal audit, refer Appendix 11; and the Sector Manager will submit a report form, refer to Appendix 10.

5. Physical Containment Level

5.1 Floor Plans

Floor plans of rooms within the Containment and Transitional Facility are attached in Appendix 2.

5.2 Containment Level

All rooms within the Containment and Transitional Facility aim to meet the requirements for Physical Containment Level 2 as defined in AS/NZS 2243.3:2002 Microbiological Aspects and Containment Facilities.

Work with microorganisms within the facility will be conducted under conditions specified in the containment controls imposed by EPA or the conditions of the Import Health Standard. These documents are readily available in each laboratory in which the work is being conducted. Microorganisms and tissue cultures may not always be in active use and may form part of a culture collection. They are always adequately labelled and securely stored within the facility at the required level of physical containment.

No unidentified microorganisms associated with plants, animals or other substrates, either from border inspections or found in New Zealand and suspected to be risk goods, are worked with within this facility.

Please refer to Appendix 12 for details of the PC1 and PC2 requirements.

5.3 Vermin Control

The entry of vermin into the Containment and Transitional Facility is minimised. The structure of the buildings minimises the entry of vermin as there are double entry facilities at all entry/exit points.

When vermin are detected, appropriate traps are set in the most appropriate areas and inspected daily. A log is kept of the daily inspection which includes number of vermin trapped and their condition. The Sector Manager is responsible for setting the traps. The Buildings Officer for the University of Otago, Wellington will be informed and appropriate action will be taken.

When vermin/pests are detected all steps to eradicate these are documented and passed on to the Manager (or delegate).

6. Structural and Operational Requirements of the Containment Level

The containment facilities comply with the structural and operational requirements of Standard 154.03.03 and AS/NZS 2243.3 with particular reference to Section 10.

Regular external audits carried out by MPI shall take place. The Manager shall provide the MPI Biosecurity Inspector, or any other representative of the Chief Veterinary Officer, access to the facility, records and documents for the purposes of audit. During audits the Operator or Manager shall be available to assist and ensure that all relevant procedures and records are made available to the supervisor.

Refer Appendix 13 for detailed requirements of the Containment Level for Vertebrate Laboratory Animals.

7. Waste Management

All laboratory waste must be disposed of in the appropriate manner. Refer Appendix 14 for disposal methods.

8. Storage and Labelling of Restricted Biological Products, Cell Cultures and Microorganisms

8.1 Storage of Restricted Biological Products, Cell Cultures and Microorganisms

All restricted biological products, cell cultures and microorganisms must be stored in fridges, freezers or areas that are detailed on the floor plan held in this manual. Any fridge, freezer or cupboard containing restricted biological products must have a label on the outside, which states that it contains such materials. Restricted biological products, cell cultures and microorganisms shall not be used anywhere other than in the laboratories marked.

8.2 Labelling of Restricted Biological Products, Cell Cultures and Microorganisms

On receipt into the facility, all restricted biological products must be clearly identified as a restricted biological product imported under the University of Otago, Wellington permit. This identification will enable staff to differentiate between imported restricted biological products and other general biological products or non-imported products held in the facility. Staff using these products will complete appropriate documentation of their usage and disposal. This must be done each time the product is used. Each sector is responsible for keeping their own records which are checked during the internal audits.

Cell cultures are stored in -80°C freezers within a secure facility. On the outside of each vial is the cell line identification, the date of the culture and the initials of the user who has manipulated the culture. The tracking folder gives specific location and quantity remaining of each cell line along with any controls that are applicable. The Sector Manager is responsible for ensuring that all cell cultures are labelled appropriately.

Microorganisms held within the facility will be clearly labelled. As part of a register of microorganisms held the place of storage will be recorded. A Restricted Organism Register Form must be completed for each new organism that is either developed or imported. A copy of this form must be submitted to the Manager (or delegate). Refer to Section 10 and Appendix 15.

9. Importation, Transportation, Transfer and Unpacking of Restricted Biological Products and Microorganisms

9.1 Importation from Overseas

Before any microorganism, cell culture or uncleared biological product can be imported into New Zealand a permit to import is required from MPI. The permit may require further conditions to be met in addition to the requirements of an Import Health Standard and any relevant HSNO Act Approval.

A Biosecurity Authority Clearance Certificate (BACC) is issued by MPI on entry of the good into the country. This should accompany the good at all times and is retained by the Manager (or delegate) for inspection and clearance by the MPI Inspector. If the BACC is not received with the good, a retrospective form can be requested (see Appendix 16, current version dated 16 March 2016). The importer must apply for the retrospective BACC. The BACC Form is retained by the Manager (or delegate).

An "Identification of Biological Products" form (see Appendix 17) should be completed for every imported microorganism, cell culture or uncleared biological product and signed by the Manager when the product is disposed.

9.2 Transportation of Restricted Biological Products, Microorganisms and Cell Cultures within the Facility

Restricted biological products, cell cultures and microorganisms may be transported between laboratories within the facility as long as they are appropriately packaged to ensure that they can be safely transported e.g. wrapped in bubble wrap and placed in a chilly bin or strong box prior to transportation.

9.3 Transfer of Restricted Biological Products, Microorganisms and Cell Cultures to other Facilities

Restricted biological products, microorganisms and cell cultures may only be transported to another site that is registered as a Transitional Facility or Containment Facility with the written authority of the MPI Biosecurity Inspector. If an EPA/IBSC approval is applicable to the transfer then a copy of the controls must be sent to the MPI Biosecurity Inspector when requesting a transfer. A copy of these controls and the transfer form must accompany the material being transferred. The receiving facility must confirm as having the correct Containment or Transitional Facility status for the microorganism/culture/product being transferred.

The appropriate transfer forms are available from the MPI website:

http:// http://www.mpi.govt.nz/news-and-resources/resources/forms-and-templates/

Manager to sign. It is important to ensure transfers are planned ahead of time to allow time for the paperwork to be completed. The form is then forwarded to the MPI

Biosecurity Inspector. A copy of each transfer request (signed by all parties) must be lodged with the Sector Manager and the Manager (or delegate).
Transfers must be noted in the biological, microorganisms or cell culture registers of both facilities. It is the responsibility of the receiving facility to inform the MPI Biosecurity Inspector of receipt of the biological, microorganism or cell culture.

9.4 Transfers of Restricted Biological Products, Microorganisms and Cell Cultures from another Facility

If you wish to receive a transfer from another facility, the Manager must sign the transfer form. This is to enable a check of the EPA decision documents to ensure that the controls imposed can be met at this facility. Notification of receipt of the transfer must be made to the MPI Biosecurity Inspector and the Manager as well as noted in the appropriate register.

Before the products can be despatched approval must be obtained from the appropriate MPI office. A document stating approval for this transfer will be supplied to the School after which the materials can be sent.

9.5 Multiple Transfers of Restricted Biological Products, Microorganisms and Cell Cultures

If you wish to send multiple shipments of the same item to the same MPI-approved facility you will need to discuss this first with the Manager. Once the multiple transfer has been approved by MPI the following procedure must be followed each time a transfer is made:

- Each time a transfer is made using this approval, it must be recorded in the register;
- Notification must be sent to the Sector Manager and the Manager stating that the transfer has taken place;
- Confirmation of receipt of transfer from the receiving facility must also be held in three locations;
- At the end of the multiple transfer period the Manager will inform the MPI Biosecurity Inspector of the dates of each of the transfers.

For multiple transfers into the facility the system will be the same with the addition that notification of arrival of the transfer is made to the sending facility.

9.6 Packaging of Transfers

Packaging of restricted biological products should be as in 9.2 above.

Microorganisms and cell cultures must, as a minimum, be packaged according to Packing Instruction No. 650 of the IATA Dangerous Goods Regulations.

Risk group 2 cultures may be shipped as UN 3373 Biological substances Category B, and DG forms are not required. Other modes of transport than DG-licensed couriers may be used.
All products that are infectious or potentially infectious for humans or animals shall be packaged according to Packaging Instructions No. 602 of the IATA Dangerous Goods Regulations. These regulations define the requirements for certification, the maximum quantities that can be transported by cargo or passenger aircraft, the external labelling requirements (including the identifying UN number) and the details to be included in the Shipper's Declaration for Dangerous Goods. A copy of any documentation should be given to the Manager of the Transitional Facility.

The contact for MPI is:

Mike Aitkenhead
MPI Biosecurity Inspector (Animals)
PO Box 2526
Wellington 6140
Phone: (04) 894 4209
Mobile: 029 894 4209
Email: mike.aitkenhead@mpi.govt.nz

Please inform the Manager (or delegate) before you transport any restricted biological product or new organism to another facility. IATA Regulations are available in the Laboratory Compliance Office.

9.7 Overseas Export

Microorganisms, cell cultures and restricted biological products may be exported from transitional and containment facilities in New Zealand. A transfer approval is required from an Inspector, who will advise the Manager of the process to be followed, depending on the nature and risk involved.

The overseas export of organisms that are **not** Living Modified Organisms does not require any special considerations other than those relating to the nature and risk of the organism being exported. Reference will be made to any permit to import, HSNO Act Approval, CTO permission or other such documentation, for any special requirements or restrictions on export.

For the overseas export of organisms that **are** Living Modified Organisms, see below.

9.8 Export of Living Modified Organisms (Cartenga Protocol)

The Cartenga Protocol for transfer of "Living Modified Organisms" (this includes genetically modified organisms) has been ratified. If you want to send Living Modified Organisms (LMOs) to another country, you will need to do the following:

1. Obtain a Biosafety Clearing House (BCH) number from the Manager for all IBSC/EPA decisions made prior to June 2005. Allow a minimum of 3 working days for this process. After June 2005 the BCH number will be provided with the EPA approval number. Please note that if there is more than one organism on an approval each will have its own BCH number.

2. Fill in a MPI Transfer Request Form (including BCH number) and send this to the Manager for signing prior to sending to the MPI Supervisor for approval. This form must accompany all exports. All LMOs must be sent by a tracking system. A copy of the MPI Supervisor signed form must be lodged with the Manager and the Sector Manager. Registers must be updated to show the export.

9.9 Unpacking Restricted Biological Products, Microorganisms and Cell Cultures

Whenever an Uncleared Biological Product, Microorganism or Cell Culture is imported into a Containment or Transitional Unit a check is carried out when unpacking that good to determine:

- The integrity of the package has been maintained;
- That the package has been delivered to the right place and person;
- That all appropriate documentation has been included and is in order;
- That primary and secondary packaging is intact and there is no leakage;
- That numbers and description correlate with accompanying documentation;
- That the identity of the items is correct and that there are no additional items;
- That a purity check is undertaken;
- That the packaging material is disposed of appropriately.

See Appendix 18 for the appropriate form.

10. Records to be Maintained by the Operator or Delegated Person/s

10.1 Restricted Biological Products and Cell Cultures

Each Sector Manager shall maintain an inventory of the use and disposal of restricted biological products in their laboratory. The inventory will be updated on a regular basis and passed on to the Manager (or delegate) when required. The Manager (or delegate) will keep these on record as a full inventory of all restricted biological products used in the Transitional Facility. A standard form for the inventory is attached (Appendix 19).

10.2 New Microorganisms and Cell Cultures

Project Register Form

Each Sector Manager shall ensure that a Project Register Form is completed for each project where new microorganisms are being developed or imported into the Containment Facility. This can be done by either completing the Project Register Form in Appendix 15 of this manual or taking a copy of the EPA/IBSC Decision Form and the application coversheet for your project. A copy shall be sent to the Manager (or delegate). The Manager (or delegate) will keep these on record as a full register of all projects being carried out in the Containment Facility.

Culture Collection Records

For each project being conducted in the Containment Facility a record of the collections of cultures shall be kept. The person who is in charge of such a collection is the Culture Curator. Each time a new organism (GMO) or cell culture is developed under an IBSC/EPA project and placed into storage, e.g. into -80°C freezer, a Culture Collection Entry Form shall be completed. Alternatively, the Culture Curator may keep these records electronically if they wish as long as all the information required by the Standard is included in the database and the information is available upon request.

10.3 Other Documentation

The Manager or delegated persons will keep for a minimum period of seven years after disposal of the restricted biological product, the following records:

Records of Containment and Transitional Facility approval applications and approvals **(Manager (or delegate) – University of Otago, Wellington)**

Copies of import permits, containment controls specified by the Authority, Import Health Standards, release approvals, biosecurity clearances and biosecurity directions **(Manager (or delegate)– University of Otago, Wellington)**

Records of occasions when organisms have been exposed to restricted biological products and records of when experimental animals have been exposed to microorganisms
(Sector Managers)

Records of internal audits and corrective actions
(Manager (or delegate) – Otago University, Wellington)

Records of audits by the MPI Biosecurity Inspector and the Director-General, with records of corrective actions
(Manager (or delegate) – Otago University, Wellington)

List of current users of the facility
(Manager (or delegate) – Otago University, Wellington)

A register will be maintained of restricted biological products, cell cultures, microorganisms and genetically modified animals held in the facility. Records of the identity of imported restricted biological products, cell cultures, microorganisms, or genetically modified animals, their quantity, dates of import, usage and disposal.
(Sector Managers)

Records of transfer of a culture or restricted biological product to another facility or receipt of a culture or restricted biological product from another Containment or Transitional Facility.
(Sector Managers)

11. Contingency Plans

Contingency plans to cover spillage or accidental release of microorganisms or restricted biologicals within the facility are described in Appendix 20 (Standard Operating Procedures). Similar procedures would be used if feasible in the event of a spillage or accidental release of microorganisms, uncleared biological products or cell cultures outside the facility. The appropriate Sector Manager will be informed as soon as possible of any spillage within the sector and the Manager (or delegate) and MPI Biosecurity Inspector of any spillage or release outside the facility. The MPI Biosecurity Inspector must be informed within 24 hours. An action plan to prevent further release and where possible destroy the escaped microorganisms, cell cultures or uncleared biological products will be devised and implemented as soon as possible after the event depending on its nature as outlined in the University of Otago Wellington Emergency Management Plan which is accessible on the UOW web site:

http://www.otago.ac.nz/wellington/departments/healthsafety/index.html

In the event of a fire it is unlikely that breach of containment will occur as the microorganisms, cell cultures and uncleared biological products in the path of the fire are likely to be destroyed by fire.

All free access entrances and exits to the University of Otago, Wellington are monitored by security cameras. Laboratories within the building have swipe card access that permits authorised people into the area. These movements are monitored through the security system. Any movements that pose a threat to the integrity of each sector and its contents will alert the monitoring systems who contact the University immediately. If theft or sabotage is suspected then both the police and MPI will be contacted immediately. Personnel with access to the laboratories are audited every 6 months by Compliance Officer.

See Appendix 21 for Emergency Contact Numbers for Staff and Researchers.

11.1 Contingency Plans for Accidental Release or Escape of Laboratory Animals as Follows:

Escape within the facility will be managed by a careful search of the facility floor areas, wall shelves and animal cages and all miscellaneous equipment storage areas, to locate the animal. When the animal is found it is housed in a secure animal cage that is identified by a cage card labelled "escapee". The user group is contacted. If the animal is not located, live and/or kill traps will be set at strategic locations in the vicinity of the escaped animal and the traps checked twice daily. Identification of any trapped animals will be attempted and contact made with the user group. If the trapped animal cannot be accurately identified it will be euthanized.

Escape outside the facility will be managed by a search of the area. If a search of the ground area fails to locate the escaped animal, it will be reported as missing, presumed dead.

The risk of escape is considered to be highest during cage changing and weaning of animals. Staff are aware of the relevant risk factors and are instructed to take particular care during these activities.
In the event of an escaped animal, a MPI representative must be informed. Currently the MPI Biosecurity Inspector for the University of Otago, Wellington is Mike Aitkenhead.

11.2 Contingency Plans for Fire or Other Emergency will be Managed as Follows:

Activation of fire alarms requires, by law, the evacuation of personnel from the building. This precludes any measures that might be taken to save or sacrifice animals. All animal rooms are equipped with fire control sprinklers. In the event of an actual fire, the animals will either survive, or be killed by smoke inhalation or incineration.

Power failure emergencies may result in a shutdown of ventilation supply and room lighting. The University of Otago, Wellington is attached to the Wellington Hospital emergency generators. No special plan is required to deal with this emergency.

In the event of a flood evacuate animals from the affected area. The isolation point for water pipes is in the basement corridor connecting the academic block to the Ward Support Block. The drains should deal with most of the excess water.

In the event of a gas leak the supply should be turned off as soon as possible. The main isolation point is on the BRU floor.

In the event of a total power failure where there is no heating or ventilation all animal rooms should be kept shut. There will be enough heat generated to maintain the temperature in the short term.

The building has two ventilation systems. If one fails, the other automatically operates. If both systems fail, open both doors of the ventilation shafts to create a through-draft. This would be sustainable in the short term.

12. Access

Procedures for access shall be displayed at or near all entrances to each sector of the facility and unauthorised entry is prohibited. Any visitors to the facility shall be accompanied either by a Sector Manager or by an Approved User and their visits are recorded in a visitors log book for security purposes.

All laboratories within the facility have door signage indicating the PC level and are kept locked at all times when the room is empty.

After hours all facilities are locked, with swipe card or key access available only to authorised persons.

Access to the Containment Facility is restricted to those personnel identified in the approved AEC protocol. The Biomedical Research Unit is secure by three entrance doors being electronically locked. Entry is by individually authorised swipe cards with pin numbers. After normal business hours, a Security Grid is utilised and locked. Access through the grid is limited to those staff and users with key access. Visitors entering the facility must make a prior appointment with the Senior Technician. Personnel with access to the laboratories are audited every 6 months by the Compliance Officer.

13. EPA Requirements and Procedures

13.1 Hazardous Substances and New Organisms (HSNO) Act 1996

The passing of the HSNO Act in June 1996 represents one of the most significant reforms of environmental legislation since the Resource Management Act 1991. The provisions relating to new organisms came into effect on 28th July 1998.

A new organism is defined in terms of the Act in Section 1 of this manual. The HSNO Amendment Act 2003 amended the definition of organism to include human cells. Human cells are interpreted as follows:

- Means human cells, human cell lines, or human tissues that are being grown or maintained outside the human body; and
- Includes human reproductive cells or human embryonic cells that are being grown or maintained outside the human body.

In terms of laboratory research some examples of ***genetically modified organisms*** are as follows:

- A laboratory strain of bacteria/yeast e.g. *Escherichia coli* or *Saccharomyces cerevisiae* containing a recombinant plasmid.
- A cell line genetically modified to contain a marker gene.
- Development of and work with cDNA clones.
- Organisms where DNA injected into the host replicate in the host or incorporate into the host genome.
  (Please note genetically modified organisms are not limited to these examples)

Organisms that are ***not*** classified as genetically modified organisms include:

- Hybridomas and other cell fusions *unless* one of the parental cells is recombinant.
- Organisms where DNA injected into the host *does not* replicate in the host or incorporate into the host genome.
- Naked DNA or plasmids not in a bacterial host.

A genetically modified organism is created at the point where the recombinant DNA is inserted into the host organism.

Approval must be obtained from the IBSC or EPA to develop or import any genetically modified organism into the University of Otago, Wellington Containment Facility.

13.2 What Are The Approval Processes?

There are two different processes for gaining approval to hold a genetically modified organism (GMO). The process used depends on whether you wish to import or develop a low-risk genetically modified organism, or whether it involves a "not low-risk" GMO.

13.2.1 Importation of a Genetically Modified Organism into a Containment Facility

Approval to import a genetically modified organism into a Containment Facility must be obtained from EPA or the University of Otago Institutional Biological Safety Committee (IBSC). The IBSC has delegated authority from EPA to make decisions on applications for importation into containment low-risk genetically modified organisms. The HSNO (Low-Risk Genetic Modification) Regulations 2003, under Section 41 (c) of the HSNO Act 1996 specify the circumstances in which the genetic modification is considered low-risk. Any genetic modification that clearly conforms to the circumstances set out in Category A or B, but not the Schedule to the Regulations, is considered low-risk. See Appendix 22 (Hazardous Substances and New Organisms (Low-Risk Genetic Modification) Regulations 2003).

For Low-Risk applications an EPA0324 form (http://www.epa.govt.nz/new-organisms/find-application-form/all-applications/Pages/new-organism-containment-import.aspx) must be completed and submitted with coversheet from the UO Biological Compliance website (http://biologicalcompliance.otago.ac.nz) to the IBSC.

For Not Low-Risk applications an EPA0324 form (http://www.epa.govt.nz/new-organisms/find-application-form/all-applications/Pages/new-organism-containment-import.aspx) must be completed and submitted with coversheet from the UO Biological Compliance website (http://biologicalcompliance.otago.ac.nz) and appropriate fee, to EPA for consideration. It normally takes up to one year to obtain approval from EPA to import a genetically modified organism. Such applications should be submitted to the IBSC for consideration prior to it being submitted to EPA. The IBSC can then advise on what further information may be required in the application. The application should also be submitted in the name of the University not the individual research person. This ensures that all University staff can then use the approval once it has been approved by EPA.

The University of Otago has a number of generic EPA import approvals which can be used by any University employee working in a University Containment Facility. These include specified genetically modified *E.coli* strains and genetically modified mice. Please contact the Manager for more details. Refer to flowchart in Appendix 23.

Once the new organism(s) are received into the facility appropriate documentation must be completed. Please refer to Section 10.2 for these requirements.

The IBSC must be notified each time a University import approval is used.

13.2.2 Development of a Genetically Modified Organism in a Containment Facility

The IBSC has delegated authority from EPA to approve applications for the development of low-risk genetically modified organisms in the laboratory. Low-risk organisms are defined as those that meet category A or B requirements of the HSNO (Low-Risk Genetic Modification) Regulations 2003. See Appendix 20 (Hazardous Substances and New Organisms (Low-Risk Genetic Modification) Regulations 2003).

In the HSNO Amendment Act 2003 the definition of "develop" has been amended.
"develop in relation to organisms,
a) means -
genetic modification of an organism:
regeneration of a new organism from regenerative tissue:
fermentation of a microorganism that is a new organism: but
b) does not include field testing."

The HSNO Amendment Act 2003 provides for applications to develop low-risk genetically modified organisms within a containment structure to be assessed on a project rather than an organism basis. A project is a programme of work with defined objectives that:

- involves genetically modified organisms
- is carried out within a containment structure
- comprises the use of defined ranges of host organisms, vectors and donor material
- provides a sufficient description of the GMOs which will be produced to confirm that they conform with any prescribed constraints imposed on project approvals.

For Low-Risk applications an EPA0325 form (http://www.epa.govt.nz/new-organisms/find-application-form/all-applications/Pages/new-organism-containment-development.aspx) must be submitted with coversheet from the UO Biological Compliance website (http://biologicalcompliance.otago.ac.nz) to the IBSC.

Development of organisms that involve not low-risk developments must be approved by EPA and must use the EPA0324 form (http://www.epa.govt.nz/new-organisms/find-application-form/all-applications/Pages/new-organism-containment-development.aspx). This should be submitted with coversheet from the UO Biological Compliance website (http://biologicalcompliance.otago.ac.nz) to the IBSC for consideration prior to it being submitted to EPA.

The IBSC requires a coversheet which must be signed by the Principal Investigator, the University of Otago, Wellington Laboratory Manager and the Head of Department. Remember that the applicant on the EPA application form is the University of Otago, care of Associate Professor Iain Lamont. The Principal Investigator should provide their details in the "other contact" box on the EPA application form. Full information must be supplied in this application.

Amendment and Reassessment forms are available from EPA for existing new organism approvals, instead of submitting a completely new application for consideration. These forms can be found on the following web page: http://www.epa.govt.nz/new-organisms/amend-reassess/Pages/default.aspx

All applications must be submitted to the Manager not direct to the IBSC. At this time there is no cost to submit an application for approval by the IBSC.

Charges for applications made directly to EPA:
EPA charges $2300 for applications for non-notified, non-rapid developments (i.e. not low-risk) and importation.

Should the delegated authority of the IBSC be removed or suspended for any reason, applications will have to be submitted directly to EPA for consideration or alternatively can be held by the IBSC and then considered for approval once the delegated authority is restored.

Once the new organism(s) are developed in the facility appropriate documentation must be completed. Please refer to flow chart in Appendix 23.

14. Changes in Facility Structure or Organisation

Any changes made to the facility structure or to the personnel responsible for running the facility will be notified to the MPI Biosecurity Inspector as soon as is practicable. Details of the changes made will be notified in writing.

Major modifications are those that potentially affect the integrity of containment, such as construction or removal of walls, or significant changes in the description of work to be carried out. Prior to the modification, the MPI Biosecurity Inspector is contacted to determine the impact of continued compliance. Once modifications are complete, an on-site inspection will take place.

Minor modifications are those not affecting the integrity of containment, such as changes in procedure or Quality Management System updates. These are recorded and checked by the Inspector at the next visit.