Business Continuity Management
Guidance Manual
Contents

Module 1:

- Overview
- Introduction and development of BCM.
- Why BCM
- BCM and major incidents
- BCM strategy and process
- University of Glasgow strategic intention
- Strategy and critical activities
- BCM infrastructure

Module 2

- Risk assessment
- BCM plan
- Business Impact Analysis
- Three phases of Business Continuity Management System
- Validation of the Business Continuity Management System
- Exercising
- Maintenance
- Version control
- Review
- Auditing and Governance
Module 1

Overview

This guidance manual has been designed to support those with responsibilities to the University of Glasgow Business Continuity Management System (BCMS) whether operating in a School/ Research Institute (RI)/ or as part of University Services (US) and is a point of reference for those involved in the preparation of plans and the provision of local advice and guidance. It should be read in conjunction with the Business Continuity Management Policy. The guidance should be considered as a practitioner's guide rather than a comprehensive academic document.

Introduction and development of Business Continuity Management (BCM)

In order to manage business interruptions, many organisations have traditionally relied on a Disaster Contingency Recovery Plan (DCRP) or Disaster Recovery Plan (DRP). Although these plans have been vital to organisations, they reflect a primarily reactive approach and do not provide comprehensive guidelines for disruption forecasting, risk management, or long term recovery. A business continuity plan, on the other hand, aims to “eliminate or reduce the impact of a disaster condition before the condition occurs.”

The emphasis has moved from this type of disaster recovery planning, traditionally in the domain of the IT Department to the more expansive concept of BCM, which considers all business activities, not just IT.

BCM within the University of Glasgow includes the concepts of risk management and corporate governance. Consequently, it now takes a proactive approach, seeking to identify those potential impacts that could adversely affect the service delivery capability before they occur.

It is important to note that BCM goes beyond writing a Business Continuity Plan (BCP). It is a proactive approach that identifies the essential resources needed to ensure that the strategic intention of any organisation can be sustained in the event of a disruption.

Resource, time and capability constraints will mean that the University of Glasgow has to focus its business continuity activity on those activities most critical to the strategic intention of the University. Prioritisation is a key element of business continuity and this may mean the suspension, deferment and disruption of some business activities for defined periods, until resources are available to restore them. All levels of the organisation need to appreciate that they have a responsibility in maintaining service delivery and therefore need to consider how they would manage disruptions to their activities.


“Business Continuity Management (BCM) is a holistic process that identifies potential threats to an organisation and the impacts to business operations that those threats, if realised, might cause, and which provides a framework for building organisational resilience with the capability of an effective response that safeguards the interests of its key stakeholders, reputation, brand and value-creating activities”.

BCM is proactive and concentrates on everything that is needed to continue the strategic processes in the event of a disruption.

It focuses on the effects and not the cause of the disruption.
WHY BCM?

Due to the rise in international terrorism and the ever expanding threats to Critical National Infrastructure, the UK Government rationalised the Civil Contingencies structure and responsibilities by introducing the Civil Contingencies Act 2004. This legislation superseded the Civil Defence Act 1948 which was the legislation covering civil protection in the UK. Scotland introduced the Contingency Planning (Scotland) regulations 2005 and published “Preparing Scotland”, a guide to preparedness for private and public sector organisations.

It is now a legal requirement for Local authorities to promote BCM and for designated organisations to have a Business Continuity Management System in place. Influence has been exerted across both public and private sector industry and whilst many Organisations do not have a legal responsibility to BCM it is seen as good practice with many Business Audits recommending it. As a result of a recent University of Glasgow internal audit, areas of increasing focus were identified for the senior management team including the implementation of a BCMS.

This audit necessitated the creation of the Business Continuity Governance Board chaired by the Secretary of University Court. Its intention to address the issue of business continuity and install a Business Continuity Management System (BCMS) and appoint a Business Continuity Officer (BCO) to develop, implement and manage that system. The aim is now to install BCM as a discipline within the University of Glasgow incorporating risk registers maintained by Colleges and Schools, Research Institutes and University Services.

The BCMS is currently being rolled out across the University Estate and will provide a practical framework to allow us to continue to deliver the essential activities of the University, even in times of chaos.

MAJOR INCIDENTS & BUSINESS CONTINUITY MANAGEMENT

The University of Glasgow has faced major incidents in the past including a wide variety of causal factors, however there is a clear distinction between our response to a major incident and our arrangements for BCM.

In dealing with the occurrence of a major incident our main focus is in identifying the cause of the incident and co-ordinating with the Emergency Services ultimately neutralising it. The strategy adopted will generally encompass maximising the safety of those involved, preventing escalation and returning the University Estate to normality. In such a case the University has an Emergency Response Co-ordinating Group made up of key stakeholders charged with the responsibility of providing leadership, Strategic and Tactical decision making while at the same time supporting the operational response.

It is imperative that as the response to any emergency incident is being coordinated, so too must Business Continuity be considered as part of the consequence management arrangements. Managing the consequences and deploying the relevant Business Continuity Plans will in most circumstances be key to any return to normality and service resumption. It is important to remember that whilst major incidents such as fires, floods or even terrorist activity capture the headlines, it is the “quiet catastrophe” that will disrupt our business.

Examples of quiet catastrophes include the loss of the telephone system, water supply or other amenities to a key building preventing its use. Such disruptions have the potential to damage the University’s most valuable assets, its public image and reputation. These can be destroyed very quickly unless vigorously defended at a time when the speed and scale of events can overwhelm normal operations and management systems. It is therefore important not to confuse BCM with the University of Glasgow’s ability to respond operationally to a major incident. BCM focuses on internal issues to maintain the organisations deliverables whereas a major incident will focus mainly on causal factors.
BCM STRATEGY & PROCESS

The University of Glasgow recognises that there must be continual improvement of the Business Continuity Management System (BCMS). It aligns itself with the international standard BSISO22301 Plan/Do/Check/Act (PDCA) model illustrated below.

<table>
<thead>
<tr>
<th>Plan (Establish)</th>
<th>Establish BCP, objectives, controls, processes and procedures relevant to improving BC in order to deliver results that align with the organisations overall policies and objectives.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do (Implement and operate)</td>
<td>Implement and operate the BCP, controls, processes and procedures.</td>
</tr>
<tr>
<td>Check (Monitor and review)</td>
<td>Monitor and review performance against the BCP and objectives, report the results to management for review, determine and authorise actions for remediation and improvement.</td>
</tr>
<tr>
<td>Act (Maintain and improve)</td>
<td>Maintain and improve the BCMS by taking corrective action, based on the results of management review and reappraising the scope of the BCMS and BCP and objectives.</td>
</tr>
</tbody>
</table>
The Plan-Do-Check-Act (PDCA) model is applied in the planning, establishing, implementing, operating, monitoring, reviewing, maintaining and the continual improvement of the effectiveness of the University of Glasgow BCMS.

**PLAN** – The University of Glasgow Business Continuity Governance Board will identify the strategic processes which must be maintained in the event of a disruption. The BCMP, guidance document, training packages and all other relevant documents align with the University of Glasgow’s strategy. This in turn will allow Business Continuity Coordinators (BCC) to create BC plans for their areas of responsibility.

**DO** - Having received the appropriate understanding from the BCO it will be the responsibility of the BCC to return to their business area and develop and implement a Business Continuity Response. This will include identification of a Business Continuity Management Team for that area and they will be responsible for the creation of a Business Continuity Plan, this plan will include Business Impact Analysis for identified critical activities.

**CHECK** – The University of Glasgow’s BC Plans will be reviewed regularly by the BCO. The BCO will put in place a programme of review for plans and assist Coordinators in making any required amendments / updates. The plans will then be endorsed or returned for amendment by the BCO who will ultimately sign off the plans. Details of plan versions will be amended and the BCO will hold copies of all plans within the University of Glasgow.

Exercising of business continuity arrangements is a non-statutory duty for the University of Glasgow. However, seen as good practice the exercising of all plans will be co-ordinated by the BCO on an annual basis in line with a scheduled programme of events to ensure that they remain robust and effective.

**ACT** – Having exercised the BCP post exercise reports that contain outcomes, recommendations and actions to implement improvements will be provided by the BCO to the BCC’s. It is the responsibility of BCO’s to have an overarching view of the implementation of improvements and actions required.

The BCO has responsibility for communicating any changes to the Business Continuity Governance Board and making sure that plans are amended accordingly.
UNIVERSITY OF GLASGOW STRATEGY AND CRITICAL ACTIVITIES

Successful application of our Business Continuity Management depends on the flexibility of approach within a broad framework.

All plans should be developed in support of the University of Glasgow’s Strategic priorities, which are:

**People**
- Securing the best **staff**
- Attract outstanding **students**
- Connect through the world with **internationalisation**

**Place**
- Develop inspiring, transformative **campus**
- Streamline our policies, processes and **systems**
- Provide staff and students with first class **support**

**Purpose**
- Inspire learning with outstanding **teaching**
- Lead discovery through world class **research**
- Create impact for society and the economy through innovative **engagement**

The use of process mapping (demonstrated later in this guidance) is a very effective way once critical activities are identified of establishing the recovery time objective, the impact of disruption, independencies, suppliers, what workarounds are available and the minimum resources required.

By mapping each critical activity, it is possible to identify how these are delivered and discover any potential threats/single points of failure.

Using the process maps together with Business Impact Analysis (BIA) planners can establish the scale and impact of a disruption on their activities. By prioritising those activities most critical to the business area they can pre plan their response; allocating resources to those that are most important to support business.

The elements of a Business Impact Analysis are discussed in more detail later in this guidance.

*Remember it is not about the cause of disruption it is about the effect.*
BUSINESS CONTINUITY MANAGEMENT (BCM) ROLES AND RESPONSIBILITIES

Ultimate responsibility for the management of BCM for the University of Glasgow lies with the Principal. However, the responsibility for governing the implementation and ongoing review of the BCM System is delegated to the Secretary of University Court. BCM governance is carried out through the Business Continuity Governance Board on a quarterly basis, many ex-officio members attend. Amongst other business the BCO will provide an update on our preparedness.

An essential element of developing a successful BCMS is the proactive support of the Senior Management Group. By demonstrating commitment and playing an active role in the BCM process they can ensure its successful implementation.

Thereafter responsibility for the development, implementation and maintenance of the BCM System sits with the BCO within Health, Safety and Wellbeing. The BCO will provide training, support, advice and guidance by those nominated within the relevant Colleges, Schools, Research Institutes and University Service Divisions to create BCM arrangements. Those trained within these business areas will then be required to return and consider their arrangements on how to maintain critical activities.

BCM OFFICER

- Support staff on aspects of BCM policy and strategy
- Develop and co-ordinate the University's BCM arrangements and exercise programme
- Monitor and report the results of BCM activity to the Governance Board
- Provide staff with support, advice and guidance with regard to BCM
- Develop, maintain and deliver training in BCM
- Conduct Business Impact Analysis (BIA) walkthrough exercises
- Maintain version control for BCM Plans
- Monitor fall-back accommodation arrangements between business areas
- Undertake a quarterly audit of BCM arrangements
- Build relationships with external organisations and professional bodies relating to BCM
- Promote BCM best practice across the University

LOCAL BCM TEAM (College/School, Research Institute, Service)

BCM PLAN OWNER

- Overall responsibility for the BCP (generally Director or Head of school/Institute)
- Final approval of BCM arrangements for business area

BCM TEAM LEADER AND DEPUTY

- Requires appropriate seniority and authority to be accountable for BCM implementation
- Single point of contact for the BC co-ordinator
- Reports directly to the Plan Owner with regard to BCM arrangements and disruptions

BUSINESS CONTINUITY CO-ORDINATOR (BCC) AND DEPUTY

- Administration and maintenance of BCM Plan in respect of their area of business
- Communication of Business Area BCM arrangements
- Identification and co-ordination of stakeholder activity in their business area
- Monitor fall-back accommodation within their business area
- Exercising, auditing and amendment of their plan
• Organisation and administration of local exercises
• Conduct BIA walkthrough exercises
• Single point of contact for BC Officer
• Support and advise BCM Team Leader

BCM STAKEHOLDERS
• Create and maintain BIA for relevant critical activities
• Single point of contact for BCC
• Part of BCM Team if required during a disruption
• Take part in BIA walkthrough exercises for relevant BIA’s
• Take part, where required in local and central exercising

ALL BCM TEAM PERSONNEL SHOULD ATTEND THE BCM TRAINING

BCM TEAM STRUCTURE

PLAN OWNER
Head of School/Research
Institute/Service

TEAM LEADER
Deputy to Head/Director

BUSINESS CONTINUITY COORDINATOR
Local responsible person

Stakeholder
Critical Activity 1

Stakeholder
Critical Activity 2

Stakeholder
Critical Activity 3
Module 2

RISK ASSESSMENT

Risk is present in all decisions and activities undertaken by individuals and teams within the University of Glasgow. A number of risks will have the potential to impact on the continuity of our Organisation and should be recorded on the School, RI, or University Services risk register.

The BCC should consult the risk register before conducting the Business Impact Analysis (BIA).

From a BCM perspective, risk is any source of disruption that may act as a barrier to the achievement of service delivery. The University of Glasgow has taken the view that all critical activities should be subject to BCM. Risk management enables the University of Glasgow to identify and monitor risks and put controls in place to prevent interruptions to critical activities. Should those controls fail, BCM will provide the actions necessary to deal with the disruptive impact on the critical activities.

During the planning stage consideration should be given to likelihood and impact of the following:

- Loss of data/ICT failure
- Supply chain failure
- Loss of staff/skill/industrial action
- Loss of utilities
- Loss of accommodation/denial of access
- Internal/external disruptive incident
- Reputation damage

The key risk assessment questions that the BCC should address in the planning phase are:

- What:
  - What could happen?
  - What could the effect on objectives be?
  - What is in place to stop it from happening?
- How:
  - How could it happen?
  - How would we know it was happening?
  - How resilient are we if it happens?
- Where:
  - Where could it happen?
- When:
  - When could it happen?
  - Are there time periods of particular sensitivity? For example, loss of the payroll system the day before pay day?
- Who:
  - Who could be involved?
  - Who could be affected?

In reality, it is optimistic to think that time and resources will be available to eradicate every single threat, however remote. With limitations on management time and budgets, it is necessary to focus on the issues that are important to the University of Glasgow’s strategic priorities and objectives by introducing a prioritised list for the recovery of critical activities. To do this the stakeholders/BCC should conduct process mapping and complete BIA and associated documents.
BUSINESS CONTINUITY PLAN (BCP)

Each School, RI and Service BCP will have a Plan Owner, preferably the Head of School/RI or Director of Service. The BCM Team Leader will report directly to the Plan Owner regarding BCM. This structure may differ slightly across the estate but the principle having a tiered structure to engender responsibility remains.

The BCP is intended to be used in pressurised situations when people are under stress. Plan design has taken this into account, to make the document focused, specific and easy to use. Important characteristics that should be considered for the BCC for an effective BCP include:

- **Direct** – plans should provide clear, action oriented and time based direction, while allowing quick access to pertinent support information
- **Adaptable** – plans should enable the University of Glasgow to respond to disruptive incidents regardless of the cause
- **Concise** – plans should only contain guidance, information and tools that are likely to be used by the team in a disruptive environment
- **Relevant** – the information in the plan should be current and applicable to the team that will use it
- **Language** – write for the layperson, not the expert. Avoid acronyms and jargon
- **Assumptions** – don’t assume. Document it, even if it seems obvious
- **Confidentiality** – personal data etc. must be managed appropriately
- **Accessibility** – those who need to use plans should be able to access them easily

Description of School/RI/US

This section affords schools, research Institutes and services to outline their contribution to the University and their critical functions. It is possible that Schools, RI and US will perform some activities that do not fall within the scope of the BCMS and therefore do not require BIA to be completed or to be recorded as a critical activity in BCPs. After any disruption to business, these activities will be required to be resumed at some point and therefore still need to be detailed in the BCP. This information should be included in section 2 of the BCP template. There should be a brief description of what the School/RI/US does and then a bullet point list of the out of scope activities.

All activities should be process mapped (see page 13) to confirm that there are no aspects that would require an activity to be included in the BCP i.e. financial/legal implications etc.

The BCPs should always be based on the worst case scenario, which is that a major disruption will happen at the worst time on the worst day possible.

The purpose of the BCMS and the development of BCPs is to provide an effective, fit for purpose, predefined and documented framework and process to respond to incidents affecting critical activities. It should be flexible and adaptable enough to enable responses to a wide variety of disruptive incidents.
BUSINESS IMPACT ANALYSIS (BIA)

This is the foundation work from which the whole process is built. The main part of any Business Continuity Plan is the Business Impact Analysis. The University of Glasgow’s BIA process will recognise each School/Research Institute and service as its critical business activities. The process also entails recognition of each subset of activities which each school, Institute and service undertakes to support our University’s strategic plan. A Process map enables initial scoping of activities which can then be used to populate each BIA.

It is crucial that during this process the following are considered:

- Employee safety
- The viability of the University of Glasgow
- Reduce or mitigate exposures, confusion and chaos
- Position the University in a position to respond to any emergency

It is important that all stakeholders involved in the critical activities have an input into the BIA, as very often these activities have interdependencies across Schools/RI/US areas and with external agencies. Agreement must be reached with all stakeholders on the prioritisation for recovery and recorded on the process mapping template.
Process Maps

This is a useful tool in the completion of the BIA with the process map charting each activity from end-to-end, and listing the related activities and resources associated with them.

See below an example of a completed process map:

The process of completing the BIA includes:

- Identifying critical activity
- Identifying the relevant strategic process(S) they support
- Allocation of the priority scale and Recovery Time Objective (RTO)
- Recording the impact of disruption on critical activities
- Detailing interdependencies/suppliers/Single Points of Failure (SPOF)
- Documenting workarounds
- Determining minimum resource requirements (staff quantity and skill sets, accommodation requirements, equipment (Inc. vehicles) and vital documentation and ICT (software and networks)).

COMPLETING THE BIA TEMPLATE

The ‘critical activities’ are those identified by the School/Institute/Service that directly or indirectly support the strategic processes and that, if disrupted, would have an unacceptable impact on the University of Glasgow. In addition, those activities that the University has a statutory or regulatory duty to provide must be considered as critical.
The ‘Recovery Time Objective (RTO)’ is the “period of time following an incident within which a activity must be resumed, or resources must be recovered”. Although it is not detailed in the BIA we must also consider the Maximum Tolerable Period of Disruption (MTPD). This will assist in determining the RTO timescale which will be selected from the RTO Table.

The MTPD is defined as “the time it would take for adverse impacts, which might arise as a result of not providing a activity, to become unacceptable”. Therefore, the RTO should be half the time of the maximum tolerable period of disruption.

Both the MTPD and RTO should be determined by the stakeholders ‘walking through’ each of their critical activities, to establish when (hours, days or weeks) a disruption to the activity would become critical to achieving objectives and would impact on the University of Glasgow. Aspects of the activity that should be considered when determining the MTPD and RTO would be the working hours of the activity. Further to this consideration of how frequently ICT backups are completed.

The ‘priority’ allocates a rating (priority 1, 2 or 3 also known as and detailed in the BIA as the emergency, continuity and recovery phases) which determines the order of recovery for each of the critical activities. This is done by process mapping of the BIA for each critical activity using the MTPD and RTO detailed above and determined by the use of the RTO Table.

**RECOVERY TIME OBJECTIVE TABLE**

By using the following table to assist in identifying the appropriate RTO for the critical activity the recovery priority can be allocated.

<table>
<thead>
<tr>
<th>Priority 1 (0-24 hrs)</th>
<th>0-4 Hours</th>
<th>5-8 Hours</th>
<th>9-12 Hours</th>
<th>13-24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority 2 (1-7 Days)</td>
<td>1-2 Days</td>
<td>3-4 Days</td>
<td>5-6 Days</td>
<td>6-7 Days</td>
</tr>
<tr>
<td>Priority 3 (7 Days+)</td>
<td>7-10 Days</td>
<td>10-14 Days</td>
<td>15-28 Days</td>
<td>&gt;28 Days</td>
</tr>
</tbody>
</table>

When determining whether a critical activity is a priority 1, 2 or 3 it should be noted that if it is a priority 1 you will complete all three phases in the minimum resource requirement section of the BIA. If it is a priority 2 you will only complete the continuity and recovery phases, If the activity is a priority 3 you will also complete the continuity and recovery phases as it is unlikely that a activity can be recovered to full complement after a disruption without there being a continuity phase to the whole process and therefore continuity phase details are always required.
3 Phases of the BCMS

Priority 1 (Emergency Phase) – Must be recovered within 24 hours. Activities must be provided as soon as practicable or will result in a significant impact on service delivery and may result in loss of life, infrastructure destruction, and loss of confidence or significant financial impact.

Priority 2 (Continuity Phase) - Must be recovered within 24 hours and 7 days. Activities must be provided within 7 days or will likely result in infrastructure destruction, loss of confidence and financial impact with disproportionate recovery costs.

Priority 3 (Recovery Phase) – Activities must be resumed but may take over 7 days or could result in considerable loss, further destruction or disproportionate recovery costs.

When considering priorities you must always consider:

- Safety of personnel
- Immediate internal and external legal, regulatory and/or contractual obligations
- Dependencies of other departments, interested parties, stakeholders, service providers or agencies
- Access to essential information and loss of vital records
- Disruption of interested parties/stakeholders and loss of student/employee confidence
The ‘impact of disruption’ column should detail the effects on related activities, which support the critical activity. This enables the accurate analysis of the risks and threats associated with the critical activity and the potential consequences on the School/Institute/Service and University of Glasgow not being able to deliver that activity.

The ‘interdependencies/suppliers’ details the internal School/Institute/Service areas, or external agencies in organisations, that the critical activity either relies on, or feeds into. Internally these would include reliance on other business areas within the University and externally this could be linked to The Russell Group or other agencies. In respect of suppliers it is only those that would be deemed as critical, or where there is only one supplier that should be listed, Consideration should not only be given to those that supply a physical product, but also to those that supply essential information. These suppliers also should be added to the suppliers’ page of the BCP.
The ‘workarounds’ for a critical activity are those alternative means of continuing to deliver that critical activity, when it cannot be done under normal means, in the event of a disruption. The presence of a workaround will influence the recovery prioritisation given to a critical activity.

Potential workaround examples are:

- Having a manual alternative to ICT, e.g. hard copy templates
- Moving to an alternative location
- Data backup and recovery (where are your backups stored, frequency of backups)
- Cross skilling of staff to ensure resilience
- Access to specialist software/systems at alternative locations

**Workarounds must be realistic and achievable**

The ‘minimum resource requirement for critical activities’ is where the resources required, in each of the emergency, continuity and recovery phases, should be recorded.

**Staff** – identify the number and skills of staff (shift details where appropriate) for maintaining core skills and knowledge (provide details over a 24 hr period).

**Accommodation requirements** – identify fall-back accommodation, consideration should be given to one or more sites – alternate office within normal building or a different site. Consideration should be given to requirements such as secure office space, ability to access files (server location) etc.

Consideration should be given to the Equalities Act 2010 and the protected characteristics of staff and the public when identifying a fall-back site out with building.

Details of home working with laptop, fall-back location, including floor and room numbers if available should be included.

The fall-back accommodation page of BCP should be completed if accommodation is out with the School/Institute/Service areas own estate.

**Equipment (inc. vehicles) and vital records** – details of equipment (inc. vehicles) and vital hard copy documentation (not held electronically), as well as devices or other assets, such as phones, faxes, printers, number of workstations required (workstation comprises desk, chair and desktop computer), standalone computers, storage (secure or otherwise) and any other specialist equipment.

It is vital that vehicles required to support the three phases of Business Continuity are detailed in this section.

**ICT (software and networks)** – details of network including shared drives and specific software e.g. Microsoft Office, Agresso etc. and external third party ICT providers should be included.

If there are specific IT backup procedures these should be detailed in this section including type of backup (tape, disc etc.), frequency and storage location of the backup.

ICT should be consulted and appropriate SPOC identified during process mapping to gain an understanding of the following:

- ICT recovery times for required systems
- Number of sites where systems and software are available within the service
- Server access for fall back accommodation
- Telecoms connectivity and redundant routing
• Nature of “failover” (whether manual intervention is required to activate alternative ICT provision or whether this occurs naturally)
• Third party connectivity and external links

Any of these could affect the RTO set by the School/Institute/Service to recover a critical activity.

A **BIA Action List** setting out the key actions in the event of a disruption to each of the critical activities may be completed. This allows the actions to be split over the Emergency, Continuity and Recovery Phases as appropriate. There may be a requirement for a Priority 2/3 activity to have details in the Emergency Phase of the BIA Action List, if a disruption was to occur during working hours there may be general actions required to evacuate the building etc. Refer to completed BIA Action List contained within this report.

The following are examples of generic actions for each of the three phases. In certain circumstances these actions could be moved from one phase to another or not included at all. These actions are just a guide and it will be the decision of the School/Institute/Service what is included in the BIA Action List:

**Emergency Phase**

- Ensure staff and visitor safety (contact and account for all)
- Secure immediate environment or building
- Contact emergency services, if necessary
- Assess immediate and longer term impact of disruption
- Inform senior management
- Consider whether the BCP is to be invoked
- Establish Business Continuity Management Team (if required, contact with BCC may be sufficient)
- Maintain log of all decisions and actions
- Establish immediate business needs and necessary actions

**Continuity Phase**

- Suspend or defer non-critical processes
- Set priorities to deal with disruption
- Inform staff of new arrangements
- Notify internal and external stakeholders of disruption and impact on service delivery
- Assess last known status of workload and extent of work lost or outstanding
- Obtain authorisation from Finance for business recovery expenditure
- Switch telephones and IT (services dept.)
- Obtain vital equipment for minimum service delivery
- Initiate alternative service delivery methods
- Establish operations at designated alternative site

**Recovery Phase**

- Recover back up data
- Restore IT servers and communications
- Salvage documents and equipment
- Deal with backlog
- Continue to monitor staff affected
- Ensure progress is communicated to staff and stakeholders
- Estates and Buildings to re-instate the building
- Re-migration plan for return to original accommodation
- Record lessons learned
- Update BCP
- Submit Governance Report to BCO

Below is an example of a completed action list:

### 8.2 BUSINESS IMPACT ANALYSIS ACTION LIST

**Critical Function: Radiation Protection Services**

<table>
<thead>
<tr>
<th>Actions</th>
<th>Time</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Make arrangements with alternative HE RPA's</td>
<td>Immediately</td>
<td>RPA</td>
</tr>
<tr>
<td>2. Review staff and student safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Secure minimum accommodation, equipment and ICT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Assess immediate and longer term impact</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Consider invoking the wider plan</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Emergency Phase:**

<table>
<thead>
<tr>
<th>Actions</th>
<th>Time</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Make arrangements with alternative HE RPA's</td>
<td>Immediately</td>
<td>RPA</td>
</tr>
<tr>
<td>2. Secure minimum accommodation, equipment and ICT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Review staff and student safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Assess immediate and longer term impact</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Consider invoking the wider plan</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Continuity Phase:**

<table>
<thead>
<tr>
<th>Actions</th>
<th>Time</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Secure minimum resources</td>
<td>1 Day</td>
<td>RPA</td>
</tr>
<tr>
<td>2. Secure fallback accommodation, equipment or ICT</td>
<td>1 Day</td>
<td>RPA</td>
</tr>
<tr>
<td>3. Identify and resume collection and distribution of products</td>
<td>1 Day</td>
<td>RPA</td>
</tr>
<tr>
<td>4. Secure safety arrangements</td>
<td>1 Day</td>
<td>RPA</td>
</tr>
<tr>
<td>5. Inform suppliers of intermediate arrangements</td>
<td>1 Day</td>
<td>RPA</td>
</tr>
<tr>
<td>6. Communicate special arrangements via the University network</td>
<td>1 Day</td>
<td>RPA</td>
</tr>
</tbody>
</table>

**Recovery Phase:**

<table>
<thead>
<tr>
<th>Actions</th>
<th>Time</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Plan for full resumption at normal accommodation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Resume ordinary workload</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Clear Backlog of work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Resume other statutory requirements</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
On the Suppliers page within the Plan any critical suppliers that have been identified should be listed. Each supplier should be recorded on a separate row, showing what product or service they supply and any supplier documents, i.e. contracts/service level agreements and where they are stored. There is only one Suppliers page per plan therefore all those identified should be included in this one page and connected to the relevant Critical Activity/s via the first column.

Consideration should be given to the identification of any Single Points of Failure (SPOF). A SPOF will be evident where there is only one means of accessing a particular resource and this can relate to people, accommodation requirements, equipment (including vehicles and vital documentation), IT (software and networks) or suppliers. In effect a SPOF is a risk to the delivery of activities and therefore has a potential to impact on the University of Glasgow.

The following are some examples of SPOF’s:

- A person who is the only one able to perform a particular activity
- Software that can only be accessed on one standalone computer
- Documentation or information that can only be accessed from one server in one building
- University of Glasgow IT

There will be circumstances where a SPOF has been identified and some form of action can be taken to either eliminate or mitigate it to an acceptable level. For example, training additional staff so that more than one can perform a particular activity, or making specific software available on more than one computer.

In such cases there is no need to detail this in the BIA unless the proposed action to deal with the SPOF will take a lengthy period of time. In all other cases the nature of the SPOF should be detailed in the SPOF of the BCP. This also allows for it to be linked to an appropriate risk register, if deemed necessary, so that there can be ownership of the issue and timescales can be applied to deal with it.
If fallback accommodation is not within the School/Institute or Services Estate, the fallback accommodation page of the BCP should be completed. If multiple fallback accommodation pages are required for different BIA’s they should be located directly behind their respective BIA action list.

Fall back accommodation with own estate must be co –ordinated/monitored by the BCC. If out with its own estate then the BCC within Health, Safety and Wellbeing will monitor it.

When considering fall back accommodation the Equalities Act 2010 and the Protected Characteristics should be considered for staff and public access to the activities delivered by the School/Institute/Service.

As a part of your fall back arrangements consideration needs to be given to the creation of battle boxes/grab bags for the BCM Team and critical activities. The contents will be determined by those who will be required to use it during a disruption, the following items should be considered:

- Business Continuity Plan
- Hard copy templates
- Stationery
- Mobile phone charger
- Portable Technologies specific to area

**Battle boxes/grab bags must be secured within the University Estate**
BCP Approval Process

When each of the School/Institute/Service areas critical activities have been analysed and BIAs created, the BIA should be inserted into the BCP in priority/RTO order i.e. with the most critical in terms of shortest RTO, given the highest priority down to the least critical. The BIA list sets the order for resource allocation for recovery in the event of a disruption affecting one or more of the critical activities.

The BCP should be signed off by the plan owner. They must confirm that the BIA and development of the BCP has been properly undertaken and that it caters for the effects of a disruption to any critical activities and that it appropriately meets the University of Glasgow’s School/Institute/Service objectives.

VALIDATION OF BCMS

The purpose of validation is to ensure that the BC capability reflects the nature, scale and complexity of the University of Glasgow and that it is current, accurate, complete and that actions are taken to continually improve organisational resilience. Validation is achieved by the following three activities:

- Exercising
- Maintenance
- Review

EXERCISING

There is a requirement on the University of Glasgow that BCPs are exercised and therefore a planned exercise programme is required to ensure that all aspects of the response to an incident have been exercised. In particular:

- All information in plans is verified
- All plans are rehearsed
- All relevant personnel (including deputies) are exercised

The University of Glasgow’s BCM capability cannot be considered reliable until it has been exercised. No matter how well designed a BCM strategy or BCP appears to be, robust and realistic exercises will identify issues and assumptions that require attention. To be successful the exercise programme should begin simply and escalate gradually in terms of complexity and challenge.

Exercises should feel as real as possible. They should be carried out using the same procedures and methods as would be used in a real event. This is the ideal, but it may not be practical to run certain exercises without alterations to ‘live’ procedures. Setting a realistic scenario helps to ensure that the participants engage fully in the exercise and additionally benefit from the experience.

The aims of exercising include:

- Evaluating the organisation’s current BCM capacity
- Identifying areas for improvement or missing information
- Highlighting assumptions which need to be questioned
- Instilling confidence in exercise participants
- Developing teamwork
- Raising awareness of BCM throughout the organisation
- Testing the effectiveness and timeliness of restoration procedures
The objective of the exercise programme will be to demonstrate, over a period of time, assurance that the BCM procedures and arrangements will work as anticipated when required.

The programme of exercising BCP’s will be co-ordinated by the BCO’s to ensure that all plans are subject to an exercise at least once every year. In addition to this further exercises may be arranged locally by Stakeholders/BCCs. Any exercising undertaken locally must be communicated to the BCOs.

The exercise programme will use a combination of techniques to ensure that the aims are achieved across the whole organisation over a planned timescale. The exercise programme will include suitable exercising of the following elements of the BCMS:

- Technical – does all the required equipment work?
- Procedures – are the procedures and plans correct?
- Logistical – do the procedures work together in a logical manner?
- Timelines – can the procedures achieve the required RTO for each critical activity?
- Administrative – are the procedures manageable?
- Personnel – are the right people involved and do they have the required skills, authority and experience? Does everyone know their role?

There are different means of exercising BCP’s, ranging in scale and complexity which will be implemented over time. They can be put into the following categories:

- Desk check. This would be done by the BCC on their own (utilised for the quarterly report).
- Walkthrough/workshop exercise. This would be undertaken by the BCM team and interested parties/stakeholders and can be used to focus on specific areas for improvement.
- Tabletop exercise. This type of exercise would involve the BCM team responding to a scenario and injects. Participants would be expected to be familiar with their BCP and would be required to demonstrate how their plan works as the scenario develops.
- Live play exercise. This type of exercise can range from a small scale rehearsal of one component of the response, for example evacuation, through to a full scale rehearsal of a move to fall-back accommodation and potentially involving interested parties. They should include everyone likely to be involved in that part of the response and are considered to be the most appropriate and realistic way to rehearse people and exercise plans.

Testing

A test is a unique and particular type of exercise, which incorporates an expectation of a pass or fail element within the goal or objectives of the exercise being planned. It is usually applied to equipment, recovery procedures or technology, not to individuals, for example the re-building of a server from back-up tapes within a set number of hours.

Post exercise report

After each exercise there will be a post exercise debrief to enable each participant to communicate their experiences, so that lessons can be identified and incorporated into the BCMS. Plans, procedures and training can then be modified to reflect lessons identified and therefore improve the University of Glasgow’s ability to respond to future BCM disruptions.
The results of this debriefing will be used to prepare a post exercise report with recommendations. To ensure any lessons identified become lessons that are learnt, the post exercise report should be distributed to all relevant staff and interested parties.

If exercises are arranged and led by the BCO, they will compile the post exercise report and when they are organised locally the post exercise report will be compiled by the BCC and submitted to the BCO. This will allow for the process to feed the findings of the post exercise report into the maintenance activity with an action plan to implement the recommendations which may require changes to the BCMS.

Consideration should be given to re-running an exercise, after corrective actions have been put in place, where significant issues have been identified.

MAINTENANCE

Maintenance of the BCMS is essential to keep the University of Glasgow’s BCM arrangements up to date, ensuring that the University remains ready to respond to manage incidents effectively despite constant change. An important part of the PDCA model is to manage the documentation, and maintenance of the BCMS ensures that this documentation is kept up to date and that current and relevant documentation is distributed to appropriate interested parties.

To be effective, maintenance activities should be embedded within the University of Glasgow’s normal management processes rather than be a separate activity that can ignored or forgotten. As much of the maintenance required will be the result of internal changes, the most effective way of achieving this is to incorporate maintenance activities into the change management process (governance board).

The BCO will ensure that any changes or issues are raised by the Governance Board and any information regarding the BCMS that affects BCM locally will be communicated by the BCO to relevant BCC.

The BCC is responsible for maintenance of their own plan and must be aware of the consequences of changes that can affect the plan. As a minimum the BCC must review their BCP on a 6 monthly basis and will be notified of the need for the 6 monthly review by the BCO.

After the review the stakeholders/BCC should make any changes required to the BCP and update the amendment record of the plan. They should then email a copy of the plan (or negative return where there are no required changes) to the BCO.
The most likely reasons for changes being required to a BCP can include:

- Staff changes
- Building alterations/relocation/closures
- An operation ceases to exist so there is no further need for it in the plan
- The introduction of a new operation which must be included in the BCP
- The alteration of a process so its requirements for recovery may also change
- Changes to third party service providers

VERSION CONTROL

The BCO will archive the old BCP version and create a new version and update the BCC accordingly and send an electronic version of the new BCP. If the BCP is updated at any other time, the same process for maintenance and version control should be applied.

REVIEW

The purpose of review is to evaluate the BCMS and identify improvements to both the University of Glasgow’ implementation of the BCMS and its level of organisational resilience.

There are five basic types of review:

- Audit (internal and external) - a formal impartial review process that measures the services BCMS against a pre-agreed standard
- Self-assessment – an assessment of the services BCMS by itself
- Quality assurance (QA) – a process that ensures that the various outputs from the BCMS meet requirements
- Performance appraisal – a review of the performance of individuals tasked with BCM roles and responsibilities
- Supplier performance – a review of a key suppliers BCMS or a review of the performance of a supplier of recovery services

AUDITING

Auditing is designed to verify that the process has been followed correctly, not that the solutions adopted are necessarily correct. ISO 22301:2012 defines audit as a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled. Internal audit will be done by the University of Glasgow’s own auditors.

A BCM audit has five key activities:

- To validate compliance with the University of Glasgow’s BCM policies and standards (includes any legislation or regulations)
- To review the BCMS
- To validate the BCPs
- To verify that appropriate exercising and maintenance activities are taking place
- To highlight deficiencies and issues and ensure their resolution

GOVERNANCE – Business Continuity Management (BCM) Incident Reporting
Part of the responsibility of the BCO is to monitor and report BC incidents within the University of Glasgow. In order to do this the BCO needs to know of any incidents that have occurred that may indicate a risk to the University.

The below scoring matrix would be used to identify failures and negative occurrences identified, recorded and reported to the BCO to allow further monitoring or action.

The following identifies the factors which should be considered when assessing if a disruptive incident should be reported.

**Notification Process**

The decision to notify should be based on three factors:

<table>
<thead>
<tr>
<th>Time</th>
<th>Effect</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>How long the incident or outage lasts</td>
<td>What effect the incident has on service or system access/delivery</td>
<td>Does the incident impact a School/Institute/Service level</td>
</tr>
</tbody>
</table>

To calculate the score, the following applies: \( \text{Time} + \text{Effect} + \text{Scale} = \text{Score} \)

The incident or occurrence should be scored using the above tool and if it attracts a combined score of 5 or more it should be reported. Incident such as, but not limited to the following should be reported:

- Power outage/failure – including emergency generators
- ICT failure/disruptions – including telephony and any other form of communications
- System failure – including telephony, heating, water or gas supply

Any incident that affects a School, Institute or Service area’s ability to provide an activity and/or service, which equals or exceeds the “score” should be reported.

**Scoring Matrices**

<table>
<thead>
<tr>
<th>Score</th>
<th>Time (outage)</th>
<th>Effect</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4 hrs +</td>
<td>Total Failure</td>
<td>High – Service wide or more than one school</td>
</tr>
<tr>
<td>2</td>
<td>1&gt;4 hrs</td>
<td>Substantial or significant failure</td>
<td>Medium – Within School only</td>
</tr>
<tr>
<td>1</td>
<td>0&gt;1 hrs</td>
<td>No or limited failure</td>
<td>Low – local effect only</td>
</tr>
</tbody>
</table>

**Examples**

The following table shows some examples of incidents/disruptions. These are shown for guidance purposes using the criteria listed above, however, it should be noted that any incident/disruption regardless of its score should be reported if it is believed to be in the best interest of the University of Glasgow. Furthermore, if an incident/disruption falls below the “score” criteria but is reoccurring consistently or regularly, it should be reported.

<table>
<thead>
<tr>
<th>Incident</th>
<th>Time</th>
<th>Effect</th>
<th>Scale</th>
<th>Total</th>
<th>Report?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total loss of power at school building for 1 hour</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>No</td>
</tr>
<tr>
<td>Loss of Email capability for 50 Minutes</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>No</td>
</tr>
</tbody>
</table>
BCM Governance Report

If after using the matrix a score of 5 or more is achieved, the University of Glasgow BCM Governance Report should be completed and submitted to the BCO. Details of Business Continuity arrangements utilised, how effective they were and any lessons learned should be included in this report.

Further to this the exercise/amendment log within the relevant School/Institute/Service areas BCP should be updated.

This form can be accessed via the University of Glasgow Intranet.