

BEST PRACTICE



This is part of a series of guidance documents produced by the NADIR FP7 project. There are various international and national standards in place for undertaking infectious work in animals with pathogens that require high containment facilities. These guidance documents are intended to be used as examples of best practice in their managerial interpretation. They are based on one national situation but the principles particularly of clear lines of responsibility and ensuring competence of individuals working in this environment, in the areas outlined can be interpreted across all institutes in this field.

High Containment Facilities Building Officer – Guidance Notes

Contents

1. INTRODUCTION	3
2. TRAINING	3
3. BUILDING OFFICER RESPONSIBILITIES	4
4. BUILDING OFFICER DUTIES	5
4.1 Provision of information, instruction, training and assessment	5
4.2 Maintenance of equipment	6
4.3 Building maintenance	7
4.4 Emergency scenarios	8
4.5 Safety inspections and audits	8
4.6 Documentation (e.g. Risk Assessments, SOPs, logbooks)	9
4.7 Safety of visitors (including contractors)	9
4.8 Access to the facility	10
5. REFERENCES	10

1. INTRODUCTION

- 1.1. A Building officer (BO) for a high containment facility is a member of staff who manages the operation of the facility, assesses competence of staff as well as acting as a contact point for staff, engineers or others working in the facility.
- 1.2. Some facilities also require a deputy building officer as decided by local management. In these situations they must work as a team to ensure that all the responsibilities and duties are carried out. This document refers to the building officer but the content will also apply to the deputy where applicable.
- 1.3. Employment grade or seniority is irrelevant in who can be a building officer but the post holder must have enough standing and respect within their workgroup/department for their advice to be acted upon.
- 1.4. The Head of Department must ensure that the necessary resources are available to enable the building officers to complete their training and subsequently carry out their duties.
- 1.5. Where the roles and responsibilities are not carried out by the Building Officer or their deputy this must be documented locally and a system in place designating who is undertaking them and the building officer should check that they are completed.
- 1.6. Those officers with over all responsibility for Biosafety and Health and Safety in the organisation will maintain an update list of building officers and deputies.
- 1.7. The line manager of the building officer has the responsibility to ensure their duties are completed.

2. TRAINING

- 2.1. To carry out the functions of a Building officer the nominated person must undergo suitable training **before** undertaking these duties.
- 2.2. The Building officer must first complete training within containment and is assessed as competent to work unsupervised (this training is mandatory in a lot of partner countries)
- 2.3. The building officer must then undergo further training and shadowing with an existing building officer of a similar containment facility and be signed off in their training records as competent for this role.

- 2.4 The extra key criteria for a building officer to be competent in are:
- Use of Building Monitoring System (BMS)
 - Alarm response
 - Building Fumigation procedures – including set up and post purge testing
 - Use of Equipment Monitoring System (EMS)
 - Sealability testing
 - Contingency procedures for building plant or equipment failures
 - Spillage clean up procedures
 - Familiarity and understanding of relevant legislation relating to the pathogens being worked with
 - Knowledge of planned preventative maintenance (PPM) schedules and requirements
 - Decommissioning knowledge to ensure the facility or equipment contained within it is safe for maintenance work or removal
- 2.5 Building officers must undertake formal continuous professional development once a year, minimum the half day.

3. BUILDING OFFICER RESPONSIBILITIES

3.1 The building officer is responsible for:

- Ensuring the facility is compliant with relevant containment legislation.
- For animal containment facilities they must ensure that the facility is compliant with relevant animal welfare legislation (EU Directive 2010/63/EU).
- Ensuring the equipment within the building is functional and well maintained, according to schedule in the Building Operation Manual.
- Updating the Building Operation manual with those responsibilities for Biosafety and Health and Safety in the organisation.
- Checking staff have completed the pre-entry checklist prior to entry into the facility for the first time.
- Training and supervising staff and visitors and assessing staff competency prior to independent working.
- Liaison with the institutional management of Biosafety and Health and Safety on issues relating to their facility.
- Assisting with inspections and audits and monitoring actions arising to closure.
- Liaison with the engineering maintenance and support of the facility (Facilities Management provider) and external contractors to ensure repairs, maintenance and calibrations are carried out.
- Organising and carrying out contingency drills as per local schedule.
- Provide expertise in the event of an accident or near miss within the facility or associated area and ensuring prompt reporting.
- Monitoring and controlling access to the facility.
- Authorisation of the entry and exit of equipment.
- Authorisation of the removal of inactivated material from the facility.
- Maintaining an out of hours contact list.
- Arranging for suitable cover for periods of leave.
- Ensuring adequate First Aid and Fire warden coverage for their facility.
- The correct storage and use of chemicals, gases and any other substances hazardous to health or damage to the facility due to fire, explosion or corrosion.
- Writing and reviewing standard operating procedures (SOPs) and risk assessments as required.

Maintaining documentation relevant to any of the above.

4. BUILDING OFFICER DUTIES

4.1 Provision of information, instruction, training and assessment

4.1.1 The building officer will provide suitable and sufficient information, instruction and training to all staff using the facility. They will also carry out assessments on staff who have completed the prerequisite supervised period and wish to work independently.

This will include:

- Induction to the facility and training of new staff.
- Check staff have completed the pre-entry checklist prior to entering the facility for the first time and therefore have all the correct health clearance, security clearance, personal protective equipment (PPE) and respiratory protective equipment (RPE) fitting and have read and understood all relevant documentation.
- Continuing and/or refresher training on using the facility for all staff.
- Carrying out, at periods determined locally, contingency drills within the facility and recording staff attendance.

4.1.2 The building officer will carry out a formal assessment on every member of staff who has completed the supervised period, prior to them working independently. The assessment report should be copied to both the individual and their line manager.

4.1.3 Following any changes in working practices (e.g. new buddy system) the building officer will implement the new systems, provide training to staff and assess competence if required.

4.1.4 The building officer will carry out ad hoc monitoring of staff working in the facility and report any concerns to line management. This includes monitoring compliance with institutional policies, SOPs and Risk Assessments.

4.1.5 The building officer will ensure there is adequate and suitable signage including fire action notices, first aiders contact list and biohazard signs.

4.2 Maintenance of equipment

- 4.2.1 Ensuring servicing and calibration is carried out on all safety critical items (as described in the Building Operating Manual):
- Microbiological Safety Cabinets (MSCs) and Biological Safety Cabinets (BSCs)
 - Laminar flow cabinets
 - Isolators (and individual ventilated cages)
 - Autoclaves
 - Airlocks (as other critical barrier device)
- 4.2.2 Arranging for the removal from service and repair of any broken or unsafe equipment within the facility.
- 4.2.3 Ensuring portable appliance testing (PAT) is carried out.
- 4.2.4 Arranging for the correct decontamination and disposal of old equipment. Providing certificates of decontamination for individual pieces of equipment prior to them leaving the facility.
- 4.2.5 Arranging for large equipment to be transferred into or out of the building and sealability testing to be carried out subsequently.
- 4.2.6 Registration of all new equipment on local databases.
- 4.2.7 Responding to equipment alarms (including out of hours).

4.3 Building maintenance

- 4.3.1 In liaison with FM provider ensure the following is completed to schedule (as described in the Building Operating Manual):
- HEPA filter testing and validation
 - Effluent Treatment Plant (ETP) PPM (planned preventative maintenance)
 - Heating Ventilation and Air Handling Unit (HVAC) PPM
 - Back up generator PPM
 - Any legislatively required water testing
 - Routine daily plant room checks
 - Sealability testing (annually for category 3, six-monthly for category 4)
 - Alarm systems PPM
 - Laboratory gases system(s) PPM
 - Intruder alarm PPM
 - BMS calibration
 - EMS calibration
 - Fire risk assessment
 - Calorifier PPM
 - Uninterruptible Power Supply (UPS)

- 4.3.2 Raise any outstanding items to the FM provider and if not resolved with those responsible for Biosecurity, Health and Safety in the organisation.
- 4.3.3 Carry out according to schedule (as described in the Building Operating Manual):
- Emergency lighting tests
 - Fire alarm tests and fire panel checks
 - Eye wash and shower station flush outs (if in place)
 - Checks on interior building fabric and furniture (for damage or wear and tear)
- 4.3.4 Carry out fumigation or decontamination of facility in accordance with local procedures as required for building or plant maintenance.
- 4.3.5 Capture data required for any safety performance indicators (SPI) ([HSE Safety Performance Indicators](#)) relating to building, plant and safety critical items.
- 4.3.6 Respond to building alarms and report incidences to the FM provider. Follow up to ensure repairs are carried out satisfactorily.
- 4.3.7 The building officer will complete the Permit to Work documentation supplied by the FM provider.

4.4 Emergency scenarios

- 4.4.1 If there is an incident within the facility (e.g. spillage, HVAC failure, accidents, incidents, fire alarm) the Building officer should do the following:
- Ensure the correct contingency procedure is followed
 - Coordinate any evacuation
 - Prevent unauthorised access to the building
 - Clean up any spillage and decontaminate the building according to local procedures
 - Liaise with those responsible for Biosafety, Health and Safety in the organisation
 - Arrange urgent attendance from the FM provider in the event of equipment failure or alarms
 - Assist with the investigation and provide input into the incident report form
 - Ensure actions identified from the incident are completed
 - Communicate lessons learnt and modify the contingency SOP if it is necessary

4.5 Safety inspections and audits

- 4.5.1 The Building officer will participate in the annual safety inspection of their facility. They may also assist in carrying out inspections in other similar containment facilities.
- 4.5.2 The Building officer will be required to assist in any audit of their facility by those responsible for Biosafety, Health and Safety in the organisation. It is considered best practice that these have to be done at least annually for category 4 or bi-annual category 3.
- 4.5.3 The building officer will monitor actions through to completion and assist in the implementation of any changes in procedures or documentation. They will also ensure the changes are communicated to staff and carry out training or assessment if necessary (see 4.1.3).

4.6 Documentation (e.g. Risk Assessments, SOPs, logbooks)

- 4.6.1 The building officer will ensure that documentation relating to the use of the building is accurate and up to date.

- 4.6.2 Where they are not the author of the SOP or risk assessment they will raise any anomalies or omissions to the relevant author.
- 4.6.3 They will monitor logbooks to ensure they are completed.
- 4.6.4 The building officer will ensure the following SOPs are in place and reviewed as necessary (i.e. every two years, following a change in procedure or legislation and following report of an accident or near miss):
- The receipt and unwrapping of incoming pathogens and genetically modified organisms (GMOs)
 - The handling of pathogens and GMOs *in vitro* and *in vivo*
 - The disposal of all waste from the Animal facility
 - The disposal of surplus pathogens and GMOs
 - The storage of pathogens and GMOs
 - Emergency procedures
 - Transfer of infectious and non-infectious material from a Containment Area of a Laboratory/Animal facility
- 4.6.5 The SOPs listed above and Risk Assessments relating to the pathogens are peer reviewed by the prior to their implementation and following any amendments.
- 4.6.6 Provide building specific fire risk information to the emergency services as required.
- 4.6.7 If there are animals into the building it should be necessary to provide specific information about how to act with them in case of emergency

4.7 Safety of visitors (including contractors)

- 4.7.1 The building officer will ensure that any visitor or contractor entering the facility whilst it is operational:
- Has completed the pre-entry checklist
 - Has signed the declaration regarding avoidance of contact with susceptible species.
 - Is escorted into and from the building
 - Is supervised by an authorised member of staff at all times during the visit
 - Provides written confirmation they will comply with all relevant SOPs and risk assessments

- 4.7.2 The building officer will ensure that any visitor or contractor entering the facility whilst it is non-operational:
- Is escorted into and from the building
 - Is supervised by an authorised member of staff at all times during the visit

4.7.3 Any visitor who needs to work unsupervised in the facility must undergo the same competence assessment as a member of staff and participate in the contingency drills

4.8 Access to the facility

4.8.1 The building officer must review who has access to the facility on an **annual basis** as a minimum. Authorised access may be by electronic swipe card, PIN access or other appropriate means.

4.8.2 The building officer is responsible for authorising access to the facility and giving approval to the issuer where swipe card system is managed centrally. They will also arrange for staff to be removed from the system when they leave or no longer require access.

5. REFERENCES (from the UK, other sources national sources across the EU)

5.1 Biological agents: The principles, design and operation of Containment Level 4 facilities (ACDP).
[ACDP Containment Level 4 guidance](#)

5.2 The management, design and operation of microbiological containment laboratories (ACDP).
[ACDP Containment Levels 2 and 3 guidance](#)

5.3 Working safely with research animals: Management of infection risks (HSE).
[HSE Animal Research guidance](#)

5.4 A guide to the Genetically Modified Organisms (Contained Use) Regulations 2000 (HSE).
[HSE GMO \(CU\) guidance](#)

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Document History

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