1 Policy

Collection Care

1.1A.1 The institution’s statement of purpose makes a commitment to the preservation of its collections. Basic

**Explanation**
The institution has a written statement of purpose which lays out the aims and purpose of the institution. For example this may be to collect, display, preserve and research material relating to a particular location or person. This statement of purpose must clearly state that the institution recognises its commitment to care for its collection to the highest appropriate and practical standards.

**Guidance on achieving standard**
The authors/trustees or appropriate people include a recognition of the commitment to preserve the collection in the document that the institution considers to be equivalent to a statement of purpose. If this is not already included in the statement of purpose the document should be formally amended.

1.1A.2 The institution is planning to write a preservation policy within one year. Basic

**Explanation**
The preservation policy indicates the need for a plan of action of preserving the collections. A preservation policy outlines the institution’s commitment to preserving the collection and could be considered as a plan of action for safekeeping. What needs to be preserved, why and for how long are directly linked to the purpose and function of the collections and of the institution in which it is kept and by the nature of the material. The acquisition of new items should be partially determined by the ability to preserve the items.

The preservation policy specifies the managerial, financial and technical considerations needed to retard deterioration, prevent damage to and extend the useful life of items in the collection to ensure their continued availability. These considerations include monitoring and controlling appropriate environmental conditions; providing adequate display, storage and physical protection; establishing exhibition and loan policies and proper handling procedures; providing for conservation treatment, emergency planning and the creation and use of surrogates or copies.

The policy allows for an assessment of the preservation needs of the collections; an assessment of the risks to the collections; the function and use of the collections and preservation issues connected to this use. For example: where objects are loaned on exhibition frequently, a preservation policy should indicate the need for a loans policy which would include information on packing, handling, display and storage standards. Where items are handled information on handling procedures should be specified, particularly for vulnerable or weak material.

The institution has planned to write a preservation policy and a programme is laid out for one year.

**Guidance on achieving standard**
Where there is no preservation policy an appropriate person or team should be designated to plan the preservation policy by researching available information and drawing up an outline of a plan to be completed within a year. Following the completion of the outline appropriate members of staff and volunteers work as a team to complete the policy.

Guidance on writing a preservation policy can be found:
- ‘Building Blocks for a Preservation Policy’ National Preservation Office, available from the NPO or their web site.
- Seek advice from the Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council, Northern Ireland Museums Council, Hub Museums or local institutions which already have a Preservation Policy.
- The National Archive has placed its Preservation Policy on its web site http://www.nationalarchives.gov.uk as a PDF file to be downloaded.
1 Policy

Collection Care

1.1A.3 BS 5454:2000 is used as the basis for the development of a preservation policy for archival and library special collection material.

Explanation
'Recommendations for the storage and exhibition of archival documents' BS5454:2000 is a BSI Standard for the storage, use and exhibition of archival documents, including library material and modern media. The standards relate to the siting, size and security of the building, the building construction; protection against fire damage; protection against damage by water; protection against pollutants; protection against damage by pests; security; construction of the storage space; fire precautions; storage environment for paper and parchment including environmental control methods, recommended storage temperatures and relative humidity, ventilation, shelving, freedom from pollutants, air conditioning, environmental monitoring; lighting; storage and production equipment; packaging for storage; exhibition conditions.

The preservation policy developed by the institution for archival and library special collections is based on these standards. Many museums, galleries and historic houses contain archives, books and modern media: these institutions also use BS545:2000 as the basis for the preservation policy of this material.

There is no equivalent of BS5454:2000 for museum or historic house collections although the Museums and Galleries Commission (now MLA) has produced Standards in the Museum Care of various collections including archaeological, biological, geological, photographic collections, larger and working objects and musical instruments. This statement refers specifically to archives, library special collections and modern media.

Guidance on achieving standard

The website of the National Archive includes information on its preservation policy and a copy of the policy can be downloaded.

Having read the Standards in conjunction with the guide, the institution can construct a preservation policy for archival and library special collection material based on the points raised in the standards. The institution will need to assess what can be realistically achieved given the size, use and significance of the collection and budget restrictions.

1.1B.1 The institution has a written preservation policy.

Explanation
See entry 1.1A.2. A written policy has been completed and is available to members of staff.

Guidance on achieving standard
A member of staff is designated to draw up the Preservation policy. In many circumstances it is preferable to elect a team of staff to contribute to the policy according to their knowledge and experience.

Consult policies from local, similar institutions. Seek advice from NPO (Building Blocks for a Preservation Policy), Hub Museums, Northern Ireland Museums Council, Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council.

The National Archive has placed its Preservation Policy on its web site http://www.nationalarchives.gov.uk as a PDF file to be downloaded. Form a team of contributors, develop a timetable and apportion the work. Regular meetings help develop the policy. Once completed, review the policy at set appropriate intervals.
1 Policy

Collection Care

1.1B.2 A collection assessment has been carried out to identify preservation priorities and these are used to inform a preservation programme.

Explanation
A conservator or someone responsible for collection care has assessed the condition of the collection and the risks to the collection (e.g. relative humidity, light, temperature, pollution, insect pests, mould, handling, storage and display conditions, disasters etc.) and has developed a prioritised five year programme of collection care.

Guidance on achieving standard
Someone with an understanding of the risks to collections and collection care standards who also has the knowledge and experience to assess the condition of the collection has evaluated the condition of the collection, the condition in which it is kept, its use and significance and the risks to the collection. With the information gathered a programme has been developed to improve or maintain the condition of the collection and its preservation. The preservation programme is prioritised and has been developed in conjunction with the staff from the collection. The programme contains lapsed time indications so that there is a time limit of, say, five years in which the work should be completed. The assessor is frequently a conservator, archivist or collection care adviser but can be another person with appropriate skills and experience.

The Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council, Northern Ireland Museums Council, Hub museum and the NPO can provide advice on assessing the collection and developing a preservation programme. Tools such as the Preservation Assessment Survey: Archive and Library Module or Museum Module developed by the National Preservation Office can help aid the assessment.

Suitable people to carry out the assessment can be located through the Conservation Register managed by the Institute of Conservation, if the skills are not available in-house.

1.1B.3 Those responsible for preservation are consulted about relevant policy-making decisions.

Explanation
Staff, volunteers or contractors responsible for the stewardship of the collection are consulted about decisions that may impact on the condition or use of the collections. These could include acquisition and exhibition policy, building development programmes, increased publicity etc.

Guidance on achieving standard
Meetings should be held at suitable and regular intervals which include at least one person responsible for the preservation of the collection to discuss future plans and policy that could impact on the preservation of the collection.

1.1B.4 There is an action plan to carry out the priorities identified as necessary to improve collection care within a specified time period.

Explanation
The condition of the collection, the collection care provision and the risks to the collection have been assessed (as in 1.1B.2.) and a programme of action to improve collection care has been developed and is being implemented within a specified time period.

Guidance on achieving standard
Use the collection assessment to prioritise action to improve collection care and reduce risks of damage to the collection. Large scale projects such as improvements to the roof may require external funding. While funding is being sought small scale projects can be carried out, possibly with the help of volunteers.
1 Policy

Collection Care

1.1B.5 The institution is working towards achieving standards set out in BS 5454:2000 for the care of archival and library special collection material.

Explanation
The standard BS 5454:2000 provides standards of best practice for collection care for archives, library special collections and modern media. The areas covered include: the siting, size and security of the building, the building construction; protection against fire damage; protection against damage by water; protection against pollutants; protection against damage by pests; security; construction of the storage space; fire precautions; storage environment for paper and parchment including environmental control methods, recommended storage temperatures and relative humidity, ventilation, shelving, freedom from pollutants, air conditioning, environmental monitoring; lighting; storage and production equipment; packaging for storage; exhibition conditions.

The institution is aware of these standards and is actively improving conditions so that they can be achieved.

Many museums, galleries and historic houses contain archives, books and modern media: these institutions are also working towards achieving the standards for these collections.

There is no BS standard for museum collections but The Museums and Galleries Commission (now MLA) has produced Standards in the Museum Care of various collections including archaeological, biological, geological, photographic collections, larger and working objects and musical instruments. This statement refers specifically to archives, library special collections and modern media.

Guidance on achieving standard
'Recommendations for the storage and exhibition of archival documents' BS5454:2000. BSI

Those responsible for collection care should read the standard BS5454:2000 and the Guide to Interpretation and establish which, if any, of the standards the institution already achieves. They should then decide which additional standards can realistically be achieved by making improvements to the building or collection care protocols. A list of actions, proposed completion dates and personnel responsible for carrying out the actions can be drawn up. Consideration will have to be given to a budget for these improvements.

1.1C.1 Preservation priorities are included in the aims and objectives of all forward planning.

Explanation
The institution's forward plan, exhibition programmes, development programmes etc. take account of preservation priorities.

Guidance on achieving standard
'Strengthening the management of collections' Museums and Galleries Commission (now MLA). 1996

1.1C.2 Those responsible for preservation are included in the decision-making team of the institution.

Explanation
At least one member of staff or volunteer, who is responsible for looking after the collection, is part of the management team or decision making team that develop policy for the institution. The preservation or collection care staff are more involved with decision making than in 1.1B.3. where the staff responsible for preservation are consulted but are not part of the decision-making team.
1 Policy

Collection Care

1.1C.3 There is an annual review of collection care strategy, which contributes to the revision of policies and programmes, ensuring a planned approach to improvements in overall collection care.

Explanation

Time is put aside annually to review the effectiveness of the institution's collection care strategy, the condition of the collections, the risks to the collections and changes made through the year. Revisions to the institution's policies and programmes include this review of the collection care strategy. The aim of the revisions is to have a continuing planned approach to collection care.

Guidance on achieving standard

Where an annual review does not take place the institution's management should arrange a meeting with the appropriate staff to discuss the collection care strategy and how this may be effected by policies and programmes. Any revision of policies and programmes is made with consultation of all appropriate staff.

1.1C.4 The governing body/management committee receives a written five-yearly report on the condition of the collection including an action plan with recommendations.

Explanation

The person or people responsible for the care of the collection assess the condition of the collection (see 1.1B.2.) and provide a report setting out the general condition of the collection including specific problems or areas of concern. The assessment also includes a programme of recommended improvements.

Guidance on achieving standard

Where the staff are unable, through lack of experience or time, to produce a report on the condition of the collection a collection care or conservation consultant can be contracted to complete the work. The consultant should work closely with the staff to understand the needs of the collection, users and staff.

Where staff are able to complete the report, time should be put aside to allow for a thorough examination of the collection and to produce an action plan with recommendations.

1.1C.5 The standards of BS5454:2000 are met or exceeded for archival material.

Explanation

The standard BS5454:2000 provides standards for archives, library special collections and modern media. The areas covered include: the siting, size and security of the building, the building construction; protection against fire damage; protection against damage by water; protection against pollutants; protection against damage by pests; security; construction of the storage space; fire precautions; storage environment for paper and parchment including environmental control methods, recommended storage temperatures and relative humidity, ventilation, shelving, freedom from pollutants, air conditioning, environmental monitoring; lighting; storage and production equipment; packaging for storage; exhibition conditions.

The standards of preservation of the archives in the institution are as high as or better than the standards set in BS5454:2000.

Many museums, galleries and historic houses contain archives, books and modern media: these institutions care for these collections to a similar standard expressed in BS 5454:2000 or exceed the standards.

Guidance on achieving standard

'Recommendations for the storage and exhibition of archival documents’ BS5454:2000. BSI


Both documents are available from the BSI.
1 Policy

Collection Care

1.1C.6 Objects are cared for in accordance with recommendations in the relevant MGC 'Standards in the Care of Collections' series (where applicable).

Explanation

The Museums and Galleries Commission (since replaced by MLA) published a series of Standards in the Museum Care of Collections. They provide guidelines for the best practice in caring for museum collections but are also used for object collections in archives, libraries, galleries and historic houses. Some of the Standards have been revised in 2004-2005. All the standards are available on the MLA website. The standards cover the following topics:

Archaeological Collections,
Biological Collections,
Geological Collections,
Larger & Working objects,
Musical Instruments
Touring Exhibitions,
Photographic Collections,
Costume & Textile Collections.

MLA also provides conservation guidance on their website Advice & Guidance: Conservation. The current topics include:


Libraries and archive collections frequently include objects or specimens which are cared for according to the relevant Standards in the Care of Collections.

Guidance on achieving standard

The MGC standards are available from the MLA. The MLA is planning to place the MGC legacy information and updates on their Collections Advice Network on the MLA website.

Institutions with object collections where no relevant standard exists should seek advice from a conservator or collection care adviser with appropriate experience; an institution with a similar collection; the Regional Museum, Library and Archive Council; CyMAL, Scottish Museums Council; Northern Ireland Museums Council; Hub Museums or the National Preservation Office.

The person responsible for collection care can work with the Standards to establish which standards the institution already achieves and which it realistically may be able to achieve with some improvements or changes.

Acquisition and Disposal

1.2A.1 The institution has a written policy covering acquisition, retention, accessioning, de-accessioning or disposal and which includes are review mechanism.

Explanation

The institution has a written policy concerned with what and how items are acquired and retained; the protocol for accessioning or de-accessioning items and the procedures for disposing of items. The policy states any limitations on collecting, including those imposed by factors such as inadequate staffing, storage (quality or capacity) or conservation resources.

Guidance on achieving standard

A model acquisition and disposal policy is available from MLA either as part of the information on Accreditation or as a separate document. It is available from the MLA website at http://www.mla.gov.uk.

Contact your Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council, Northern Ireland Museums Council, Hub museum or the NPO for advice on developing an Acquisition or Disposal Policy.

A 'Code of ethics' including acquisition and disposal is available at the Museums Association website, http://www.museumsassociation.org.

Appropriate personnel should contribute to a written policy. The policy is usually ratified by the governing body/trustees of the institution.
1 Policy

Acquisition and Disposal

1.2A.2 Records are kept of the use/status of items in the collection.  

Explanation
Documentation of the collection includes information on the use of the items and the significance within the collection. For example, documentation should include where and when an item has been loaned, exhibited or used for research/reference.

The status or significance needs to be assessed in relation to the institution's Statement of Purpose. Significance is often considered on a Local, Regional, National or International basis. Other issues that affect the significance of an item may include whether it is part of an educational or handling collection.

Records should also include the current location of an item so that all items can be located.

Guidance on achieving standard
Spectrum, the standard for documentation produced by the mda, is available on www.mda.org.uk and contains information on recording the use and significance of items.

1.2A.3 Non-core material in the collection, which would not now be collected by the institution, is identified, and its retention assessed and reviewed.

Explanation
The institution may hold material that no longer forms a core part of the collection and is not used in the core activities of the institution. This material has been accepted into the collection for long-term retention. The non-core material is identified and the institution is assessing whether this material should be retained and whether the institution can afford to care for this material to recommended standards.

Non-core material can include material that is used for teaching and handling.

The disposal of items is carried out with care and follows the protocol laid out in the Acquisition and Disposal Policy.

There is the possibility that the significance of the items may change in the future, therefore the institution must bear this in mind when deciding on how to deal with non-core material.

Guidance on achieving standard
Guidance of disposing of material should be included in the institution's Acquisition and Disposal Policy. Advice can be sought from the Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council, Northern Ireland Museums Council, and the Museums Association (MA). 'The Accreditation Scheme for Museums in the United Kingdom' includes information on Acquisition and Disposal policies.
1 Policy

Acquisition and Disposal

1.2A.4 The preservation needs of non-core material in the collections have been assessed by an appropriate specialist, at least once in the last five years.

Explanation

The assessment includes information on specialist storage, conservation, packing and transportation.

Non-core material is material that no longer forms a core part of the collection and is not used in the core activities of the institution. This material has been accepted into the collection for long-term retention. The non-core material should continue to be looked after and treated in a manner to preserve the items and reduce deterioration. Therefore the preservation needs of non-core material are assessed in the same manner as core material, although it may be appropriate that the standards of collection care are not as high as for core material. The collection care needs have been assessed by an appropriate specialist at least once in the last five years.

In museums non-core material is occasionally used for handling, education, dressing up etc. In this case the items are assessed to ensure they can withstand the use.

There is the possibility that the significance of the items may change in the future, therefore the institution must preserve the items for as long as they remain a part of the collection.

Guidance on achieving standard

Where an appropriate specialist is not available in-house a suitable conservation or collection care consultant or other appropriate person should be contracted to carry out the assessment. The purpose and use of the assessment should be made clear to the assessor who should work closely with the staff to understand the use of the collection and the needs of the users, staff and the collection.

1.2A.5 The preservation needs of material acquired for permanent retention are assessed prior to acceptance or on accession.

Explanation

Material newly acquired into the collection must be assessed, preferably prior to acceptance, to establish that the institution is able to keep the material in the appropriate standards to allow its preservation. The risk to the material and the resources needed for its preservation must be established.

Guidance on achieving standard

A suitable member of staff familiar with conservation and preservation issues of items should be part of the team deciding on acquisitions. Where the skills are not available in-house a collection care or conservation consultant should be able to advise.

Collection care and conservation consultants can be located through the Conservation Register, managed by the Institute of Conservation, or by asking for recommendations from the Hub museum, Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council, Northern Ireland Museums Council, National Preservation Office and Hub Museums should be able to advise on where to find suitable conservation and collection care advice.

1.2B.1 Advice is sought from a conservator or collection care adviser when drafting or revising a policy related to acquisition, retention, accessioning, or disposal.

Explanation

A conservator or collection care adviser should contribute to the discussion relating to the acquiring, retention, accessioning, de-accessioning and disposal of material and to the subsequent policy or amendments of the policy. This is especially relevant where the item may need particular interventive or preventive conservation that could be a drain on resources. Alternatively, items may need less active conservation than may be apparent.

Guidance on achieving standard

Where there is no in-house conservation or collection care advice available external advice should be sought. The Conservation Register managed by the Institute of Conservation provides a list of accredited conservators with particular expertise. The Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council, Northern Ireland Museums Council, National Preservation Office and Hub Museums should be able to advise on where to find suitable conservation and collection care advice.
1 Policy

Acquisition and Disposal

1.2B.2 Only items that the institution has the resources to care for in the long term are collected or accepted on loan.  

Good

Explanation
The institution does not acquire or borrow items that it does not have the resources to care for. The institution is certain that it generally cares for objects well and any item taken in by the institution would not deteriorate rapidly and will survive in the long term (c.100 years). Where conditions are not conducive to preserving delicate items only robust and durable items are taken in. This is the case for loans as well as newly acquired items.

Guidance on achieving standard
Where the institution is aware that the conditions do not allow long-term preservation it should either agree only to take in material that it is capable of looking after or improve the conditions. Alternatively it does not accept any item on loan or as a new acquisition.


1.2B.3 The institution has a written policy on the use of objects for handling/schools loan collections, the provision of non-accessioned objects and use of surrogates or replicas.  

Good

Explanation
There is a written policy on how items in the handling and schools loans collections are used including guidelines on handling, packing, health and safety. There is a policy regarding the use, handling and preservation of non-accessioned items and surrogates, facsimiles or replicas.

The policy should clearly indicate which items are suitable for handling collections or schools and loan collections; the appropriate use of non-accessioned objects, surrogates or replicas. The policy should include guidance on holding objects safely such as the need to wear gloves and type of gloves, whether to remove jewellery, how to lift and hold a item etc.; the safe transportation of items including packing, padding, use of trolleys etc.; the correct storage conditions and other preservation issues.

Guidance on achieving standard
The MGC Standards include information on handling which can be adapted for handling/schools loans collections, non-accessioned objects and surrogates or copies.

See also ‘Good handling principles and practice for library and archive materials’ NPO
'Packing and moving library and archive collections' NPO

1.2C.1 The institution has a system in place for monitoring the use of its collections. This information is used to inform planning.  

Best

Explanation
How much an item is used, what it is used for (e.g. loan, temporary exhibition, schools, research or reference), the length of time it is on display or on loan, method of handling and transport is monitored and recorded. (See 1.2A.2.). This information is considered when planning exhibitions, acquisition, disposal, developments within the institution.

Guidance on achieving standard
The use of items should be kept on a suitable database or in the central documentation system.
1 Policy

Acquisition and Disposal

1.2C.2 The institution, in revising its acquisition and disposal policies, addresses any inadequacies in conservation and collection care that have been identified.

Explanation
Inadequacies in the ability of the institution to care for its collection are taken into account when the institution is revising its Acquisition and Disposal Policy. For example, the policy should clearly state that items that require expensive conservation or conditions that the institution is unable to achieve should not be acquired. Equally, disposal of objects should be considered where the institution is unable to protect them.

Guidance on achieving standard
The person revising the Acquisition and Disposal Policy should discuss with the staff and volunteers responsible for the collection care and conservation what materials require conditions that the institution is unable to provide so that the information can be included in the revised policy.

1.2C.3 The use and status of objects is reviewed periodically and any change approved by the governing body/management committee.

Explanation
The use of an item may change with time or circumstances. For example, an item may become part of the schools loan collection. The institution's governing body or management committee are informed of and approve all such changes.

Staff and Volunteers

1.3A.1 The institution receives regular advice from a conservator or collection care adviser on all aspects of its collection care activities.

Explanation
The institution is in contact with conservators or collection care advisers and seeks advice from them on all collection care activities and activities that may affect the condition of the collections.

A conservator is someone with specialist training and experience in conservation to the level required for professional practice by the conservation professional bodies. A conservator may also have collection care training or experience. Some conservators may specialise in the treatment of objects/materials while others may be more concerned with collection care in general.

A collection care advisor is someone with training and/or experience of the range of activities that have an impact on the preservation of a collection, including: institutional policies; buildings; security; storage; training; cleaning; preservation, environmental monitoring and control, exhibitions and loans, conservation, the provision of surrogate copies and disaster planning.

Guidance on achieving standard
Where conservation or collection care skills are not available in-house, advice on locating suitable conservators or collection care advisers is available from the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council, Northern Ireland Museums Council, Hub Museums, the National Preservation Office and the Conservation Register which is managed by the Institute of Conservation.
1 Policy

Staff and Volunteers

1.3A.2 Staff employed to conserve collections, either in-house or contracted, have been trained in conservation practices and are aware of up-to-date techniques.

Explanation
Contracted or in-house staff responsible for policy making, treatment programmes or collection care issues should be experienced, have some formal training and be aware of current techniques. Volunteers and untrained staff may be able to work on the preservation of collections following the advice of a trained and experienced conservator.

Formal training is not always available in certain specialist fields such as for the conservation of geology, natural history, large and working objects, musical instruments, plastic materials. However a competent conservator in these specialist areas should have experience and should have undergone some form of training such an apprenticeship, specialist short courses, related graduate or postgraduate studies, to ensure an understanding of the subject and the profession.

All conservators should continue to keep abreast of current developments by attending seminars and lectures, visiting colleagues and other forms of continuing professional development.

Collection care staff who are not conservators should also have received appropriate and adequate training and continue to develop their knowledge and skills.

A reputable conservator or collection care adviser is likely to be a member of at least one professional body.

Guidance on achieving standard
Advice on locating suitable conservators or collection care advisers is available from the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council, Northern Ireland Museums Council, Hub Museums, the National Preservation Office and the Conservation Register, managed by the Institute of Conservation. Personal recommendation may be a good guide.

1.3A.3 The institution supports published professional standards for staff qualification, accreditation and CPD and this is reflected in the recruitment policy.

Explanation
The institution employs conservation and collection care staff of an appropriate standard with relevant training and/or experience. The institution also encourages all staff to continue developing skills and knowledge. The institution offers remuneration commensurate with the training and experience of the staff.

Guidance on achieving standard
Published professional standards are not yet available in all areas of conservation and collection care. Advice is available from the PACR Accreditation Scheme managed by the Institute of Conservation; Museums Association, the Society of Archivists; CILIP.

1.3A.4 Conservators contracted to provide advice or services should normally be included on the Conservation Register and, where available, be professionally accredited.

Explanation
Contracted staff (an individual person or conservation practice) providing advice or services concerning conservation or collection care should be included on the Conservation Register managed by the Institute of Conservation and should be accredited by their professional body (such as the PACR accreditation scheme run by the Institute of Conservation) in the specialism in which they are working, where accreditation exists for the specialism. Conservation and collection care staff who are contracted to work under the direction of an accredited conservator should have received appropriate and adequate training. They also need to continue to develop their knowledge and skills.

Guidance on achieving standard
The Conservation Register and the PACR Accreditation Scheme are run by the Institute of Conservation.
1 Policy

Staff and Volunteers

1.3A.5 There is at least one member of staff responsible for the preservation of the collections.  

Explanation  
Preservation of the collections includes all managerial, financial and technical considerations aimed at retarding the deterioration of collections, preventing damage to items and extending the life of material and items in collections. It includes storage and display conditions, staffing levels and policies, techniques and methods involved in conserving and preserving the collection.

Preservation activities include: monitoring and controlling environmental conditions where appropriate; providing adequate storage and physical protection; establishing exhibition and loan policies and proper handling and transportation procedures; providing for conservation treatment, emergency planning and the creation and use of surrogates.

At least one member of staff is responsible for these aspects of collection management. The member of staff does not have to be a conservator or collection care adviser but is required to take responsibility for the collections and to employ contractors for advice or treatment as appropriate.

Larger institutions may find it appropriate to have different members of staff responsible for the various preservation activities.

1.3A.6 There is at least one member of staff responsible for co-ordinating activities relating to the storage of collections.

Explanation  
One suitably experienced member of staff or a volunteer is responsible for coordinating all activities relating to the storage of collections. This could include: packing items, organising stores, moving items, cleaning, tracking items in and out etc.

1.3A.7 There is at least one member of staff responsible for monitoring and controlling the environment.

Explanation  
A suitably experienced or trained member of staff or volunteer is responsible for monitoring the environment, checking the data and controlling the environment. This includes monitoring and controlling light, temperature, humidity, insects, dust and pollution. The responsible person ensures that equipment and plant is maintained in good working order and advises other staff members on protective measures taken in the building such as use of blinds, removing food scraps, keeping doors closed etc.

1.3A.8 Either a member of staff within the institution or the identified contractor’s contact is responsible for the production of surrogate copies.

Explanation  
Surrogate copies are substitutes for the original and therefore they are some form of copy, facsimile, replica or reproduction. Surrogate copies are used in libraries and archives where the original may be damaged by use, or where there is a need for more than one copy. Surrogates are also used in museum and historic house displays, education collection etc.

A member of staff or contractor is responsible for producing surrogate copies and the person responsible must be identified by name.
1 Policy

Staff and Volunteers

1.3B.1 The individual(s) assigned responsibility for collection care activities have these duties identified in their job description(s).

Explanation
The collection care activities and duties are formally recognised. They are specified in the job descriptions of the people or person responsible for collection care. The activities may not be carried out by the responsible individual but he/she must ensure that the tasks are carried out to the required standard. The activities include:
- monitoring the environment, light, temperature, relative humidity, in some cases pollution, for insect pests;
- controlling the environment and/or developing environmental plans;
- ensuring appropriate handling and transport procedures;
- ensuring appropriate storage and display conditions, including regular housekeeping and cleaning;
- preparing and updating an emergency preparedness plan;
- establishing exhibition and loan policies;
- assessing the condition of the collection;
- assessing the risks to the collection;
- building maintenance;
- documentation of collection care related activities;
- providing for conservation treatment;
- creation and use of surrogates.

1.3B.2 All consultants working on collection care related issues have a written brief.

Explanation
A brief is compiled for consultants working on collection care related issues. The brief should be drawn up by the institution but can be compiled in consultation with the consultant. The brief should outline:
- the aim of the project;
- the work that is needed and the outcomes;
- a description of method, as appropriate;
- responsibilities of the institution including provision of facilities;
- responsibilities of the contractor including equipment/materials that the consultant should supply;
- consultation: frequency, personnel, circumstances;
- insurance conditions;
- completion date;
- cost, payment terms.

Guidance on achieving standard


‘Working with Consultants’ Museums Briefing, Museums Association. 2003
1 Policy

Staff and Volunteers

1.3B.3 The institution has a written policy on the use of volunteers for collection care activities.  

Explanation  
The policy should include:  
the amount and type of supervision required;  
the training needed;  
the extent of the work volunteers may undertake;  
the provision of materials and equipment;  
working conditions.  

Guidance on achieving standard  
See the Heritage Volunteers' Charter developed by the British Association of Friends of Museums.  
Guidance on working with volunteers may be available from Regional Museum, Library and Archive Council, CyMAL, The Scottish Museums Council, Northern Ireland Museums Council, Hub Museums, the National Preservation Office.

1.3B.4 Specifications for externally contracted conservation and collection care work are drawn up in consultation with a conservator or collection care adviser.  

Explanation  
Externally contracted work may include binding, re-packaging or boxing, remedial conservation, display case design, mount making, exhibition cleaning, storage development, packing and transporting items. Specifications for this type of work are drawn up with advice from a conservator or collection care adviser.  

Guidance on achieving standard  
Where suitable personnel are not available in-house to help draw up the contracts, a conservation or collection care adviser should be able to help. Advice may also be available from Regional Museum, Library and Archive Council, CyMAL, The Scottish Museums Council, Northern Ireland Museums Council, Hub Museums, the National Preservation Office or an institution with a similar collection.  
Publications which provide useful advice include:  
'Working with Consultants', Museums Briefing, Museums Association  
'Working with Contractors' and 'Working with Independent Conservators' MGC, available from the MLA website.

1.3C.1 The institution has assessed the need for conservation staff and has made arrangements to meet this need in full.  

Explanation  

Guidance on achieving standard  
Where the institution does not have the knowledge or experience to assess the need for conservation staff they can seek advice from Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council. A neighbouring museum, archive, library, historic house or museum may be able to advise. A consultant collection manager or conservator could be invited to assess the conservation need. A consultant collection manager or conservator can be located through the Conservation Register managed by the Institute of Conservation.  
The range of skills needed may have to be supplied by a number of people.
1 Policy

Staff and Volunteers

1.3C.2 All contracted-out conservation work is undertaken on the basis of guidelines for competitive tendering and professional practice.

Explanation

Conservation and collection care work is planned by the institution. Projects are clearly defined and more than one consultant/contractor is asked to provide a proposal and costs.

The process of competitive tendering usually results in a clear description of the project and agreement of the scope and cost of the project and, when well carried out, results in best value work. However, the process of competitive tendering can be expensive and may not be appropriate for small projects.

Guidance on achieving standard

Some information on tendering is provided in ‘Working with Independent Conservators’, MGC, 2000. See also ‘Guidelines for the Commissioning and Undertaking of Conservation Work’ published by United Kingdom Institute of Conservation (UKIC) now the Institute of Conservation.

Advice on procurement should be sought from the Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council, Northern Ireland Museums Council, the National Preservation Office, the Museums Association, British Institute of Facilities Management, Project Management Institute.


Information on tendering, contracts and procurement is available on Business Link web site www.businesslink.gov.uk; DTI web site www.dti.gov.uk. EU information is available from Euro Info Centre www.publictender.co.uk

Training and Awareness

1.4A.1 Staff training needs in the field of collection care are assessed regularly.

Explanation

Regular assessment of staff training needs in relation to collection care is carried out. This is needed as staff change responsibilities and new materials, equipment, technologies or information become available and staff need updating. Training also help staff develop a broad view of the collection care conditions within the institution.

Guidance on achieving standard

Staff training needs should be discussed about once per year. The staff themselves, including volunteers, may be aware of their needs but additional training advice may be available from the Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council, Northern Ireland Museums Council, Hub Museums, the National Preservation Office.

The professional bodies such as the Institute of Conservation and the Museums Association carry out a programme of study days, seminars etc. Information on courses, lectures etc. can be found on the Institute of Conservation website.
1 Policy

Training and Awareness

1.4A.2 All members of staff are aware of security procedures and guidelines. Basic

Explanation
The security procedures for the institution will include:
controlling access through the perimeter of the building;
controlling access into the building;
key control;
visitor protocol;
stores procedures;
security in the Reading/Search Room;
contractors;
exhibition security;
transportation and couriers.

Staff must be aware of:
who has access to which areas;
when guests or contractors must be accompanied;
procedures for opening and closing display cases and stores;
closing and opening the building(s) in the evening and morning;
procedure for reporting incidents.

All members of staff have been formally taken through the security procedures and have been shown the guidelines.

Guidance on achieving standard
Guidelines on security should be available for all members of staff. However, guidelines can be a security risk so care must be taken with drawing them up and their use.
All new staff and volunteers should have all appropriate security procedures clearly explained. Where the buildings, collection or security procedures are complex the induction process for staff may need to be carried out over a period of time.

1.4A.3 Collections are only cleaned by staff or volunteers who have received appropriate training. Basic

Explanation
Cleaning collections includes cleaning items in stores, open display and in display cases.

Training staff for cleaning collections includes
handling items;
recognising deterioration;
assessing object condition;
understanding the nature of dirt;
use of brushes and vacuum cleaners and other conservation cleaning methods;
use of scaffolding;
maintenance of equipment;
health and safety;
documentation.

The staff must be clear about how to clean objects, what they are removing and when to stop.

Guidance on achieving standard
Housekeeping Courses are run by the National Trust and University College, London/English Heritage.
Hub Museums, Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council, Northern Ireland Museums Council, and the National Preservation Office would be able to advise on training courses.
Some conservation consultants provide training and can be found on the Conservation Register. ICON provides information on many courses.
1 Policy

Training and Awareness

1.4A.4 Staff responsible for the storage of collections are aware of the risks to the collection from inappropriate environmental and storage conditions.

Explanation
Inappropriate environmental conditions include:
- high, low or fluctuating relative humidity;
- high visible or ultraviolet light levels;
- gaseous pollution produced by local materials such as storage equipment or packing materials;
- particulate pollution, particularly cement or concrete dust.

Inappropriate storage conditions include poor packing, badly organised stores, inappropriate protection.

Insect infestations frequently occur as a result of poor housekeeping and high relative humidity.

Guidance on achieving standard
Courses on Housekeeping, Insect Pest Management and Light and Humidity are run by the University College, London/English Heritage. Hub Museums, Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council, Northern Ireland Museums Council, and the National Preservation Office, the National Archive would be able to advise on training courses.

The MLA is planning to place the MGC legacy information such as the Standards in the Museum Care and updates on the Collections Advice Network on the MLA website.

Some conservation consultants provide training and can be found on the Conservation Register.

1.4A.5 All new staff receive training in the handling and transportation of collections as part of their induction training.

Explanation
As a matter of course all new permanent and temporary staff receive training in handling, packing and moving collections. The information should be appropriate to the circumstances.

The training for handling should be concerned with the needs within the institution and cover the principles such as the use of gloves, trays, boxes, appropriate ways to hold items, use of pencils for writing where appropriate, protection from food and drink etc.

Training on packing and transporting is also appropriate for the institution and so may involve the use of padded crates and trolleys or more complex packing and handling problems according to the collection.

Guidance on achieving standard
Training can be delivered:
- In-house
- By skills sharing or exchange with another institution
- Attending a suitable course

Hub Museums, Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council, Northern Ireland Museums Council, and the National Preservation Office, the National Archive would be able to advise on training courses.

Some conservation consultants provide training and can be found on the Conservation Register.
1 Policy

Training and Awareness

1.4A.6 Staff who handle collections have received training in the handling and transportation of collections in the last five years.

Explanation
The handling and transportation training includes information on unusual and delicate items. Even where new staff are trained in handling and transportation it is necessary to update and continue the training at regular intervals of five years.

Guidance on achieving standard
Training can be delivered:
In-house
By skills sharing or exchange with another institution
Attending a suitable course.

Hub Museums, Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council, Northern Ireland Museums Council, and the National Preservation Office, the National Archive would be able to advise on training courses.
Some conservation consultants provide training and can be found on the Conservation Register.

1.4A.7 Staff responsible for exhibitions and loans understand the importance of following agreed guidelines for the display of collections.

Explanation
The guidelines may be produced in-house or externally and describe the procedures to be followed when displaying collections. The guidelines should be discussed with the staff so that they understand the benefit of the guidelines and the risks to items from exhibitions.

Guidelines for the display of collections include:
security details;
display case specifications including use of materials in cases (to reduce the risk of deterioration of items from off-gassing of materials in the cases, access to cases, glass type, lighting etc.);
risk to items;
preferred methods of supporting or mounting items;
light levels and control;
humidity and temperature levels and control;
protection of objects on open display;
time required for conservation;
labelling specifications;
housekeeping;
documentation.

The staff use and follow the guidelines.

Guidance on achieving standard
'Guidance for exhibiting archive and library materials' NPO
Standards in the Museum Care of Collections, MGC, include information on display.

Advice on drawing up guidelines should be sought from the Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council, Northern Ireland Museums Council, Hub Museums, the National Preservation Office, the National Archive and conservators and collection care advisers.
1 Policy

Training and Awareness

1.4A.8 Staff or contract cleaners who clean storage areas and storage furniture have received training and/or written instruction or guidance.

Explanation
Staff who clean in close proximity to collections, such as around objects on open display and storage furniture undergo some basic training which could include:
what is to be cleaned and what is not to be cleaned;
methods of cleaning
frequency of cleaning
recognising deterioration
maintenance of equipment
health and safety
housekeeping documentation.
Written instructions are also available.

Guidance on achieving standard
Training has been given on cleaning methods, equipment and materials as well as frequency etc. Contract cleaners may change the staff so the institution may need to train the pool of staff or repeat training sessions as required.

1.4B.1 Current and future collection care training, education and awareness-raising needs are identified.

Explanation
In 1.4A.1, the staff training needs in the field of collection care are assessed regularly. Here, the standard asks that the future as well as the current needs are assessed and that a slightly broader view of training is taken to include more in-depth education and awareness raising as opposed to only collection care training.

The training, education and awareness-raising needs should be identified by the member of staff in conjunction with the line manager. Attempts are made to respond to the needs.

Guidance on achieving standard
Training can be delivered:
In-house
By skills sharing or exchange with another institution
Attending a suitable course.

Hub Museums, Regional Museum, Library and Archive Council, CyMAL, the Scottish Museums Council, Northern Ireland Museums Council, and the National Preservation Office, the National Archive would be able to advise on training courses. Some conservation consultants provide training and can be found on the Conservation Register.
1 Policy

Training and Awareness

1.4B.2 Information on collection care practices is available to all staff in the form of regular practical training sessions, published literature and in-house documentation.

Explanation
The institution subscribes to appropriate collection care, conservation and preservation literature and holds suitable, up to date, publications to which staff and volunteers have access. Collection care and appropriate conservation information is available, for example fact sheets on certain activities such as making padded hangers, dusting books, making enclosures etc. Conservation and collection care documentation includes relevant fact sheets, protocols and records of work done. Regular training sessions are carried out with the staff and volunteers.

1.4B.3 Staff are able to recognise the signs of infestation, dampness and mould and act promptly according to agreed procedures.

Explanation
Insect infestation can be found in organic materials, particularly wood and wood products, paper, cotton, silk, wool, feathers, fur, skins, some natural history specimens including plants. The insects can be identified from the holes or damage they cause, the frass and the pupae casts. Identification of the insects helps decide on treatment and prevention. Rodents can also infest collections. Staff should be able to recognise signs of rodent infestation. Damp can cause distortion and mould as well as encourage insect infestation. Guidelines on procedures to follow when pest or rodent infestation, mould or damp are noticed are developed and are easily available for reference.

Guidance on achieving standard
The institution should become a member of appropriate professional bodies such as Museums Association and Institute of Conservation. Funding is made available to purchase appropriate publications on collection care and conservation. In-house conservation and collection care staff draw up suitable fact-sheets and documentation. If in-house staff are not available a contractor is asked to carry out this work.

Guidance on integrated pest management should be available as well as images of relevant insects, mould etc. A microscope or hand lens is useful for identifying insects. 'Integrated Pest Management' David Pinniger and Peter Winsor, MGC, 1998. This is now available on the MLA website in the Collection Advice Network. English Heritage and MGC have produced a useful poster 'Insect Pests found in Historic Houses and Museums' available from MLA and English Heritage, Collections Management Team, 23 Savile Row, London W1X 1AB. Guidelines on procedures to deal with insect pest infestation and/or damp and mould should be drawn up. These could include contacting a conservator or collection care adviser for help and advice. Training on Housekeeping and Insect Pest Management is available from University College, London/ English Heritage. Additional information on training may be obtained from the Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council, Northern Ireland Museums Council, Hub Museums, the National Preservation Office, the National Archive and the Institute of Conservation. ICON provides in formation on courses. 'The Prevention and treatment of mould outbreaks in collections'. NPO
1 Policy

Training and Awareness

1.4B.4 Relevant staff receive training in exhibition and loan procedures.  

Explanation
Staff involved with planning, organising and setting up exhibitions such as archivists, curators, mount makers, packers, collection care managers and conservators, registrars, designers have all received training in exhibition and loan procedures.

Guidance on achieving standard
The training could be provided in-house or externally.
Information on exhibition and loan procedures is available from UKRG.
Additional information on training may be obtained from the Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council, Northern Ireland Museums Council, Hub Museums, the National Preservation Office, the National Archive and the Institute of Conservation.

1.4B.5 Repository and curatorial staff receive regular training in preservation packaging procedures.  

Explanation
Items in libraries, archives and museums are frequently packed to protect them from physical damage and damage from light, dust etc. This type of packaging includes placing items in enclosures; rolling large flat items; boxing books, objects and archives and other forms of packing or protection.

The staff who work in repositories and stores and all other staff involved with the packing of items are trained in the materials used and methods of packing items. They are aware of the risks of using inappropriate materials, equipment or methods. The training is regularly updated.

Guidance on achieving standard
Training can be delivered:
In-house
By skills sharing or exchange with another institution
Attending a suitable course.

Hub Museums, Regional Museum, Library and Archive Council, CyMAL the Scottish Museums Council, Northern Ireland Museums Council, and the National Preservation Office, the National Archive would be able to advise on training courses. Some conservation consultants provide training and can be found on the Conservation Register.
1 Policy

Training and Awareness

1.4B.6 The institution has in place guidelines on the behaviour of contractors/service providers on site.  

Good

Explanation
The behaviour of contractors on site should be laid out in clear guidelines and discussed with the contractors. The guidelines include topics such as:

- parking
- security ID
- access
- control of dust/dirt, vibrations, noise
- site cleanliness, refuse disposal
- use and storage of dangerous materials, hot working, wet work, humidity control
- smoking, eating and drinking
- schedules, anticipating the need for collections to be moved
- deliveries
- moving materials through the building including scaffolding
- notification of utility cuts

Guidance on achieving standard
'Working with contractors. Guidelines on environmental and security protection during construction work in museums' MGC, 1998

1.4C.1 Training needs and provision are reviewed as part of the institution's planning cycle.  

Best

Explanation
The training and education needs of the conservation and collection care staff and volunteers are assessed as in 1.4A.1 and 1.4B.1. and a formal training programme is developed to fulfil the needs.

Guidance on achieving standard
Larger institutions may involve the Human Resources department in assessing the needs and providing suitable training.

Budget

1.5A.1 The institution has identified resources for preservation and conservation.  

Basic

Explanation
Resources are available for preservation and conservation of the collection. Preservation includes all activities that prevent damage and extend the useful life of items in collections and includes activities such as monitoring and controlling the environment, managing a pest management system, packing and housing items in store, supervising the safe transport of items. Conservation includes hands-on intervention techniques applied to items to achieve physical and chemical stabilisation.

'Resources' refers to both funding and personnel.

Guidance on achieving standard
Resources need to be identified: if appropriate, the case for stewardship of the collection should be made to the institution's managers. External support may be required from the Regional Museum, Library and Archive Council and other sources.

The Regional Museum, Library and Archive Council may be able to provide advice on sources of funding, fund raising etc.

'Preparing funding applications for preservation and conservation projects'. NPO
1 Policy

Budget

1.5A.2 The institution has identified resources for collection care related training.

Explanation
Collection care includes a wide range of activities some of which are effected by the condition of the building. Collection care activities may include: developing collection care and conservation policies, maintenance of the building, security, storage, cleaning, preservation, environmental monitoring and control, exhibitions, loans, conservation, the provision of surrogate copies and disaster planning. The institution has identified a need for training in these areas and has allocated funding for training.

The training can be delivered in-house, by skills sharing or exchange with another institution and by attending a suitable course, seminar or conference. Time for staff to read current literature could also be considered.

'Resources’ refers to both funding and personnel.

1.5A.3 The institution has identified resources for maintenance of buildings, plant and equipment.

Explanation
A building requires regular maintenance for it to remain in good condition and to prevent the risk of damage to the collection arising from the condition of the building. Problems that can arise include flooding from blocked rain water goods, leaking roof from misplaced tiles, rising damp from bridged damp proof course, damp entering from deteriorating pointing.

The plant is the equipment or system that provides heating, hot water, air handling and air conditioning. This must be regularly checked and maintained so that it continues to fulfil its function and remains as efficient as possible. Hygrometers and thermometers should be calibrated at regular intervals; sensors should be checked that they are clean, undamaged and calibrated as necessary, the equipment must be serviced.

Equipment used for lifting or moving the collection or used in the conservation of the collection also requires maintenance.

Resources refers to both funding and personnel.

1.5A.4 The institution has identified resources for cleaning and housekeeping.

Explanation
Housekeeping involves keeping clean the collection and the areas around the collection. It may also involve a number of other activities including: checking the interior of the building for signs of damp, controlling light levels using blinds and light control, monitoring the items for change, packing items away or covering items during closed periods. Items on display and the display areas need regular cleaning. The stores and repositories also require regular cleaning although possibly less frequently. At regular intervals a deep clean needs to be carried out which involves cleaning areas that may not otherwise be cleaned such as the back of shelves, in gratings, hidden areas, pipe work through stores, under carpets and furniture etc. Waste bins are emptied regularly, kitchen areas must be kept clean and free of food debris.

'Resources’ refers to both funding and personnel.
1 Policy

Budget

1.5A.5 The institution has reviewed the resources needed for insurance cover.  

Explanation
The building, collection and staff may require insurance cover. The institution has reviewed the need for insurance. This could be met by the institution itself or its governing body, commercial insurance, the Government Indemnity Scheme (GIS) or it may not be allowed to insure such as in the case of national institutions.

Guidance on achieving standard
Information on GIS is available from the MLA website www.mla.gov.uk/action/can/can-security.asp

1.5B.1 The institution’s budget makes annual provision for the preservation and conservation of its collections.

Explanation
Each year part of the institution’s budget is allocated to the preservation and conservation of its collection. This allows for improvement of the condition of the collection and for ongoing collection care projects. In 1.5A.1, resources are allocated for preservation and conservation but in this case (1.5B.1) the budget is reviewed and available annually.

1.5B.2 The institution’s budget makes annual provision for the financial support of staff CPD and specialisation.

Explanation
Staff responsible for the collection are able to continue their development and to be able to keep abreast of current developments in collection care and conservation. In order to be able to do this they may need to attend specialist meetings, seminars and conferences, training sessions, visit other institutions and have access to information on the internet or in publications. The institution’s budget allows for some staff development.

1.5B.3 Resources are made available to carry out improvements identified in the storage and display assessment report.

Explanation
Storage and display conditions are assessed regularly as part of the collection assessment to develop a preservation programme 1.1B.2, 1.1B4. Appropriate staff, volunteers, contractors and funding are made available to carry out the recommendations concerned with preservation issues associated with the storage and display conditions in the report.
1 Policy

Budget

1.5B.4 Resources are made available to carry out improvements identified in environmental monitoring and control assessment reports.  

Explanation
The standard of environmental monitoring and control is assessed regularly as part of the collection assessment to develop a preservation programme 1.1B.2, 1.1B.4. Appropriate staff, volunteers, contractors and funding are made available to carry out the recommendations concerned with environmental monitoring and control in the report.

1.5B.5 Resources are made available for the costs involved in emergency preparedness.  

Explanation
A disaster plan or emergency preparation plan must be prepared for the institution. The plan must be regularly updated and provision made for staff training, liaising with other institutions, maintaining salvage materials on site, carrying out salvage exercises, servicing emergency equipment such as fire extinguishers. Appropriate staff, volunteers, contractors and funding are made available for all the costs associated with preparing the plan and emergency preparedness.

1.5B.6 Resources are made available for the costs involved in monitoring and periodic migration of digital information.  

Explanation
Digital material (images and data) is checked at suitable intervals for deterioration. Resources are made available for monitoring the condition of the material, necessary software for repair or protection and suitable equipment should the material need to be transferred to another medium or to another format to avoid obsolescence of both hardware and software.

Guidance on achieving standard
Information is available on the Digital Preservation Coalition website and from Technical Advisory Service for Images TASI

1.5B.7 The institution has identified a budget, if required, for insurance costs.  

Explanation
The institution has assessed the need for insurance (Statement 1.5A.5) and where it is thought necessary a budget has been identified for the cover and to ensure that the conditions within the institution meet those required by the insuring body.
1 Policy

Budget

1.5C.1 An annual review of the institution’s resources, facilities and activities is used to identify and prioritise collection care projects.

Explanation
See also 1.1C.3 and 1.1C.4. Collection care issues and projects are considered during the annual review of the institution’s resources, facilities and activities.

1.5C.2 The institution has resources in place for a comprehensive operational and maintenance programme for its buildings, services and plant.

Explanation
See 1.5A.3. The institution has identified the resources needed and has made the resources available for a comprehensive maintenance programme.
2 Buildings

Fabric

2.1A.1 The building is of robust construction and all floors, especially in storage areas, can safely support the load.

**Explanation**

The building should be constructed of robust materials such as brick, stone, timber and concrete. Mud, brick and plaster may be suitable depending on the construction, local climate and maintenance regimes. The roof must be weather proof and watertight although some ventilation is necessary. Doors and windows must close and be lockable. Ideally birds and small mammals should not be able to enter the building. Temporary buildings are not recommended although in some cases they may form part of the institution. In which case, where possible, they should be made secure and watertight.

All floors, particularly attics and mezzanines must be strong enough to take the weight of the items stored in the rooms. Where the floor loading is low information must be available in the area to discourage people from inadvertently leaving heavy items there. Loading in storage areas is in the region of 5 kN for many collections, but 7.5 kN is required for archival or library collections and some compact storage, still more for very large and heavy items. kN is (kiloNewton, a measure of stress acting on a surface such as a floor).

**Guidance on achieving standard**

Where the building is not adequate plans must be made to improve the condition of the building, store the collections elsewhere or dispose of the collection according to the Acquisition and Disposal Policy. Items should not be added to the collections until the condition of the building is acceptable.

A suitable architect, surveyor or quantity surveyor can assess the condition of the building and the cost of improving the building to a more suitable and robust condition.

A structural engineer can assess floor loading.

2.1A.2 Buildings used to house collections are regularly inspected. All potential threats to collections resulting from the condition of the building are identified and assessed.

**Explanation**

Threats to the collection resulting from the condition of the building include: leaky roofs, poor wiring, internal pipe-work, blocked rainwater goods, poor or failing pointing, bridged damp-proof courses and ill-fitting windows or doors.

A member or staff or volunteer inspects the building a specified number of times per year. The inspection includes stores, cellars/basements, roof spaces, empty rooms and other areas that are not frequently used or visited. The aim of the inspection is to locate current or potential problems such as leaks in the roof or pipes, damaged wiring, dripping overflows, plants in the gutters, damp penetrating walls and other problems. The frequency of the inspection will depend on the nature and condition of the building and its site. For example, a building near a river prone to flooding or one known to have a leaking roof will need inspection after heavy rain and, at least, once per month. Buildings in less vulnerable sites will need fewer inspections.

Problems or potential problems with the building are noted and an assessment of the work needed to remove or limit the risk is made. The work is carried out whenever possible.

**Guidance on achieving standard**

A suitable builder, surveyor, maintenance contractor or other appropriate person should check the building regularly for problems such as blocked rainwater goods etc. At least two inspections a year are recommended: one in early summer following blossom or the flowering of trees, one at the end of autumn to remove all leaves etc. Evergreen trees drop their leaves or needles throughout the year so if there are a number of evergreen trees nearby or many deciduous trees or other plant growth nearby more visits may be necessary.
2 Buildings

Fabric

2.1A.3 Plant and equipment is inspected periodically by staff and by qualified specialists at regular intervals. **Basic**

**Explanation**
Plant includes air handling systems or the central heating boiler, water heaters, environmental control equipment. Equipment includes equipment used in the institution for collection care purposes such as lifting, handling, moving and monitoring equipment as well as conservation equipment. The plant and equipment is checked by staff to ensure it is functioning correctly.

Most lifting equipment needs to be checked annually or more frequently by a suitable engineer for insurance purposes. Extraction equipment is checked annually by an engineer to ensure it meets specified performance levels. Suitably qualified staff or contractors maintain and service the plant and equipment.

**Guidance on achieving standard**
Most suppliers and manufacturers will arrange to visit and service equipment for an annual fee. Plumbers or heating engineers need to be Corgi Registered if working with gas appliances. Electrical contractors should be registered with NICEIC, ECA or NAPIT.

2.1A.4 Buildings that are unoccupied for parts of the year are visited and inspected regularly. **Basic**

**Explanation**
These buildings are included on the inspection programme of the main site. (2.1A.2)

2.1A.5 The building in which the collection is housed is wind-proof and watertight, and can provide basic protection for the collection. **Basic**

**Explanation**
Some collections such as certain types of agricultural equipment, large sculpture, transport collections, stone monuments etc. may only need shelter to protect them from the worst of the weather. In these instances the protection should fulfil its purpose and be augmented by additional protection where appropriate such as frost protection, maintenance programmes of cleaning, oiling, greasing, painting etc.

Most collections require that, at least, the building is watertight and wind tight and protects the items from the external weather conditions.

**Guidance on achieving standard**
Where the building is not adequate plans must be made to improve the condition of the building, store the collections elsewhere or dispose of the collections according to the Acquisition and Disposal Policy. Items should not be added to the collections until the condition of the building is acceptable.

A suitable architect, surveyor or quantity surveyor can assess the condition of the building and the cost of improving the building to a more suitable and robust condition.
2 Buildings

Fabric

2.1B.1 A schedule for the routine maintenance of buildings and utilities is in place.  

Explanation
The buildings are inspected regularly (2.1A.2) and a programme or schedule has been devised and is in operation for the routine maintenance of the buildings and facilities.

2.1B.2 An architect, surveyor or other competent person produces a regular report outlining the state of the buildings, and an action plan is in place to implement recommendations.  

Explanation
About every five years a thorough inspection of the condition of the building is carried out by a suitably competent person such as an architect or surveyor. The inspection is broader than the regular building inspection and should include the condition of the windows, pointing, plaster, roof, plumbing, chimneys, electrical wiring, floors, rainwater goods etc. Following the inspection a programme of works is developed.

Guidance on achieving standard
Some architects and surveyors regularly carry out inspections to historic or new buildings. The local authority planning office or Conservation Officer may be able to provide a list of architects and surveyors or other competent people who carry out this work.

The RIBA www.riba.org (Royal Institute of British Architects) and the RICS www.rics.org (Royal Institution of Chartered Surveyors) provide a service of locating regional practices with suitable experience.

2.1B.3 Potential access points for vermin, insects and dust, including pipes, cracks and electrical/air ducts, are identified and sealed.  

Explanation
Dust can enter a building by various means including through open doors and windows, ill-fitting closed doors and windows, gaps in the roof etc. Dust can also be produced internally such as from unsealed cement or concrete floors
Insects can be bought into a building in items, plants etc. but can also enter through very small gaps in windows, doors, air ducts, chimneys, the roof and attic.
Vermin can enter under doors, pipes, air ducts, roof voids, cracks in the walls etc.

Guidance on achieving standard
Any point that is thought to allow access should be sealed and inspected regularly to ensure that the seal remains in place. The method of sealing will depend on the problem and resources. Methods may include: improving plaster and pointing, placing draft seals or secondary glazing in windows, placing a wood or rubber strip along the bottom of a door, using insect mesh on open windows, placing insect mesh over ventilation bricks.
2 Buildings

Fabric

2.1B.4 Staff responsible for collections are notified in advance of any building works, to enable them to brief contractors working on site.

Explanation
Advance warning allows staff to prepare for the works. Contractors are briefed on security, protection of the collections or items in the building, restrictions of hot working, moving supplies and equipment through the building, dust protection, cleaning, policy regarding eating and drinking in the building, etc. (See 1.4C.2)

Staff may also need to protect items during building work, particularly from dust and vibrations.

See 'Working with Contractors', Museums and Galleries Commission, 1998

Guidance on achieving standard
Where collection care staff are not being notified of impending works they can ask suitable personnel for programmes of works and request that they are notified and may need to develop an understanding with the project manager, foreman or other appropriate personnel so that they understand the need for advanced notice.

2.1C.1 A building management plan has been drawn up and is frequently reviewed to update priorities and track progress on implementing recommendations.

Explanation
A building management plan includes all aspects of managing and maintaining the building, for example: arrangements for inspecting the building every year; a detailed schedule of items to be inspected and maintained, including immediate, yearly and long-term actions; the timing of maintenance work; the cost and resources needed for maintenance; who will be responsible for the work; arrangements for keeping an ongoing maintenance record; security procedures; emergency preparedness; space assessments and servicing requirements and records.

Where a plan has been compiled it is checked and updated regularly, for example every 2 years. A programme of regular maintenance and building improvements can be compiled from the plan. This can be used to check that the work is being carried out and that the building is cared for and in good condition.

Guidance on achieving standard
A suitably experienced surveyor can draw up a building management plan. If the institution is housed in an historic building the surveyor should have experience of working with such buildings. The plan will need to be compiled with the cooperation of a number of members of staff who can provide information on the building and procedures within the institution.

2.1C.2 Reports on the condition of the building are used in planning improvements or major developments, and in revising forward plans.

Explanation
Forward plans may need to be revised to take into account the condition of the building or work that is to be carried out. Improvements to the building and major developments take into account the condition of the whole building and the degree to which the building protects the collection. Developments to the building maintain or improve the conditions within the building.

Guidance on achieving standard
'Producing a Forward Plan.' MGC (now MLA). 1996
2 Buildings

Fabric

2.1C.3 Records are kept of all building work, maintenance and inspections.  

Explanation
The records include the name of personnel, work carried out, date, further work needed, maintenance recommendations etc. The records are available to all personnel who may require the information.

2.1C.4 A preservation advisory panel or advisory service is consulted in planning any building work.  

Explanation
Appropriate people or groups of people are consulted to assess the impact of building works on the building and the collection.

Security

2.2A.1 Security procedures and guidelines are in place and enforceable.  

Explanation
All security issues including controlled access to keys and secure areas; protocols for opening cases; protocols for working with readers/researchers; opening and locking up; transporting items; staff vetting; alarm details etc. have been considered, guidelines have been produced. There is a disciplinary procedure or other methods of enforcing that the protocols are followed.

Guidance on achieving standard
Security Matters: designing out crime' NPO
MLA web site. Advice & Guidance: Security
The series of publications Standards in the Museum Care, MGC contain some information on standards for invigilation

Advice on security is available from MLA, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council, Northern Ireland Museums Council, Hub Museums, the National Preservation Office. The MLA website (www.mla.gov.uk) includes a list of security consultants with experience of the museum, library and archive sector.
2 Buildings

Security

2.2A.2 A security assessment is made at regular intervals and all risks, particularly to the perimeter of the building, are noted.

Explanation
A competent person assesses the security of the building looking at locks, windows, fences, walls, means of access such as drainpipes or scaffolding; the suitability of the alarm system; the security procedures etc. This is done regularly, the frequency will depend on the local environment, type of building etc. Occasional checks are made to ensure that the staff are following the protocols.

Guidance on achieving standard
MLA web site. Advice & Guidance: Security

Advice on security is available from MLA, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council, Northern Ireland Museums Council, Hub Museums, the National Preservation Office.
Local police may also provide security advice.
The MLA website (www.mla.gov.uk) includes a list of security consultants with experience of the museum, library and archive sector. Security consultants can be located through the MLA website and the Museums Association.

2.2A.3 All access points to the building such as doors, lifts, staircases, skylights, windows and ventilation risers can be made secure.

Explanation
Any access point through which a person can enter or incendiary material can be inserted can be secured. This could involve closing and locking the opening or may require some form of protection such as grills, locks, security glass etc.

Guidance on achieving standard
Advice can be sought on the type of locks needed. Additional security such as metal frames, shutters, alarms may be recommended.

MLA web site. Advice & Guidance: Security

Advice on security is available from MLA, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council, Northern Ireland Museums Council, Hub Museums, the National Preservation Office.
Local police may also provide security advice.
Security consultants can be located through Museums Association and the MLA website.

2.2A.4 All doors with access to storage areas are strongly constructed, close-fitting and equipped with locks for which the issue of keys can be controlled.

Explanation
2 Buildings

Security

2.2A.5 Doors leading out of closed-access areas are fitted with locks that may be opened from the inside without a key, but can be opened from the outside only with a key.  

Explanation  
Locks of this type prevent people from being able to enter the building uninvited but allow those inside the building to exit in the event of a fire or other emergency.

2.2A.6 Access to storage areas is restricted to relevant staff and other authorised persons accompanied by them.  

Explanation

2.2A.7 Arrangements exist for maintaining appropriate levels of security while external contractors are working on site, especially outside normal of office hours.  

Explanation  
Contractors may need to be accompanied at all times when working on site, particularly in collection areas such as stores, offices, display areas. This role can be shared by the staff or additional staff employed.

Guidance on achieving standard  
"Working with Contractors" MLA


2.2B.1 Access to keys and security codes is strictly controlled.  

Explanation  
A limited number of people have access to the keys. Keys have to be signed for where appropriate. Security codes are changed at suitable intervals. When staff leave the institution their access is terminated. One or more individuals are responsible for the keys and security codes.
2 Buildings

Security

2.2B.2 An intruder detection system is in place.  

Good

Explanation

An appropriate intruder detection system is installed by a suitably qualified person. The system is maintained at least once per year by a qualified person and is checked regularly.

An intruder alarm system is not useful if the entry to and escape from the building can take place before the authorities arrive on the scene. Therefore strong physical security is essential. An intruder alarm system can usefully give an alarm while an intruder is attempting to break through the building's physical defences.

Systems that do not transmit to a monitoring agency rely on the external sounder frightening off the intruder and/or alerting a member of the public. Even if the police are alerted the response time is likely to be slow.

See 2.2C.2

Guidance on achieving standard

A reliable system that meets the needs of the institution can be achieved when all relevant parties, such as architect, collection care manager (or equivalent), building manager, insurance company, security consultant and local police crime prevention officer, are involved in the planning process.

Intruder systems usually have a combination of perimeter and trap protection. Perimeter protection is provided by devices which are activated by intrusion, or by forcible attack on the security perimeter. Trap detection includes devices that are activated once the intruder has penetrated into the premises and relies on the identification of movement and/or body heat.

MLA web site. Advice & Guidance: Security

2.2C.1 An annual security assessment, is presented to senior managers and kept under review to determine whether recommendations have been implemented.

Best

Explanation

An assessment of the security provision, including recommendations for improvement, is made by an appropriate member of staff or contractor. The senior managers check that the recommendations have been implemented.

Guidance on achieving standard

MLA web site. Advice & Guidance: Security

Advice on security is available from MLA, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council, Northern Ireland Museums Council, Hub Museums, the National Preservation Office. Local police may also provide security advice.
Security consultants can be located through Museums Association.
2 Buildings

Security

2.2C.2 Intruder detection alarms are linked to the police or other appropriate monitoring service.  

**Explanation**

The institution has a properly designed and installed modern intruder system that takes account of the environment it has to work in and is reliable. The signal is safely transmitted to a monitoring agency, which is usually an automatic system using a monitored telephone line to an alarm-receiving centre. The centre alerts the police.

For an intruder alarm to be valuable the physical security of the building must be strong so that the intruder can not enter and leave the building before the authorities arrive. The alarm system gives a signal when the intruder attempts to defeat the building's physical defences. This, ideally, provides time for the authorities to arrive before the intruder has been successful in entering and leaving the building.

The intruder system has a combination of perimeter and trap protection. Perimeter protection is provided by devices which are activated by intrusion, or by forcible attack on the security perimeter. Trap detection includes devices that are activated once the intruder has penetrated into the premises and relies on the identification of movement and/or body heat.

**Guidance on achieving standard**

The architect, the person responsible for the building's management, the collection care adviser or equivalent, the insurance company, any security consultant and the local police crime prevention officer should all be involved with the planning process.

The Association of Chief Police Officers has devised a policy for the management of alarm systems, to reduce the waste of police resources from false calls. The policy requires that the system, the alarm companies’ receiving centres and their practices accord with the industry's standards set by the National Approval Council for Security Systems (NACOSS). If all the standards are met, the police will undertake to provide what they have defined as a Level 1 or Immediate Response. At a given number of false calls within a 12 month period the response will stop being immediate and will be delayed or there may be no response. Immediate response is restored when there are no false calls within a given period, often 3 months.

Advice can be obtained from the local crime prevention officer and alarm company. The MLA Security Adviser may also be able to advise. The installation and maintenance of alarm systems is a highly competitive business in which the customer has a strong negotiating position.

MLA web site. Advice & Guidance: Security
3 Storage

Storage Areas

3.1A.1 A conservator or collection care adviser has given advice on the storage of all collections within the last five years.

Explanation
A conservator or collection care adviser has visited the stores and assessed the risks to the collections and made recommendations for improving the storage conditions within the stores and/or for individual items where appropriate.

The risks to items in a store include damage resulting from:
inappropriate temperature and humidity (often related to the condition of the building)
inappropriate light and UV levels
insect pests and other pest (birds, rodents)
inadequate support, packing or boxing
poor housekeeping
poor access to items
lack of space
inappropriate handling and moving techniques or equipment
boxes, furniture or materials in the store that emit harmful vapours
poor security

Guidance on achieving standard
Where there is no in-house conservator or collection care adviser, a conservator or collection care adviser can be located through the Regional MLA or from the Register of Conservators managed by the Institute of Conservation. Neighbouring museums, libraries, archives and historic houses may be able to recommend a suitable person to carry out the work.

He/she should assess the risks to the collection by looking at the environment and storage conditions as well as at the condition of the items. Recommendations for improvements should be provided and should be pragmatic and achievable.

3.1A.2 An assessment has been made of current storage facilities, with the findings presented to managers.

Explanation
The result of the storage condition assessment (3.1A.1) has been presented to the managers of the institution so that they are aware of the conditions in the store and can plan for improvements where appropriate.

3.1A.3 There is sufficient space to carry and move items in aisles and between bays.

Explanation
It is possible to move items through the stores without having to move other items or furniture. See also 3.1B.3.

The ability to move items easily through a store means that they and the collection are not at risk of physical damage while being moved and that the item can be checked, examined and used with ease.

Guidance on achieving standard
Where the aisles or spaces are blocked consideration must be given to re-organising the spaces, disposal of items according to the acquisition and disposal policy, finding more storage space.
3 Storage

Storage Areas

3.1A.4 Items are not placed directly on the floor.

Explanation
Items placed directly on the floor are at risk from damage from flooding or ingress of water; physical damage from cleaning, passing people etc.; biodeterioration or corrosion from penetration of damp. Large items directly on the floor are difficult to lift and move, when they are slightly raised up from the floor lifting is made easier.

Guidance on achieving standard
Place items on pallets, wood battens, polyethylene foam strips (e.g. Plastazote), cork strips etc. so that they are raised up at least 150 mm from the floor.

3.1A.5 Collections are kept tidy on shelves, in drawers and plan chests and in cabinets.

Explanation
The store is clean, well organised and the items are placed on shelves, drawers, plan chests or in cabinets. Where possible items are not placed on top of each other or one placed inside another. If objects are placed one on another suitable padding is used between them and the stack is not too high. For example, tissue paper between ceramic plates or saucers, polyethylene foam between larger items. Where books are stacked the pile is not more than 20 cms. high; books of the same size are stacked together or smaller books on larger ones; volumes with bindings that have fittings or other protrusions are not stacked.

Volumes and boxes should fit the shelves if possible so that they are supported. Where the shelf is not full, books are supported by bookends so that they are standing vertically. Boxes are horizontal or vertical as appropriate. Items on mobile racking are well supported to minimise the risk of them moving or falling when the shelf is moved. Oversized and damaged books and archives are stored flat.

See 3.1B.5.

Rubbish is removed and the storage area and shelving is kept clean.

Guidance on achieving standard
Additional shelves may help provide more space. Place the small items at the front so that they can be seen and the larger items can be removed over the small ones. Keeping objects of a similar size together helps efficient use of space.

MLA Standards
Good handling principles and practice for library and archive materials. NPO

3.1A.6 Storage areas designated for collections are used solely for that purpose and do not have non-collection material stored there.

Explanation
Collection stores are not used for storing packing materials, display materials, shop stock etc. These are stored elsewhere.

This is to allow as much space as possible for the collection; to control access to the collection store to those people working with the collection; to prevent materials from being left in a haphazard fashion in the store; to prevent damage to the collection from inappropriate materials being introduced into the store.

Guidance on achieving standard
Separate storage areas should be designated for non-collection material.
3 Storage

Storage Areas

3.1A.7 A clear, flat workspace is available in storage areas for working with items. 

**Explanation**
Examination of items, packing, reframing and other object related activities often take place within the store to prevent unnecessary movement of the items. A table or bench with a suitable surface is provided for this purpose and is kept clear for the work. Suitable lighting is also needed.

**Guidance on achieving standard**
Sturdy trestle tables, folding or mobile tables are useful for this as they can be moved to the area where work is being carried out. The surface should be clean and some padding such as thin polyethylene foam or a folded, clean dust sheet may be necessary for delicate items. When trestle tables are used the top must be secured to the trestles to prevent accidental tipping of the top.

3.1A.8 Items are stored in a manner to minimise the risk of physical damage. 

**Explanation**
Books and volumes are not stored on the fore-edge or spine. Large, flat items such as maps, charts, textiles are rolled around an appropriately sized archival quality cylinder or stored flat in large drawers or boxes. Costume and other soft organic materials such as baskets are well padded and not squashed into boxes or pushed out of shape by the storage furniture. Where items are stacked, such as archive folders and herbaria, the stack is not so heavy or high as to cause crushing of the lower items. Stacked boxes do not cause lower boxes to be squashed. Items in boxes are protected from each other by appropriate archival quality packing such as acid-free tissue paper, transparent polyester sheet, polyethylene foam.

**Guidance on achieving standard**
Advice on packing and storing items is available from CILIP, Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. A neighbouring museum, archive, library, historic house or museum may be able to advise. A consultant collection manager or conservator can be located through the Conservation Register managed by the Institute of Conservation.

See also the references in the NPO, MLA, TNA and similar publications

3.1A.9 Items are placed in their correct storage locations as soon as possible following use or when acquired. 

**Explanation**
When items are acquired they are processed and placed in the store as soon as possible. Once items have been used they are returned to their correct storage position. Books are not kept stacked in piles for prolonged periods. Items are not left in offices. Each item is given a designated storage space and is placed in its storage space as soon as possible after acquisition or following use.
3 Storage

Storage Areas

3.1A.10 Storage areas provide the minimum standard conditions appropriate to the material stored.

**Basic**

**Explanation**

The conditions within a store must not cause deterioration of the material in the store. Some materials are more vulnerable than others and require better conditions. The following aspects of the store should be considered:

- The state of the building, walls, floors, roof, gutters, pipework, electrical wiring etc.
- Good housekeeping procedures
- Physical protection from dust, physical damage
- Light control/protection
- Inappropriate temperature
- Inappropriate relative humidity
- Pest management

Most collections aim for a range of 40-65% (RH) relative humidity with fluctuations for organic materials (for example, paper, parchment, ivory, bone, wood, textiles, leather, etc.) limited to less than 10% in 24 hours. Broad seasonal variations are common and are generally not damaging provided that extremes of RH and temperature are avoided. Mould growth is generally not encountered at RH levels below 65%. Embrittlement and shrinkage usually only become evident below 35% RH although this can depend on the level to which the material is acclimatised. Corrosion of metal and metal alloys occurs at different RH levels but most do not corrode below 45%. However, archaeological metal can corrode at levels as low as 25%. Temperature is significant both for its effect on relative humidity (e.g. raising the temperature within a gallery will cause the RH to drop) and for its impact on certain particularly sensitive materials such as photographs, wax and foods, such as chocolate, which are found in many collections. Photographic materials benefit from cold storage (i.e. -25°C at 20-40% RH) although higher working temperatures of 15-25°C may be more appropriate for some collections.

**Guidance on achieving standard**

The standards for museum objects are referred to in section 4.5.2. of the Accreditation system for Museums in the United Kingdom. Minimum standards for archives and libraries are discussed in the National Archive and National Preservation Office publications.

Advice on standards of stores is available from CILIP, Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. A neighbouring museum, archive, library, historic house or museum may be able to advise. A consultant collection manager or conservator can be located through the Conservation Register managed by the Institute of Conservation.

See also the references in the NPO, MLA, TNA and similar publications

3.1B.1 A conservator or collection care adviser regularly gives advice on the storage of collections.

**Good**

**Explanation**

An in-house or consultant conservator or collection care adviser reviews the stores and storage methods at least once a year.

**Guidance on achieving standard**

Consultant conservators and collection care advisers can be located through the Conservation Register managed by the Institute of Conservation.

3.1B.2 There is a plan near the entrance showing the layout of the store.

**Good**

**Explanation**

There is a floor plan indicating the location of sections of the collection. The plan can also show the location of electrical sockets, network connections, health and safety equipment, emergency equipment.
3 Storage

Storage Areas

3.1B.3 Doorways and aisles are of sufficient width to allow passage of large items and trolleys/transporters.  

**Explanation**

In 3.1A.3, it is possible to move items through the stores without having to move other items or furniture.

To achieve this standard, the aisles and corridors are wide enough to take objects being carried or on carrying equipment such as barrows or trolleys safely. Heavy items may need to be moved mechanically so the space must allow for the equipment to be able to move freely through the area.

The ability to move items easily through a store means that they and the collection are not at risk of physical damage while being moved and that the item can be checked, examined and used with ease.

3.1B.4 Large items, e.g. Rolled documents and textiles on shelves, are supported sufficiently and do not project into gangways.

**Explanation**

Items such as rolled documents and textiles are supported along their length. Long tools or arms are held securely, other large items are properly supported and do not project into gangways.

3.1B.5 Items are positioned securely on shelves, drawers, plan chests, racks and other storage furniture, but not packed so tightly that physical damage might result.

**Explanation**

See 3.1B.5.

The store is clean, well organised and the items are placed on shelves or in cabinets. Items are not stacked inside another nor placed on top of each other (except under certain circumstances such as stacking plates or saucers).

Items can be easily removed from shelves and cabinets, preferably without having to move other objects. Items do not protrude beyond the edge of the shelf. Volumes and boxes should fit the shelves if possible so that they are supported but they should not be so tightly packed that damage will occur when an item is removed. Where the shelf is not full, books are supported by bookends so that they are standing vertically.

Boxes are horizontal or vertical as appropriate.

Items on mobile racking are well supported to minimise the risk of them moving or falling when the shelf is moved. Oversized and damaged books and archives are stored flat.

Each item has its location and can be replaced in the original position after it has been temporarily removed. Items are clearly labelled.

3.1B.6 Oversize books are stored flat, where possible, and stacked no more than two high.

**Explanation**
3 Storage

Storage Areas

3.1C.1 There is sufficient space to accommodate current and projected storage requirements.  

Explanation  
The collection is stored to standard 3.1B.5 or better. There is additional space to accommodate the collection as it grows. An assessment of the space required for newly acquired items over the next 20 years or other appropriate period has been made and there is sufficient space in the current storage to house this material to the same standard or better than the current store.

3.1C.2 Items with special preservation requirements have been identified, and appropriate environmental conditions provided.  

Explanation  
Items with special preservation requirements will vary with the type of material in the collection. Material requiring special preservation requirements could include: archaeological metal; cellulose nitrate material; photographic material; waterlogged material; ivory miniatures, parchment and vellum and other materials particularly sensitive to light, humidity, temperature, dust and/or pollution.  
The suitable environment is provided for these materials where the significance of the items has been assessed and it is considered that providing special conditions is appropriate.  
In the case of mixed collections, the sections that require particular conditions and are significant have been separated and an appropriate environment is provided for each section.

3.1C.3 Storage areas for archival or library special collection material meet or exceed the requirements of BS 5454:2000.  

Explanation  
The standards of collection care within the repository are as good as or exceed the standards set out in BS5454:2000.

Guidance on achieving standard  
The standards stipulate the construction and position of the building, fire precautions and security. The section on the storage environment recommends:

- ventilation and air movement within the repository;
- temperature for frequently used material and infrequently handled material;
- The relative humidity and the need for acclimatization;
- The structure of the shelves;
- The distance of the shelves from the floor and ceiling;
- The height of the shelves above the highest document on the shelf below;
- the air quality and monitoring the air;
- control over introducing mould or insect infested items into the repository;
- luminance levels, UV filtering and lighting types, minimum distance of lights from documents;
- shelving construction;
- construction of mobile shelving;
- storing different types of documents;
- safety devices for mechanical handling devices;
- storage box construction;
- marking boxes and wrappers;
- protecting rolls, large format items; bound volumes, parchment volumes, seals etc.;
- conditions for modern media standards for exhibition.

'recommendations for the storage and exhibition of archival documents' BS5454:2000. BSI  
3 Storage

Storage Furniture

3.2A.1 All storage furniture is stable, well-fitted and strong enough to take the required load.

Explanation
All shelving, drawers, plan chests, vertical racking and other storage furniture stable so that it does not move or wobble when items placed on or removed off them. The construction of the system must be robust enough to withstand the use: adjustable shelving is securely held in place. Cupboard doors and drawers open easily. The loading of the shelves drawers or mesh is sufficient to take the weight of objects being placed on them. The shelves and drawers are not bowing with the weight of the items.

Guidance on achieving standard
Shelving units can be secured to the wall, ceiling or floor for added stability. The floor must be smooth and not sloping.

Suppliers' catalogues frequently give shelf loadings for their products which can be used as a guide for similar shelving. However, for accurate information a storage specialist or quantity surveyor or other suitably experienced person would be able to advise.

3.2A.2 Material can be reached from the highest shelf safely or, if not, appropriate equipment is available for the safe retrieval of material from high shelves or racking.

Explanation
Where the upper shelves are too high to be reached from the floor, suitable equipment such as step stools, mobile safety steps etc. is available. Bulky items, even if not very heavy should not be placed on high shelves as they are not easy to lift down steps.

Very heavy or bulky items are not placed on the high shelves except where suitable equipment such as a Load Lifters, Lifting and Stacking trucks and trained personnel are available.

Guidance on achieving standard
Equipment is available from suppliers of handling equipment, safety equipment, storage equipment etc.

3.2A.3 Clear instructions for the use of mobile shelving are displayed.

Explanation
Instructions on using the mobile shelving are clearly laid out and visible at the ends of the units. The instructions include health and safety warnings.

3.2A.4 The acceleration and braking of mobile shelving is such that items cannot slide or fall off shelves.

Explanation
The movement of the mobile shelving is smooth and steady and the units can stop and start without items falling off the shelves.

It should be noted that items on the shelf may move very slightly with the vibrations from the movement, even when the acceleration and braking is smooth. The items may eventually work their way to the edge and fall off. Periodic checks should be made to ensure that all items are securely on the shelves.

Guidance on achieving standard
Seek advice from suppliers of mobile shelving units regarding improving the gearing and movement of the units.
3 Storage

Storage Furniture

3.2A.5 All collection items stored on mobile shelving are housed completely within the depth of the shelves. **Basic**

Explanation
Items do not protrude beyond the edge of the shelf.

3.2A.6 The height of cabinets and plan chests does not impede the retrieval or replacement of material. **Basic**

Explanation
Access to drawers and cupboards is easy. They can be reached from the floor or suitable steps. Objects can be removed from and replaced into the units easily without risk of physical damage to the object or safety of the personnel.

3.2A.7 Cabinet and plan chest drawers are not over filled and are able to open freely without risk to the material they hold. **Basic**

Explanation
Drawers pull out easily without causing unnecessary movement or shaking of the unit. When the drawers are open or closed material in the drawer is not lifted, creased or pulled and objects do not roll about in the drawer. There is no danger of physical damage to the material in the drawer from it being over-full.

Guidance on achieving standard
Additional drawers will be required so that some of the material can be decanted into empty drawers. Alternative methods of storing such as in boxes could be considered for small items.

3.2A.8 Large objects are stored on racks or pallets. **Basic**

Explanation
Large objects are stored on racks or pallets so that they can be lifted and moved and are protected from damp or potential flooding. This helps with cleaning and protects items from damage during cleaning. 150mm is the preferred minimum height.

Guidance on achieving standard
Pallets are available from storage, moving equipment suppliers. Pallets are made from plastic, wood or wood products. The object is lifted with the pallet. The pallet must be strong enough to take the weight of the object. Pallets often have a rough surface and so padding will be needed to protect items that might be damaged by the surface.
3 Storage

Storage Furniture

3.2B.1 Information is sought from a conservator or collection care adviser on the design, construction and composition of storage furniture. Good

Explanation
Advice on the most appropriate methods for storing the objects should be sought from an in-house or contracted conservator or collection care adviser.

3.2B.2 All shelving is deep enough to support stored items fully. Good

Explanation
The shelves and drawers are deep enough and wide enough so that all items stored on the shelves fit onto the shelves and do not protrude through the front, back or sides.

Guidance on achieving standard
Shelving is available in many different depths and widths.

3.2B.3 Storage arrangements allow air to circulate freely. Good

Explanation
Air needs to circulate well around the store. This prevents the formation of pockets of damp or dry air and reduces the risk of insect attack and the formation of mould. It also counteracts off-gassing from the materials and keeps working conditions agreeable.
Do not put shelves directly against outside walls: leave a gap of at least 30 cm between the back of the shelves and the outside wall. Do not stack items up to ceiling height. There should be some form of ventilation in the room.

Guidance on achieving standard
Ventilation is frequently provided by the nature of the building and its use: doors being open and closed and the structure of the building. However, if the ventilation needs to be improved consult an architect or surveyor or suitably experienced person.
Where ventilation bricks are used ensure that they are covered with fly mesh to prevent the ingress of insects. Windows should not be opened but, if they might be, fly mesh screens should be in place. In locations with very high pollution levels consideration may need to be given to filtering any incoming air.

3.2B.4 Anti-tip devices fitted to ensure that sudden braking, acceleration or uneven loading of storage furniture does not cause tipping. Good

Explanation
Anti-tip devices are fitted to mobile racking, shelving systems, plan chests, filing cabinets etc. by the manufacturer. They frequently are in the form of weights fitted to the furniture to counteract a forward thrust or the weight of a drawer being pulled out.

Guidance on achieving standard
Storage furniture does not automatically have anti-tilt devices attached. Check with the supplier. It is often possible for them to be fitted after installation.
3 Storage

Storage Furniture

3.2B.5 Sufficient space between the floor and the lowest shelf or pallet to reduce risk of damage from flooding, and to allow cleaning. Good

Explanation
The lowest drawer or shelf in a unit is at least 50 mm above the floor.

3.2B.6 Shelving and drawers are padded to prevent damage to objects. Good M

Explanation
Where appropriate, shelves and drawers are padded with suitable padding such as polyethylene foam to cushion objects and prevent damage.

Guidance on achieving standard
Polyethylene foam is available in various thicknesses from a few millimetres to several centimetres and can be cut to size. It is also available in various densities and bubble size.

3.2B.7 All storage furniture and materials used for storage are as inert as possible and do not give off vapours which are harmful to items in direct contact or close proximity. Good

Explanation
It is generally recommended that shelves, drawers and other storage furniture are made from powder coated metal, stainless steel or aluminium. Wood is sometimes used for strength and where any vapours given off will not damage the items. Wood drawers are not recommended for organic materials and metal objects as the concentration of vapours in the drawers can reach damaging concentrations. Inert padding such as polyethylene foam and acid-free tissue paper should be used.

Guidance on achieving standard
Materials can be tested and various museums, including the British Museum, will carry out tests for you. In addition they may hold information on materials that have been previously tested and on suitable materials.

Reputable conservation material suppliers usually supply suitable conservation grade materials. When purchasing storage furniture it is advisable to check with the supplier what materials have been used in the construction and that they are suitable for long-term preservation.

Advice on appropriate materials can is available from the British Museum Conservation Research Department, CILIP, Hub Museums, the National Archive, the National Preservation Office, Northern Ireland Museums Council, the Regional Agencies, CyMAL, Historic Scotland, Scottish Museums Council. A neighbouring museum, archive, library, historic house or museum may be able to advise. A consultant collection manager or conservator could be located through the Conservation Register managed by the Institute of Conservation.

Enclosures, boxes etc. are discussed in 3.3
3 Storage

Storage Furniture

3.2C.1 Shelving provides safe and effective storage for the whole of the collection, regardless of size or shape. Best

Explanation
All items in the collection are stored on shelves, in drawers or other storage furniture.

This excludes large items, c. 2m x 2m or larger that might not normally be expected to be stored on shelves.

3.2C.2 Similar-sized (unusual format) books are stored together. Best

Explanation
Books of an unusual format that cannot be stored in the standard shelves are stored together in a manner that reduces the risk of damage. For example, they are boxed and stacked on shelves; placed in suitable sized shelves, placed in drawers etc.

3.2C.3 Wherever appropriate, archive material is stored according to format. Best

Explanation
Format refers to size (e.g., folio, quarto, octavo and duodecimo) and type of material (e.g., loose sheets, outsize documents, rolls, bound volumes, seals, glass plates etc). It also refers to type of enclosure such as folder or box.
3 Storage

Storage Enclosures

3.3A.1 Supplies of archival quality packaging are readily available in a range of sizes. Basic

Explanation
Packaging refers to enclosures, folders, envelopes, boxes, crates etc. It should also include materials such as acid-free tissue paper used to pack items.
Archival quality refers to materials of a sufficient standard to be considered suitable for long term use in the preservation of archive, library, museum or historic house collections. Acid-free and archival quality materials do not give off damaging acids or other harmful compounds. (Glossary)
Where possible standard sized packaging is used as they are usually easier to obtain. There is a stock of suitable packaging supplies available in the collection.

Guidance on achieving standard
There are two categories of archival paper or card: those that are acid-free (usually made from cotton rag or chemical pulp containing neither lignin nor other acidic components such as alum-rosin size), and those that contain a alkaline buffer, usually calcium carbonate. The latter should not be used with photographs or other very sensitive materials. Special papers (e.g. Silversafe ®) are produced for use with photographic materials.
Some plastics, such as PVC, may evolve acids and should not be used to store collections. Polyethylene used to make enclosures often contains plasticizers that are thought to be potentially damaging to sensitive materials such as photographic materials. Clear polyester film is usually used when transparent storage material is required. Clear polyester film (Melinex® manufactured by Dupont; Mylar® manufactured by ICI) is available in different gauges by the roll, metre or as ready made enclosures. It is made from a polyester known to be stable and containing no plasticizers, surface coatings or UV inhibitors. It is dimensionally stable and resists most chemicals, moisture and abrasion. This product is supposed to have low static attraction but even so, charcoal, chalk, pastel drawings should not be placed in polyester enclosures.
Boxes used in stores are usually either archival quality card or polyethylene. Plastic crates are usually made from high density polyethylene.

3.3A.2 Containers used for physical protection are strong enough to withstand handling and the weight of the items they contain. Basic

Explanation
A box that is too weak to provide the correct protection will distort and, when lifted, will not be able to hold the items firmly.

Guidance on achieving standard
Where the boxes are not strong enough to withstand the weight of the items heavier duty archival quality card should be used to construct the boxes or the boxes should be replaced by plastic crates. Alternatively, the number of items in a box is reduced.
If the containers are over specified and more robust than they need be for the contents there may be a problem with the load bearing of the shelves as the crates may be too heavy.

3.3A.3 Boxes and folders fit the items they contain. Basic

Explanation
Boxes and enclosures should be neither too large not too small for the items. Items are not distorted or folded to fit the container.

Guidance on achieving standard
A wide range of archival quality boxes, folders, envelopes, sleeves etc. are available from conservation or storage specialist suppliers.
3 Storage

Storage Enclosures

3.3A.4 Protective wrapping and labels are secured using methods and materials that are not damaging.

Explanation
Archival quality linen tape, incorporating a label, is generally used to secure wrapped items or boxes when necessary. Double sided hook-and-loop tape (e.g. Velcro™) can also be used for this purpose. The tape is not pulled tight enough to form creases. Rolled materials are secured in at least two places and wrapped around the roll without causing creasing. String is not used as it may corrode and can cut into or mark materials. Rubber bands are not used as chemicals in the rubber can be damaging and the rubber perishes.

Where labels are adhered onto the packing a conservation grade adhesive is used that will not damage the packing or object. Occasionally labels are adhered directly onto objects (e.g. in the case of large stone objects), in this case advice on the procedures has been sought from a conservator, collection care adviser or the mda (Museum Documentation Association). See 3.4B.2

Guidance on achieving standard
Unbleached linen tape is available from conservation suppliers. Double sided hook-and-loop tape is available from some conservation suppliers and haberdashery shops or departments in large stores.

'Labelling and Marking Museum Objects. SPECTRUM Procedure: Acquisition - Step 13'. Mda Information includes how and where to mark objects and specimens

3.3A.5 Items are not folded or otherwise modified to fit their enclosure, box or other container.

Explanation
Documents, newspapers, maps, photographs etc are not folded to fit their container. Where textiles or other organic materials have to be folded they are padded to prevent creases from forming. Protrusions are not removed, bent or otherwise modified to fit a box.

3.3A.6 Rolled items are protected from dust.

Explanation
Archival quality tissue or card are used to protect small items. Clean cotton sheeting, washed calico or spun polyester (Tyvek™) is wrapped around larger items and secured in place.
3 Storage

Storage Enclosures

3.3B.1 There is a packaging programme to provide storage enclosures for collections and/or individual items identified as requiring physical protection.

Explanation
A programme has been instigated to pack items in boxes, loose covers, enclosures and other forms of protection from dust and physical damage. Items or groups of items that need protection have been identified and time is set aside for suitably trained and experienced members of staff, volunteers or contractors to carry out the work on a regular basis.

This type of work includes a wide range of activities including applying dust protection to drawers, shelf units etc., making dust covers for costume and large objects; packing items into boxes; placing items in suitable enclosures.

Guidance on achieving standard
Following discussions with the appropriate staff, time should be allocated for this project.
Dust sheets, washed calico and spun polyester (Tyvek) can be used for dust protection as well as boxes, enclosures etc.

3.3B.2 Documents and textiles are supported by being rolled around a rigid cylinder made from, or covered with, archival quality material.

Explanation
Large documents such as maps and plans as well as textiles are often rolled for storage. Support is provided by rolling an item around an archival quality cylinder which prevents the items from being squashed.

Guidance on achieving standard
Rolling large carpets is difficult and requires advice or training from an experienced conservator.
Small archival quality rigid tubes are available but larger sized rigid tubes are often made from non-archival plastic (plastic pipes are frequently used). These should be covered in clear polyester film (Melinex or Mylar) and acid-free tissue before the item is rolled onto the tube. The roll is protected from dust (3.3A.6).
Textile rolls should be hung from a suitable framework by supporting them along the whole length of the roll using a rigid rod. Rolled documents are usually stored in shelves, drawers or document holders (long square units designed to take rolls).

Illustrated guide to Caring for Textiles, MGC

3.3B.3 Rolled documents and textiles are protected by archival-quality rigid containers or bags.

Explanation
See 3.3A.6
Rolled documents are protected from dust and abrasion by being placed in an archival quality tubes or purpose made bags. Textile rolls are protected with bags made from washed calico, cotton sheeting or spun polyester (Tyvek). The bags may be held in place using hook and loop tape.

Guidance on achieving standard
Illustrated guide to Caring for Textiles, MGC provides advice on caring for textiles and similar materials.
3 Storage

Storage Enclosures

3.3B.4 Rolled documents and small textiles are stored no more than two high and larger textile rolls are suspended.  

Explanation
When document and small textile rolls are placed on top of each other the lower ones may be crushed therefore they should be limited to only two layers.
Larger textile rolls should be suspended so that the textile is not crushed by its own weight.

Guidance on achieving standard
For larger textiles pass a rigid pole through the tube and suspend from racking or fittings in drawers.

3.3B.5 Small objects, such as loose seals or coins, are contained in boxes or trays.  

Explanation
Small items such as jewellery, coins, seals, badges, medals, small tools are not stored on open shelves but are placed in drawers, trays or boxes and are prevented from rolling or moving inside the container.

Guidance on achieving standard
There are various methods to hold items in place in containers.
Cells can be made for each item from archival quality material. These are available commercially and are usually made up of interlocking strips of card that form square or rectangular cells. Small box bases and lids can be used for the same purpose.
Depressions are cut in the polyethylene foam to hold each item.
Plastic covered stainless steel pins pressed into the polyethylene foam can be used to hold light items in place such as jewellery, arrows, combs etc.
Polyethylene foam can be obtained with a ridged surface and small items can be placed in the depressions of the ridges, holding them in place.

3.3B.6 Large books stored next to small ones are protected by a folder, book-shoe, sleeve or box.  

Explanation
A book shoe is a sleeve made from thin card, cut and folded to fit unobtrusively round a volume to protect and support the binding while it is on the shelf. The spine and head are exposed to enable the book to be removed and inserted without damage. The book shoe must be made to measure.

Guidance on achieving standard
Various boxes are used to protect books.
Drop spine box. The spine of the box falls away on opening allowing the box to lie flat. This gives access to the spine of the book allowing it to be removed easily without damage. The box must be made to measure.
Drop side box. The side(s) of the box fall(s) away on opening. This allows greater access than a drop spine box and decreases the risk of abrasion to the book on removal.
Phase box. A relatively inexpensive, easily assembled structure of archival quality card, of a suitable weight, cut and folded to fit snugly round the book. Essentially a temporary solution (prior to conservation), but increasingly seen as a long term answer.
Solander box. Box with a removable top to store a book.
3 Storage

Storage Enclosures

3.3B.7 The special requirements for storing photographic media have been identified and appropriate conditions and materials available.

Explanation

Many collections of all types contain some photographic material including negatives, prints, glass slides, transparencies etc. This material is very vulnerable to deterioration from light, pollution and inappropriate RH as well as physical damage. Suitable storage conditions will help preserve photographic media. Enclosures are made from materials that do not produce acid vapours or sulphur containing compounds.

The rate of deterioration of photographic materials increases with temperature so, where practicable, this material may be stored in cool rooms or even freezers. When a collection decides to introduce chilled storage advice should be sought from a photographic material conservator or collection care adviser so that systems can be put in place to prevent damage from condensation and handling.

The recommended RH is 35 -50% where the temperature is over 0 Degrees C. Where the material is stored in a freezer or cool room the RH is controlled to 35 -40%.

Lighting and UV should be controlled.

Storage furniture is powder coated or enamelled steel or anodised aluminium. Where old wood is used the drawers, shelves are lined with MicroChamber paper.

Archive quality and/or photographic quality storage boxes and sleeves are used.

The material is checked regularly for mould or other damage.

The area is cleaned regularly with vacuum cleaner.

The exposure of the material to harmful chemicals in the atmosphere such as ozone from photocopiers, wood furniture, and pollution from traffic etc. is controlled as much as is practicable.

Cellulose nitrate material has been identified and stored appropriately away from the main collection.

Guidance on achieving standard

Paper used for housing photographs should: a. have a high alpha-cellulose content (about 87%), b. have a pH of 6.5-7.5, c. have an undetectable reducible sulphur content, d. be free from lignin, pH buffers, metal particles, acid, peroxides and harmful sizing agents (such as rosin size).

Silversafe and Photon paper are both made from 100% cotton fibre and are particularly suitable for photographic storage. Museum boards are also available which conform to the same standards.

Polyester film (Melinex or Mylar) is the widely accepted transparent plastic material for use as enclosures (see Glossary).

Different formats and types of material (e.g. glass and film negatives, paper contact prints, colour slides, photograph albums) should be stored separately.

Glass negatives are best stored vertically in neutral paper enclosures and then in boxes. The boxes can be neutral pH or acid free or made from MicroChamber, which absorbs pollutants.

Black and white film negatives and transparencies can be stored in polyester film sleeves in photographic storage boxes or a metal hanging file system.

Black and white and colour prints can be stored in polyester film sleeves with photographic museum board as a support if necessary, then in photographic storage boxes or files. The exceptions to this are prints with delicate surfaces for which advice from a photographic conservator is necessary.

Cased photographs such as Daguerreotypes and Ambrotypes are kept horizontally in their cases and stored in drawers or boxes.

Photographic albums in poor condition should be wrapped in photographic conservation paper and put in a photographic storage box.

Polyvinyl chloride plastics, glassine envelopes, mechanical wood pulp papers, Kraft papers and old photographic suppliers' boxes are unsuitable for photographic storage.

Storage furniture should be made from baked enamel or powder coated steel or anodised aluminium. Old wood may be safe but avoid new wood. Microchamber paper/board can be used as a temporary measure for lining existing unsuitable cabinets before replacement.

Polyethylene foam can be used as softening for shelves, drawers, boxes.

The preservation of photographs is strongly related to temperature. The chemical stability increases markedly as the temperature drops. Advice on storing photographic material in cold storage or freezer should be sought from a photographic conservator. Do not place photographs near radiators, hot water pipes or other heat sources.

Lights should be fitted with UV filters. Keep exposure to visible light to as few lux/hours as possible.

Chemicals in the atmosphere can oxidise the image silver, these include peroxides, ozone, sulphur-containing compounds and nitrogen oxide. Avoid placing photographs near materials and equipment that might emit pollutants such as some paints and varnishes, rubber floors and seals, photocopying machines, woollen carpets, new wood, household cleaners.

Advice should be sought from a photographic conservator regarding the storage of cellulose nitrate material. All suspected nitrate film should be isolated and removed to a cool, dry, well-ventilated area until it can be checked by a specialist.
3 Storage

Storage Enclosures

3.3C.1 The institution has a continuing programme to replace non-archival quality packaging with archival-quality packaging, if required

Explanation

'Archival quality' refers to material of a sufficient standard to be considered suitable for long term use in the preservation of collections. The materials do not produce or emit compounds that can be harmful to materials. (Glossary)

'Packaging' refers to folders, boxes, crates, sleeves, tubes, soft covers, storage furniture and other packaging or protection.

3.3C.2 All materials, regardless of format, receive appropriate physical protection.

Explanation

Folders, sleeves, boxes, crates, dust sheets, pallets, storage furniture and other enclosures are used to protect collections from physical damage, light, pollution and dust.

Labelling and Marking

3.4A.1 Labels at the end of bays and shelves are clear and accurate.

Explanation

The labels provide information on the material on the shelves to aid the location of items. The format of the information will vary according to the collection and institution. Reference numbers may be sufficient or additional information such as subject matter is included etc.

Stores containing large objects that are not on shelves have areas of the store marked out and labelled. A plan is available with information on the marked areas.

3.4A.2 Boxes, bags and folders are clearly marked to indicate their contents.

Explanation

Boxes, bags, soft covers, enclosures and other packaging are clearly marked with light- and water-resistant ink to indicate the contents.

Guidance on achieving standard

The information on the label will vary according to the institution and collection. The items' registration (or similar) number may be sufficient or more descriptive information may be added.

A photograph attached to textile and document rolls and other packaging that is difficult to open helps with identification. An image is printed and placed in an enclosure such as a suitable size polyester sleeve and tied to the packaging with cotton tape.

'Labelling and Marking Museum Objects. SPECTRUM Procedure: Acquisition - Step 13'. Mda Information includes how and where to mark objects and specimens.
3 Storage

Labelling and Marking

3.4A.3 A 2B pencil is used for all labelling and numbering of archival material. 

Explanation
Where archival material and books are marked by writing on the item itself, the labelling and numbering is carried out using a 2B pencil. The pencil markings do not damage the item and can be removed should it become necessary.

3.4A.4 Security stamping ink used on library material is not water-soluble. 

Explanation
Any ink used on library material, including stamping ink is not water-soluble. This is to prevent damage to the paper in the event of flooding or a spillage.

3.4A.5 All items held are labelled or marked with a unique number. 

Explanation
All items have been designated a unique number (often referred to as inventory or accession number). The number has been applied to each item either by writing on the item or by attaching a label.

Guidance on achieving standard
Information on documenting objects and labelling is available from the mda (Museums Documentation Association) www.mda.org.uk

'Labelling and Marking Museum Objects. SPECTRUM Procedure: Acquisition - Step 13'. Mda Information includes how and where to mark objects and specimens

3.4B.1 All bays, cabinets, shelves and boxes are clearly numbered and labelled with light- and water-resistant ink. 

Explanation

Guidance on achieving standard
A numbering system is devised to allow identification of all bays, cupboards, shelves, drawers etc. The plan of the store (3.1B.2) indicates the numbering system. The numbers are applied to the units using light- and water-resisting ink. Adhesive labels may be used but some self-adhesive labels loose their adhesion. Use labels or adhesives recommended by a conservator or collection care adviser.
3 Storage

Labelling and Marking

3.4B.2 Advice has been sought from a conservator or collection care adviser on the use of an appropriate adhesive to stick labels to items.  

Explanation  
Labels may need to be directly stuck to books, enclosures and items that are too rough to label in any other way. An inappropriate adhesive can mark or damage the items, or it may not adhere well causing the label to be lost.

Guidance on achieving standard  
Advice on using adhesives may be available from a neighbouring institution, CILIP, Hub Museums, the National Preservation Office, The National Archive, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. A consultant collection manager or conservator can be located through the Conservation Register managed by the Institute of Conservation.

3.4B.3 Advice has been sought from a conservator or collection care adviser on the least damaging and most durable attachment of security labels to books and enclosures.  

Explanation  
Security labels (e.g. bar codes and magnetic strip) may need to be attached to books and enclosures.

3.4B.4 Bookplates used in books of special value, are made of lignin-free, alkaline paper and attached with a stable, reversible adhesive.  

Explanation  
See 3.3A.1 for information on archival quality materials

Guidance on achieving standard  
If it is not known whether the bookplates are lignin free, check with the supplier. If they do not know or the supplier is unknown a paper conservator may be able to assess the paper, alternatively he/she will be able to test the paper or have it tested.

3.4B.5 A programme of permanent marking to mda (Museum Documentation Association) guidelines is in place.  

Explanation  
‘Labelling and Marking Museum Objects, SPECTRUM Procedure: Acquisition - Step 13’ mda provides information on labelling objects and specimens. It includes information on methods and materials used, placing the label etc. The institution has set up a system of labelling objects and specimens using these guidelines. The system is used on objects that are not already labelled and those where the labelling is unsightly, damaging, inadequate or inappropriate.
3 Storage

Labelling and Marking

3.4C.1 A review is undertaken at least every five years to ensure that all labelling and marking is carried out to the required standard.

Explanation
The institution has agreed on procedures for labelling and marking items. A review is undertaken to ensure that the procedures are being followed and that the standards are appropriate for the collection.

3.4C.2 All items are labelled or marked according to mda guidelines.

Explanation
See 3.4B.5

Non-standard Material

3.5A.1 Items with special storage needs are identified.

Explanation
Items with special storage needs includes all items that need special conditions for purposes of preservation, social, sacred, security or health and safety. Examples of items with special storage needs include:
- radioactive material
- cellulose nitrate
- class A drugs
- ivory and vellum miniatures
- some panel paintings
- particularly vulnerable photographic material
- deteriorating or damaged books and archives
- human remains
- sacred items
- material treated with DDT or other toxic chemicals
- exceptionally valuable items
- fire arms
- objects containing poison
- items susceptible to insect infestation
- waterlogged material
- heavy and/or large items requiring lifting gear and special access
3 Storage

Non-standard Material

3.5B.1 Non-standard sized material can be removed and replaced easily and safely from all cabinets and shelving, with appropriate access equipment available if required.  

Explanation  
There is equipment available that can lift or carry non-standard material, for example large format books, large paintings or heavy machinery. The aisles, corridors and doorways and other access points allow non-standard sized material to pass through.

3.5B.2 Storage systems for oversize material are designed to facilitate access to the items they hold.  

Explanation  
The storage systems used for oversized materials do not prevent the items from being examined or removed.

3.5B.3 Non-standard sized items receive the same standard of care as the rest of the collection.  

Explanation  
Just because an item is large it does not mean that it does not require the same level of care as the rest of the collection.

3.5C.1 All oversize volumes are stored flat.  

Explanation  
All oversized volumes are stored flat and the whole of the volume is supported (i.e. the volume does not protrude beyond the shelf or table).
4 Housekeeping

Housekeeping

4.1A.1 All storage areas and storage furniture are cleaned and inspected regularly.  

Explanation
The storage areas are inspected for signs of mould, insect infestation, ingress of damp or other indications of building problems.

The areas are cleaned with a vacuum cleaner, rather than swept, and other appropriate equipment used as necessary. The storage furniture is also checked for signs of insect pests or deteriorating objects. A sign to look for is powder on the shelf which can come from a wide number of sources such as metal corrosion; deteriorating stone, ceramics or other porous materials; insect frass. Other signs include insect casts, fragments of flaking paint, and fragments of leather or paper. The frequency of the cleaning will depend on the building and the amount of use the stores receive. Every 3 years a deep clean is carried out where the more inaccessible areas are cleaned such as in heating grilles, service pipes, dead spaces, false ceilings, tops of cupboards, behind shelving, behind items on shelves etc.

4.1A.2 Advice has been sought from a conservator or collection care adviser concerning the appropriate methods to use when cleaning storage areas and storage furniture.  

Explanation
Advice has been given by a conservator or collection care adviser on the appropriate techniques, materials and equipment to use when cleaning the storage areas and storage furniture. The advice includes maintenance of equipment.

4.1A.3 The consumption, disposal and storage of foodstuffs are confined to areas well away from collections.  

Explanation
Areas where the public and staff consume, dispose of and store food are not near the collections. Eating and drinking does not take place near objects.

This is to help reduce the risk of insect and rodent infestation, damage caused by accidental spillage, greasy hands, and by pollutants such as grease carried onto items.

Guidance on achieving standard
A staff kitchen and/or staff room should be available for the staff and volunteers to make tea/coffee and eat lunch and other breaks. A refrigerator helps keep food stored away. All food, including biscuits, should be stored in tins, plastic boxes or jars if not in the refrigerator. Waste bins that contain food stuffs should be removed at the end of each day and taken outside to the bins. The floor should be cleaned for crumbs etc. each day.

A restaurant or canteen area in the institution must also be cleaned daily. All food put away in tins, plastic boxes, jars or similar containers (mice easily penetrate plastic bags and cardboard boxes) if not in the refrigerator, when the restaurant is closed. All rubbish must be placed outside at the end of each day. Food storage areas such as larders and cupboards must be cleaned regularly (at least once per week).
4 Housekeeping

Housekeeping

4.1A.4 All items which show signs of pest infestation are kept isolated from the rest of the collection until treated. **Basic**

Explanation
If any item shows signs of pest infestation it is immediately placed in a polyethylene bag or wrapped and sealed in polyethylene sheet or other suitable material and removed to an area away from the collection until it can be examined and/or treated.

Signs of pest infestation include frass (fine powdery debris), holes in the object, damage to the surface from 'grazing', remains of larvae, hair or bristles becoming loose from objects.

Guidance on achieving standard
Items suspected of harbouring insect pests are wrapped to prevent the insects from spreading. Polyethylene is frequently used but should not be used where there might be a danger from mould formation or condensation forming inside the bag. Under these circumstances a clean dust sheet, washed calico or spun polyester Tyvek™ may be used. The bag or wrapping must be sealed so that the insects can not escape. Wrap the items in situ rather than carrying them through the building to wrap them outside or in another room. This helps prevent the infestation from spreading. The items are stored away from the rest of the collection until they can be treated.

Information on insect pests in collections can be found in 'Integrated Pest Management'. MGC. 1998

Advice on insect and rodent pest identification, treatment and monitoring is available from Hub Museums, the National Preservation Office, Northern Ireland Museums Council, Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. A neighbouring museum, archive, library, historic house or museum may be able to advise. A consultant collection care adviser, conservator or specialist pest consultant could be located through the Conservation Register managed by the Institute of Conservation and the Museums & Galleries yearbook published by the Museums Association.

4.1A.5 All incoming material and acquisitions are examined for signs of infestation, dampness or mould. Remedial action is taken to deal with any problems identified. **Basic**

Explanation
Items returning from an exhibition or loan as well as newly acquired items are examined. Measures are taken to deal with the problem.

Guidance on achieving standard
Active mould attack should be addressed with caution, as the mycelium and spores are respiratory sensitizers and can cause allergic reactions in some people. Mould is subject to the Control of Substances Hazardous to Health (COSHH) Regulations 2002. When handling mouldy material protective equipment should be worn, such as gloves, masks and overalls. Affected material should be isolated in sealed bags or areas until it can be dealt with properly.

For removing mould see 'The Prevention and Treatment of Mould Outbreaks in Collections' NPO

Do not use warm air to dry out wet or damp organic material. Move the item to a dry (normally dry - not damp) room and allow it to dry out slowly. A fan may help the drying process.

If insect infestation is found wrap the item as in 4.1A.4 while awaiting treatment. A conservator or collection care adviser should be consulted about the remedial action needed to treat mould, damp and insect infestation.
4 Housekeeping

4.1A.6 Any pesticide treatment carried out complies with the relevant health and safety legislation.  

Explanation  
The Pesticide Registration Act of 1986 requires that only registered pesticides are used and they must be used in a safe manner. The Register of Pesticides is evaluated regularly by the Health and Safety Executive (HSE) as the safety of any material that can have an affect on the behaviour of insects or other biological organisms must be reassessed at regular intervals according to EU Biocide directives. This results in changes to the status of pesticides that are used, therefore the status of biocides used in the institution should be checked annually.

Health and Safety information should be provided with the products being used but is also available from the HSE. The supplier and manufacturer of pesticides and other biocides are obliged to provide Health and Safety information when requested.

Where possible it is advisable to consider alternative methods to treat infestations. Depending on the nature of the problem these can include: improving air circulation; improving environmental and/or storage conditions; setting up an integrated pest management system; improving housekeeping; using low temperature or elevated temperature treatments for pests; using anoxic environments for pest treatment.

Some commodities used as biocides are not available to the public but can be used by trained personnel.

Guidance on achieving standard  
The HSE has information on registered biocides at www.hse.gov.uk/pesticides/bluebook/. The sections of most interest to archives, libraries and museums are: Section 07 - Insect repellents, Section 08 - Insecticides, Section 10 - Surface biocides.

Information is also available from: The British Pest Control Association www.bpca.org.uk; British Wood Preserving and Damp Proofing Association, www.Bwpda.co.uk

COSHH information is available from the HSE and at www.coshh-essentials.org.uk

Advice on pesticide treatments is also available from specialist consultants who can be located through the Conservation Register managed by the Institute of Conservation. Advice may also be available from Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. A neighbouring museum, archive, library, historic house or museum may be able to advise.

4.1B.1 All parts of the building are cleaned and inspected regularly.  

Explanation  
All areas of the building including offices, display areas, collection stores, education/school liaison department stores, non-collection stores, shop etc. are regularly inspected for signs of problems in the building such as damp, insect infestation, presence of rodents, debris falling in chimneys which could indicate problems in the chimney or birds' nests. All areas are cleaned regularly including external areas where bird droppings build up. The frequency of cleaning will depend on the building materials, number of visitors and use of the spaces.

A deep clean is carried out periodically (See 4.1B.1)

Guidance on achieving standard  
A housekeeping programme should include inspection of roof spaces, fireplaces, cellars, all spaces used for the collection and all spaces used for other purposes as well as unused spaces. These areas are also cleaned. Developing a plan will help decide the frequency of cleaning. This may be seasonal depending on the number of visitors, open doors etc.
4 Housekeeping

Housekeeping

4.1B.2 Storage and display areas are monitored for the presence of insects and rodents, and traps are regularly checked. Trapped insects are identified.

Explanation
Traps are in place in the storage areas, basements and other vulnerable areas for rodents. The traps are regularly checked and replaced as necessary.

Not all collections are vulnerable to insect attack but collections containing organic materials are at risk and should be monitored for insect pests.

Blunder traps are used for monitoring insects. They are examined regularly (minimum of four times a year in March, June, September and December). The pest species is/are identified and counted. The results are recorded. The stickiness of the traps is checked at the same time. The traps are discarded if there are a number of non-pest insects attached to the traps as they may act as a food source for insect pests.

Guidance on achieving standard
The presence of rodents is usually clear from their droppings and the damage they cause. Rodent traps can be purchased from hardware shops but it is advisable to employ a pest control consultant who will establish the level of activity, the presence of burrows, runs or signs of nests. They will supply appropriate traps and service them. Larger institutions may have a facilities department able to carry out this work.

Blunder traps are generally used for monitoring insects. The traps detect the presence of insects and do not control them. The traps need to be placed in corners and wall/floor angles, usually in a grid pattern. Most traps remain effective for at least a year and need to be checked at regular intervals, about every month. The findings are recorded. The findings will indicate the presence of a pest species; an increase in insect numbers in a specific area; the spread of a pest from one area to another; an invasion of the adult insects in the summer; localised infestation in a problem area; the failure of control treatment. Traps should be used as a supplement to visual inspection.

Ideally traps are in place in basements, food storage and preparation areas, including canteens, cafeterias, mess rooms and waste disposal areas as well as the stores and display areas as these areas may be the sources of pests.

Information on use of monitoring insects and rodents can be found in 'Integrated Pest Management'. MGC. 1998

Advice on insect and rodent pest monitoring is available from Hub Museums, the National Preservation Office, Northern Ireland Museums Council, Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. A neighbouring museum, archive, library, historic house or museum may be able to advise. A consultant collection care adviser, conservator or specialist pest consultant could be located through the Conservation Register managed by the Institute of Conservation and the Museums & Galleries yearbook published by the Museums Association.

A local pest control officer to advise on rodent control can be found through the British Pest Control Association.

4.1B.3 Records of monitoring and treatments for pest infestation, whether of individual items, collections or buildings, are stored centrally.

Explanation
The records are stored in a location where they can be accessed by all appropriate staff and volunteers.
4 Housekeeping

Housekeeping

4.1B.4 A conservator or collection care adviser is consulted if pest infestation, dampness or mould is found. Good

Explanation
An in-house or consultant conservator or collection care adviser is consulted on issues concerning pest infestation, dampness and mould.

Guidance on achieving standard
A suitable consultant can be located through the Conservation Register managed by the Institute of Conservation, and the Museums & Galleries Yearbook published by the Museums Association. Advice on a suitable consultant may also be available from CILIP, Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council. A neighbouring museum, archive, library, historic house or museum may be able to advise.

4.1B.5 Advice is taken from a conservator or collection care adviser before pest treatment is undertaken on items, collections or buildings. Good

Explanation
Advice is sought from a conservator, collection care adviser or consultant specialising in pest management problems when a new pest treatment or programme of pest treatments is undertaken on items, collections or buildings.

Advice does not need to be sought before each treatment when a phased programme of pest treatment is being carried out but the programme should be planned with a suitable adviser.

Guidance on achieving standard
A suitable consultant can be located through the Conservation Register managed by the Institute of Conservation, and the Museums & Galleries yearbook published by the Museums Association. Advice on a suitable consultant may also be available from CILIP, Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. A neighbouring museum, archive, library, historic house or museum may be able to advise.
4 Housekeeping

4.1B.6 All incoming items are placed in a quarantine area on arrival in the institution prior to inspection for pest infestation and mould, and any necessary treatment is carried out. 

Explanation

Incoming items at risk of introducing insects into the collection include new acquisitions, objects on loan from another institution and items returning from loan. Items loaned out as part of the handling collection or education/schools liaison activities may also become infested when on loan and so need to be checked. These items are placed in quarantine on arrival in a location which is physically isolated from the collection store and display areas. They are inspected for insect infestation. Where there is active insect infestation the object is bagged and labelled as described in 4.1A.4. The item is treated as soon as possible. Treatment is carried out as necessary. The item is then placed with the collection.

Objects not normally thought of as being vulnerable to insect attack are checked, for example metal tools with wood handles, machinery with wood or paper components.

Incoming items are also checked for mould. When mould is found the item is carefully dried and the mould removed before the item is placed with the collection.

Guidance on achieving standard

When looking for insects look for exit holes, frass, surface damage, holes in textiles, loose fur, cast skins, webbing, grazed surface, scratched and eroded surface. The signs will vary with the species. It is unlikely that eggs and small larvae will be seen and developing larvae in wood can not be seen. An incubation period may be necessary to determine whether an infestation is active or long dead. If it is thought that the item might be infested it should be wrapped as described in 4.1A.4. A condition report written on objects loaned to another organisation help identify whether insect damage has occurred.

Mould develops on suitable organic materials such as paper, leather, wood, organic dirt, soiling and treatments such as leather dressing. Mould appears as brown, orange, blue, white or black dots on the surface and sometimes as fluffy grey-white patches.


4.1C.1 A written cleaning specification for storage and display areas is in place. 

Explanation

A full housekeeping plan has been developed that lays out and records the areas to be cleaned, the frequency of cleaning and cleaning methods. It includes regular cleaning and deep cleaning.

4.1C.2 An integrated pest management programme has been implemented. 

Explanation

A full integrated pest management programme that includes monitoring, discouraging pests, modifying the environment and treatment has been developed and implemented for the institution.

Guidance on achieving standard

'Integrated Pest Management'. MGC. 1998
5 Handling and Use of Collections

Handling and Moving Procedures

5.1A.1 Written guidelines for safe handling and transportation of material are available to all staff. Basic

Explanation
The institution has compiled written guidelines that fully describe how items in the collection can be handled and moved both within the building and outside. The guidelines encompass the safety of both items and the staff involved in moving them. They are disseminated to all staff involved with object handling and their managers. The guidelines cover issues such as the position an item should travel in, i.e. upright or flat, the type of packing that should be used for a move within and outside the building, the number of people required to move different types of item and the types of equipment that will be used.

Guidance on achieving standard
In compiling guidelines for the safe movement of objects the institution should consult with institutions, conservators and art handlers who have experience in moving the types of item represented in the collections it holds. The guidelines should form part of but are not a replacement for appropriate training in object handling. They should enable staff to understand the consequences of inappropriate handling, from soiled surfaces to severe physical damage.

5.1A.2 All items taken out of a building are physically protected. Basic

Explanation
Any item removed from a building, whether in transit to another building on site or en route to another institution, has appropriate protection from physical damage and from exposure to the elements. In any move items are held static. The type of protection is appropriate to the nature and condition of the item, the duration of the move and the mode of transport. For example, a book being moved from one building to another on the same site, may be adequately protected by placing it in a covered trolley whereas a sculpture in transit to another museum would require a wooden crate.

Guidance on achieving standard
The institution should consult conservators, art handlers and/or other bodies with experience of moving items similar to those in the collection. The risks involved in each move should be assessed to determine the type of protection appropriate to the situation. Where most moves take place within a site or institution the routes through and around the buildings should be assessed and the safest route chosen. Adequate supplies of materials to use for protection, such as acid free tissue and card, conservation grade foam and plastic film, and suitable equipment are provided. For further information see 'Packing and moving artifacts and works of art' published on the Canadian Conservation Institute (CCI) website: www.preservation.gc.ca/info/moving.

5.1A.3 Items from the collection which are to be moved off-site, including items travelling with a courier, are packaged to prevent damage. Basic

Explanation
All items that are moved off site are adequately protected from physical damage and exposure to the elements. The type of protection used depends on the nature and condition of the item, including its size and weight, the route the item will take and the mode of transport. The value of an item may also influence the type of packaging as small, high value items are sometimes hand carried by a courier and therefore the container needs to be of a suitable size and shape. It is essential that items are held static to reduce the risk of damage from impact and vibration (such as abrasion of the surface) so the packaging must be designed to achieve this. For items that are sensitive to fluctuations of relative humidity the packaging also provides buffering from such fluctuations, particularly if the item will be travelling by air which results in extreme fluctuations.

Guidance on achieving standard
The institution should consult conservators, art handlers and/or other bodies with experience of packing and moving items similar to those in the collection. The UK Registrars’ Group website (www.ukrg.org) contains guidelines for couriers. For further information see 'Packing and moving artifacts and works of art' published on the Canadian Conservation Institute (CCI) website: www.preservation.gc.ca/info/moving. Also see 'Museum Practice,' issue 28, 943-59

Where the institution is frequently involved in the loan of items to other institutions or other movement of objects, such as between a museum and its off site store, art handling staff should receive training in the principles and practicalities of packing collections. Where such moves are occasional, the use of art removals specialists, to design and fabricate packing containers, may be more appropriate.
5 Handling and Use of Collections

Handling and Moving Procedures

5.1A.4 Equipment is available for gaining access to and for moving items.  

Explanation
Appropriate equipment is available in storage areas for getting access to and moving items within and beyond the store. This may be in the form of library steps, which become static when stood on, baskets and trays for very small items that are hand carried within the building, trolleys for moving small, light weight items and a pallet truck for heavy items stored on pallets.

Guidance on achieving standard
The institution should consult conservators, art handlers and/or other bodies with experience of moving items similar to those in the collection. Suppliers of moving equipment can provide information on the size and load capacity of different types of equipment. Appropriate equipment for accessing and moving objects should be chosen on the basis of the type, size and weight of the items to be moved and on the storage or display furniture in which they are housed. For example, objects stored on high pallet shelving require the use of a fork lift truck, rated to carry the appropriate load, to lift them down. Staff should receive training in the safe use of the equipment.

5.1A.5 Trolleys used to transport collections are stable and easy to manoeuvre, and fully support the material they carry.

Explanation
Trolleys provide a safe and efficient means of moving objects within a building. A useful configuration has two or more decks with closed sides to prevent items from rolling off. The lower deck can be used to move heavy items so that the centre of gravity is kept low. In selecting a trolley the size and weight capacity is appropriate to the items that will be transported so that they can be fully supported. To enhance stability the wheels are of large diameter to create a smooth ride and, ideally, they have rubber or plastic tyres to reduce vibration. The rear wheels steer and a handle fitted at the back can be used to manoeuvre the trolley.

Guidance on achieving standard
A number of industrial equipment suppliers sell trolleys that are appropriate for use in museums, libraries and archives. It may be useful to consult with colleagues in other institutions about the types of trolley that they use. The size of lifts and doorways within the building should be checked to ensure that the trolleys will fit. If the floor surface that the trolleys will travel across is rough then pneumatic rather than solid rubber tyres should be selected. For further information on trolleys suitable for books see www.bodley.ox.ac.uk/dept/preservation/services/trolleys.

5.1A.6 All items sent off-site are handled, transported and housed in conditions no worse than those found in the home institution.

Explanation
The ways in which items sent off site on loan will be handled, moved and housed are stipulated in the loan agreement signed by both the lending and borrowing institutions. The requirements are realistic and do not impose restrictions on the borrower which are not met in the home institution. Environmental conditions at least match those at the home institution.

Guidance on achieving standard
A conservator familiar with transport and handling and the types or item being sent off site should be consulted about what conditions to specify in a loan agreement. The Spectrum standard, available on the mda website (www.mda.org.uk) contains information on transport and loan procedures.
5 Handling and Use of Collections

Handling and Moving Procedures

5.1A.7 All power operated mechanical equipment and machines should be fitted with a readily accessible emergency stop system.

Explanation
Power operated equipment used to move collections, such as pallet trucks, fork lift trucks, hoists and conveyors, are fitted with an emergency stop system so that the action of the equipment can be quickly and safely halted in the event of danger to people or collections. The stop mechanism is readily accessible and clearly marked.

Guidance on achieving standard
The Health and Safety Executive (HSE) website (www.hse.gov.uk) can be consulted for information on work equipment and machinery. Suppliers and manufacturers of equipment should also be able to supply relevant information, in compliance with the Supply of Machinery (Safety) (Amendment) Regulations 1994. With some items of equipment, such as conveyors, it is possible to specify the location of the emergency stop to fit in with the room layout and working practices of the institution. All staff who use the equipment should receive full training in its operation, including how to activate the stop mechanism.

5.1A.8 Advice is taken from specialists when large or unusual items are to be moved.

Explanation
Where staff lack experience in moving large items or where the movement of a complex, very heavy or particularly fragile item is planned, specialist advice is obtained. The information required includes how to protect the item during movement, protection of the floor and other architectural features, the equipment and number of people that will be necessary to complete the move, and the weight of the item as this may influence its route through and out of the building.

Guidance on achieving standard
Institutions with similar types of objects may be able to provide advice. Alternatively, advice can be obtained from a freelance conservator or technician with relevant experience or from a reputable art removal firm. Also see 'Museum Practice,' issue 28, 943-59. Whether the move is to be carried out by in house staff or by contractors, a method statement is drawn up and agreed by all those concerned. The safety of staff must be fully evaluated.

5.1B.1 Protective enclosures, such as folders or boxes, are used when moving collections within the building.

Explanation
Placing items in suitable protective enclosures when moving them within the building helps protect them from physical damage as it is the container, rather than the item, that is handled. In addition, items within enclosures are less visible, when transported through publicly accessible parts of the building and are thus less vulnerable to opportunist theft.

The choice of enclosures will depend on the size and type of item to be moved and the way in which it will be transported. Folders are suitable for works on paper; boxes and trays are used for three dimensional items.

Guidance on achieving standard
The institution should consult conservators/collection care advisors, art handlers and/or other institutions with experience of moving items similar to those in the collection. The leaflet, 'Packing and moving library and archive collections' published on the NPO website (www.bl.uk/services/npo) can also be consulted. Also see 'Museum Practice,' issue 28, 943-59 Suitable stocks of boxes, folders and other materials should be available.
5 Handling and Use of Collections

Handling and Moving Procedures

5.1B.2 Information is circulated to all staff on the damage that can be caused to collections by the use of stationery products such as tapes, rubber bands, paper clips and Post-it notes. Good

Explanation
All staff are made aware that stationary products, such as pressure sensitive tapes (e.g. Sellotape), gummed tapes, self adhesive labels, rubber bands, paper clips, and Post It notes can be damaging to many types of item. Self adhesive materials, such as tapes, labels and Post It notes can, over time, leave residues on the surface of items that can be difficult to remove. The adhesive is also absorbed into porous surfaces, such as paper, and may cause permanent staining. These materials also damage paint, lacquer, metals and stone. Gummed tapes can also leave a residue, which may be a food source for insect pests and mould. Rubber bands can cause distortion and crushing of items such as rolled documents and textiles, and abrasion of soft stone and plaster. The rubber content can cause tarnishing of silver objects and photographs containing silver. The rubber also deteriorates and therefore no longer secures the item. Paper clips can also cause distortion and many types will corrode, leaving a stain on the item.

Guidance on achieving standard
Examples and illustrations of the types of damage caused by these products should be compiled and can be presented to staff as part of their induction training, in a staff hand book, in posters displayed in working areas or on an internal website. Illustrations can either be drawn from the institution's own collections or can be found on websites, such as that posted by the North East Document Conservation Centre (www.nedcc.org). Supplies of suitable alternatives, such as conservation grade cotton and linen tape and tie on conservation grade labels, should be available.

5.1B.3 A system is in place for recording damage to collections reported by staff, readers, researchers and visitors. Good

Explanation
All forms of damage observed by staff, volunteers, readers, researchers and visitors is noted so that affected items can be safely stored until they can be assessed by a conservator. Information about damage is reported to a designated member of staff, such as a conservator or collection manager. The name and identification number of the damaged item is recorded, together with its current location and the nature of the damage.

Guidance on achieving standard
The Spectrum standard published on the mda website (www.mda.org.uk) contains guidance on procedures for documenting damage or loss of collections. The institution may also wish to consult with similar bodies in designing a damage recording system. Consideration should be given to ease of use. The system could take the form of a database in which information is recorded and to which digital images can be added. A notebook, with a template of required information, can be a workable alternative.

The purpose of recording damage is so that items can be assessed and repaired and also to identify risks posed to objects, for example, frequent damage to books caused by inappropriate handling by readers or damage from handling an item on open display. The information can then be used to mitigate the risks, for example by providing better guidance for visitors on handling fragile material. The reporting system avoids assigning blame for damage as this will discourage the reporting of problems.
5 Handling and Use of Collections

Handling and Moving Procedures

5.1B.4 An assessment is made by a member of staff, or someone acting on the institution ‘s behalf, that the level of security is appropriate for any item transported or housed off-site.

Explanation
The assessment considers how items are to be moved, and by whom, and the security of the site where they will be stored or displayed. This includes whether the items will be accompanied by a courier during all stages of the move. Security procedures at the new site are equivalent to those at the home institution, in terms of lockable showcases or storage cabinets, invigilation, fire protection and protocols for issuing keys.

Guidance on achieving standard
The home institution should obtain information to confirm that an appropriate level of security will be provided from the body that will hold the items. The information can be gathered by sending a facilities report questionnaire which includes questions about security arrangements. The UK Registrars’ Group publishes a sample facilities report with a security supplement on its website (www.ukrg.org). If the lending institution does not have someone in house with the appropriate expertise the MLA website (www.mla.gov.uk) includes a list of security consultants with experience of the museum, library and archive sector.

5.1B.5 Records are kept of all serious accidents resulting in damage to collections.

Explanation
Although an assessment of risks to the collection helps to reduce accidents, such as items being dropped during handling, such events will inevitably occur. Where they result in damage to collections they are recorded to try to reduce the likelihood of the same type of accident occurring in the future. The system for recording these events can be the same as the one used for recording all types of damage to collections. Information to be recorded includes the name and identifying number of the item, its current location, the nature of the damage and a description of the accident. (See also 9.1A.5 and 9.1A.7)

Guidance on achieving standard
The Spectrum standard published on the mda website (www.mda.org.uk) contains guidance on procedures for documenting damage or loss of collections. The institution may wish to consult with similar bodies in designing a damage recording system. Consideration should be given to ease of use. The system could take the form of a database in which information is recorded and to which digital images can be added. A notebook, with a template of required information, may be a workable alternative.

The institution should avoid assigning blame for genuine accidents as this will discourage the accurate reporting of events. An atmosphere in which the incident is discussed calmly and measures to avoid a similar occurrence in the future are agreed, is more useful to the institution than finding a culprit.

5.1B.6 Fragile items moved with a hoist, conveyor or other form of mechanical equipment are placed in a suitable container.

Explanation
Fragile material or items from special collections may be damaged or become soiled if placed directly in a trolley or on the surface of the hoist or conveyor. Therefore they are placed in a suitable container such as a tray, folder or box. A stock of suitable trays, folders and boxes and stocks of clean padding materials is available.

Guidance on achieving standard
An assessment should be made by a conservator as to which types of item should be protected during movement with a hoist or conveyor. Based on the assessment, guidance should be provided to staff involved in moving items on how to recognise and protect vulnerable material.
5 Handling and Use of Collections

Handling and Moving Procedures

5.1B.7 The bases of boxes or trays used to carry collections on a conveyor, hoist or other mechanical equipment are padded.

Explanation
Fragile items transported by trolley, hoist or conveyor can be damaged by vibration. This is reduced by placing padding material in the bottom of boxes and trays used in transport. The padding should be of medium density as material that is too hard or too soft can cause items to bounce. The padding is clean and is not be abrasive. If bubble wrap is used, it is placed with the bubble surface facing down. Pieces of clean padding material are cut to fit the size of the boxes or trays and should be kept with them.

Guidance on achieving standard
The NPO publishes on its website (www.bl.uk/npo) a leaflet entitled 'Good handling principles and practice for library and archive materials.' Advice from a conservator should be sought on suitable padding material.

Reading and Research Room Practice

5.2A.1 Guidelines on good practice when handling collections are displayed prominently in reading-rooms and study areas.

Explanation
Guidelines on good handling practice are presented in a clearly legible format and are sited so that all users can easily read them.

Guidance on achieving standard
The NPO advice leaflet, 'Good handling principles and practice for library and archive materials,' available on their website (www.bl.uk/npo) should be consulted as a starting point. In compiling guidelines for good practice in handling, it may also be helpful to ask other institutions for a copy of their guidelines. These should be adapted to the institution's own collections and practice.

Written in a clear, concise and unequivocal style, limited to the most salient points, the guidelines are a valuable tool in helping to limit the damage caused by handling. Where staff are seen to follow the same guidelines this aids their acceptance.

5.2A.2 Notices prohibiting smoking, eating and drinking in reading-rooms, study and exhibition areas are prominently displayed.

Explanation
Smoking, eating and drinking in areas where collections are housed pose clear risks of fire, soiling and encouraging pest infestation. Unequivocal notices in an easily legible format are prominently displayed. If smoking, eating and drinking is permitted in designated parts of the building this information can be included.

Guidance on achieving standard
Staff are seen to follow the same guidelines as visitors as this will aid their acceptance. Where objects are stored or displayed outside, for example in open air museums and sculpture parks, it may not be necessary or appropriate to limit smoking, eating or drinking and notices should reflect this. The NPO advice leaflet, 'Good handling principles and practice for library and archive materials,' available on their website (www.bl.uk/npo) should be consulted as a starting point. In compiling guidelines for good practice in handling, it may also be helpful to ask other institutions for a copy of their guidelines. These should be adapted to the institution's own collections and practice.
5 Handling and Use of Collections

Reading and Research Room Practice

5.2A.3 Areas where special collection and unique material is used are actively invigilated by trained staff.  

**Explanation**

Staff are present in areas where material of special significance and/or high value is used by readers, researchers or other visitors. They supervise the handling of the material and also act as a deterrence to theft. Invigilation staff form a clear presence without being overbearing or off putting to users. They are be identifiable to users by wearing name badges, security passes or uniforms.

**Guidance on achieving standard**

In deciding on how to conduct invigilation and on the numbers of staff that will be required it may be helpful to visit other institutions and discuss their practice and experience in implementing it. The MLA website (www.mla.gov.uk) contains an advice leaflet, ‘Guide to the Supervision of Visitors with Direct Access to Collections.’ Staff involved with invigilation should have training in object handling and should know how to contact security personnel if necessary. Staff may feel vulnerable in the role of invigilator and therefore the institution should ensure that they are fully supported in carrying out their duties.

5.2A.4 Work surfaces are of adequate size to support the material fully while it is in use.  

**Explanation**

When being used or examined an item is placed on a work surface of suitable size and weight bearing capacity to fully support it. No part of the item overhangs the edge of the work surface.

**Guidance on achieving standard**

The institution should ensure that there is adequate provision of work surfaces of a suitable size and weight bearing capacity in stores, stacks, reading and search rooms. Staff should not use them as temporary holding areas and should ensure that they are kept clean.

5.2B.1 A written notice of the penalties resulting from non-compliance with advertised practices is prominently displayed.  

**Explanation**

Users of reading and study areas are clearly informed of the penalties that the institution imposes on those who do not comply with practices governing handling of items, use of supports, such as book rests, the use of pencils and prohibitions on smoking, eating and drinking. A written notice lists appropriate and realistic penalties that can be enforced by staff without placing them in an untenable position.

**Guidance on achieving standard**

The notice should be written in a clear and unequivocal style and the penalties should be proportionate but effective as a deterrent. The NPO website (www.bl.uk/npo) publishes the guidance leaflets, ‘Good handling principles and practice for library and archive materials’ and ‘Security matters. How to deal with criminal and antisocial behaviour’ which can be consulted as a starting point in drafting the notice. Institutions may also find it useful to look at what other institutions do and how effective their practices are.
5 Handling and Use of Collections

Reading and Research Room Practice

5.2B.2 Procedures are in place for dealing with non-compliance with rules, and staff are trained to deal with difficult situations.

Explanation
Situations in which a reader, researcher or other visitor does not comply with the institution's rules can result in damage or loss of collections and, in extreme cases, harm to staff or other users. The procedures make it clear what action staff can take in a given situation and who to contact for assistance. Staff receive training on remaining calm, being assertive and trying to diffuse the situation.

Guidance on achieving standard
In developing workable procedures to deal with difficult situations involving readers, researchers or other visitors, the institution may find it useful to contact similar bodies to learn from their experience. The NPO publishes a leaflet on its website (www.bl.uk/npo), ‘Security matters. How to deal with criminal and antisocial behaviour’ which is a useful source of guidance in this area.

5.2B.3 Book supports and weights, and instructions for their use, are available to all readers, researchers and visitors.

Explanation
Book bindings can be damaged by being held open without an appropriate support. Weights are necessary to hold open books and unrolled documents. The type of support required depends on the size, weight and condition of the book being used. The support holds the book fully and allows for the angle of opening to be adjusted according to tightness of the binding. Some supports consist of a number of wedges that are used in conjunction to form the appropriate angle of opening for each book. Others are in the form of a cushion containing inert plastic beads that mould to the shape of the book. ‘Snake’ weights are fabric covered strands of weighted beads that can be cut to the desired length. Readers, researchers and other users are shown how to use these devices safely. A stock of appropriate supports and weights is kept in reading and study rooms.

Guidance on achieving standard
Conservation grade materials should be used in the construction of supports and weights and they must be kept clean. Staff receive training in recognising those books and other items that require weights or supports when being used. A range of supports and weights will be required and although some are available commercially, others can be fabricated in house and may be more suitable for non standard items. Advice can be sought from other institutions on the types of support that they find useful and on suppliers.

5.2B.4 Readers and researchers are required to use pencils for note-taking when working with materials that are vulnerable to damage from ink.

Explanation
Researchers working with textiles, paper, photographs, stone, porous ceramics, painted surfaces and other materials that can be damaged by ink, as well as those consulting library special collections or unique material are required to use pencil for note-taking. Pencil marks accidentally or deliberately applied to fragile, porous or unique material can in many instances be safely removed with little or no damage. However, ink from biro, felt tip and fountain pens is often difficult to remove and is likely to leave a permanent stain. Readers are informed that they must use pencils.

Guidance on achieving standard
The reasons for requiring the use of pencils should be clearly explained to readers and photographs of ink stained items may help make the point. The institution should have a stock of pencils to supply to readers and researchers.
5 Handling and Use of Collections

Reading and Research Room Practice

5.2B.5 Items requiring special protection when being handled are clearly marked, preferably by a label on the protective enclosure.

Explanation
Items may be housed in containers or enclosures such as boxes, trays, folders or sleeves, to protect them from damage, abrasion and soiling during handling. A label attached to the container describes how the item should be handled; placing the label in a standard location aids identification.

Guidance on achieving standard
A conservator or collection care advisor should be consulted about which items, or types of item, in the collection should be placed in a protective enclosure for handling. Any request to remove an item from its enclosure should be referred to a conservator. The NPO guidance leaflets, 'Good handling principles and practice for library and archive materials' published on its website (www.bl.uk/npo) can be consulted.

5.2B.6 Researchers, staff and volunteers are provided with suitable gloves for handling any item identified as requiring this protection.

Explanation
Handling items with bare hands can cause soiling and damage of many materials and corrosion of metal surfaces. Residues left by handling can also be attractive to insect pests and can encourage mould growth. Therefore appropriate gloves are worn by researchers and other visitors, as well as by staff, when handling vulnerable items. Cotton gloves are preferred by many people for comfort but perspiration can soak through them, they quickly become soiled and the fibres and seams can snag on projecting parts of an item. Powder free latex, vinyl or nitrile disposable gloves provide better protection. Stocks of gloves, in a range of sizes, are available in reading rooms and study areas. As some people are allergic to latex, an alternative should be provided.

Guidance on achieving standard
A conservator or collection care advisor should advise on which items or types of item should only be handled with gloved hands and also on the type of gloves that are suitable.

5.2B.7 Researchers are required to use cotton gloves to handle photographs, unless the photographs are protected by a clear plastic sleeve.

Explanation
Photographs are easily damaged by handling. The emulsion layer can be marked with finger prints and those photographs that contain silver in the image layer can become tarnished through handling. Therefore, photographs should only be handled with gloved hands or should be housed in a conservation grade plastic sleeve to avoid direct handling of the item. In handling photographs cotton gloves are preferable to disposable vinyl or latex ones as these can leave marks on the surface of the photograph. Cotton gloves must be clean, to avoid transferring dirt and salts from perspiration to the photograph, and well fitting to avoid clumsy handling and snagging on mounted or cased photographs, such as daguerreotypes.

Guidance on achieving standard
A stock of gloves in a range of sizes should be available to give to researchers and other users. The advice and guidance leaflet on the MLA website (www.mla.gov.uk) 'Conservation of Photographic Materials' can be consulted on the use of cotton gloves.
5 Handling and Use of Collections

Reading and Research Room Practice

5.2C.1 All new readers and researchers are given written instructions on handling collections and reading-room practices.

Explanation

Written information, presented to readers, researchers and other users, on safe handling procedures and reading/study room practice can be a useful tool in preservation and can encourage visitors to participate in collection care. The guidance is issued to new users and is reissued every few years as a refresher.

Guidance on achieving standard

A conservator or collection care advisor should draft the instructions in conjunction with staff working with the users. It may be helpful to ask other institutions for a copy of their instructions to use as a guide. The guidelines should be clear and concise and staff should understand the reasons behind the instructions so that they can answer questions from users. The NPO publishes a leaflet on its website (www.bl.uk/npo) entitled ‘Good handling principles and practice for library and archive materials’ which may provide a useful starting point for some collections.

5.2C.2 Procedures and penalties for non-compliance with advertised practices are strictly enforced.

Explanation

Situations in which a reader, researcher or other visitor does not comply with the institution's rules can result in damage or loss of collections and, in extreme cases, harm to staff or other users. Penalties for non-compliance are clearly explained in guidelines that are displayed and/or issued to users. The institution has a policy for enforcing the penalties fairly and promptly.

Guidance on achieving standard

In developing workable procedures to deal with difficult situations involving readers, researchers or other visitors, the institution may find it useful to contact similar bodies to learn from their experience. The NPO publishes a leaflet on its website (www.bl.uk/npo) on dealing with criminal and anti social behaviour which is a useful source of guidance in this area. Staff training, which forms part of staff induction, may need to include assertiveness skills and handling conflict.

Exhibitions

5.3A.1 The condition of all material is noted before it is displayed and any changes are noted afterwards.

Explanation

By recording the condition of items before they are placed on display and again, following their removal from display, the institution gains an understanding of the risks involved in exhibiting its collections and how it might reduce the risks. The risks may include physical damage and soiling from handling items on open display, cracks, shrinkage and distortion in objects responsive to fluctuations in humidity, fading and embrittlement due to exposure to light and corrosion of metals.

Guidance on achieving standard

Recording the condition of objects going on display should ideally be carried out by an experienced conservator, curator or collection care advisor who is familiar with the material. The Spectrum standard, available on the mda website (www.mda.org.uk) contains information on carrying out assessment of collections. The process of noting condition is made easier if a standard template is used so that observations are reasonably consistent. However, the template should not preclude making specific observations about an item or type of damage.
5 Handling and Use of Collections

Exhibitions

5.3A.2 A programme to check the condition of vulnerable items on display is in place. Basic

Explanation
Items on display may be vulnerable to soiling and damage through handling, deterioration due to exposure to light and inappropriate levels of relative humidity and temperature, and the presence of unsuitable display materials. They may also be susceptible to pest infestation. All such items are therefore routinely checked to determine that they are not being damaged while on display. The interval between checks will be determined by the nature and condition of the items and the ways in which they are displayed. For example, items on open display may warrant more frequent checks than those in showcases. Each item is looked at but this does not necessarily involve removing it from its display case or mount.

Guidance on achieving standard
Checks of vulnerable items on display do not need to be carried out by a conservator or collection care advisor but those carrying out the checks need to have good observational skills and should be trained in what to look for. The Spectrum standard, available on the mda website (www.mda.org.uk) contains information on carrying out assessment of collections.

5.3A.3 Display cases are robust, secure and constructed from materials that will not harm their contents. Basic

Explanation
Display cases can constitute the primary form of protection for the items displayed within them. They are of sound construction and either have a weighted base or are fixed to the floor or a wall to ensure stability. The cases are lockable or permit the display volume, which will contain the items, to be secured. The glazing is resistant to breakage and may be laminated so that it will not shatter if broken.

All materials used in the construction of the display case and in any linings, dressings and inserts, are shown to be safe for use with items, using professionally recognised testing protocols. Some materials are safe for short periods of exposure and may be suitable for temporary exhibitions of up to six months; items on long term display are only shown with materials that are suitable for permanent use. A number of harmful substances can affect a range of objects, including organic acid vapours, produced by wood and wood products, sulphur compounds emitted by wool and rubber based products such as sealants, and formaldehyde, produced by wood products, adhesives, paints and fabrics.

Guidance on achieving standard
In selecting display cases the institution should consider the types of objects that it will exhibit, their size and value, the level of security required, whether control of humidity, temperature and light are needed, the duration of the display, the desired appearance of the cases and the budget available. The MLA website (www.mla.gov.uk) publishes a specifier's guide to display cases which institutions can use to evaluate many of these points to obtain display cases that will provide the security, performance and durability that is appropriate and affordable.

The MLA website also contains guidance on security considerations for conservators, which includes information on display cases.

Information on display case materials can be found in a number of publications including 'Selection of Materials for the Storage or Display of Museum Objects' by L. Lee and D. Thickett (British Museum 1996) and the MGC 'Standards in the Museum Care' series. Materials can be tested for suitability with the Oddy test, an accelerated corrosion test. The British Museum Conservation Research Section offers a testing service and also holds a database of recently tested materials.
5 Handling and Use of Collections

Exhibitions

5.3A.4 Physical access by staff to items on display is kept as simple as possible without compromising security.

Explanation
Staff may require access to displayed items for cleaning, maintenance or condition checking. Provision for access is incorporated into the design of display cases and mounts. Display cases are ideally operable by one person. Security is ensured by having robust cases and locks that are difficult to pick rather than relying on case doors that are very heavy or complicated to open.

Guidance on achieving standard
The need for access should be encompassed in the display case design. Ensure that the case manufacturers understand this requirement by describing it clearly in the specification and by asking to see a demonstration of the display case opening mechanism. See ‘A specifier's guide to display cases’ on the MLA website (www.mla.gov.uk) for further information.

5.3A.5 Light sensitive material, including archive and library items, other works on paper, textiles and some natural history specimens, is not on indefinite display. Where appropriate, facsimile copies are used.

Explanation
Archive and library material and other light sensitive items, such as textiles, plastics, works of art on paper and other organic materials including, feathers, and leather, and natural history collections containing entomology, zoology specimens and herbaria, are not on continuous display. Exposure to light causes fading of pigments and dyes, discoloration of paper, textiles and certain plastics and the breakdown of cellulose and proteins, contained in paper, textiles, leather, biological specimens and many other items. The deterioration caused by light is a function of both the intensity of light and the length of exposure to it and therefore damage can be reduced by controlling both of these factors. Many institutions limit the length of display to six months at a time, after which the object is ‘rested’ in storage.

In some instances it may be feasible and appropriate to use a facsimile for display, for example a copy of a photograph or an item of replica costume, thus protecting the original from exposure to light and physical damage. In natural history collections it is essential to preserve type and voucher specimens and thus these should not be exhibited, using less significant material instead.

Guidance on achieving standard
A conservator or collection care advisor should specify the length of the display period for any light sensitive material. Any restrictions should be noted in the object's file and periods of exhibition should be recorded. Further information is contained in the advice and guidance leaflets on the conservation of a number of materials (including archives and ephemera, books, costume, costume accessories, furniture, natural history, plastics, photographs and works on paper) published on the MLA website (www.mla.gov.uk) and in 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment). Recommended light levels for a range of materials is contained in the MGC, Standards in Museum Care series.

5.3A.6 The weight of all items on display is supported evenly.

Explanation
Many materials can be affected by mechanical stresses if the weight of the item is not evenly and fully supported. For example, an apparently strong object such as a stone table top can break if not evenly supported because the weight of the unsupported area will place a downward strain on the material.

Guidance on achieving standard
A conservator or collection care advisor should work closely with a mount maker to design mounts that will fully and evenly support the weight of each object displayed.
5 Handling and Use of Collections

Exhibitions

5.3A.7 Books are not displayed open at an angle greater than 30 degrees from the horizontal, and the angle of opening does not strain the binding structure.  

**Explanation**  
For display books are often shown at an angle above the horizontal to facilitate viewing and reading. However, a book may be damaged if it is displayed when open at an angle greater than 30 degrees from the horizontal because stress will be placed on the binding structure. Therefore, a support is provided that will hold the book securely and maintain the both appropriate angle of opening and angle from the horizontal. The support may be of the same type used in reading and research rooms (see 5.2B.3), covered, if appropriate, with the fabric used to line the showcase.

**Guidance on achieving standard**  
A conservator or collection care advisor should work with the exhibition designer and mount maker to specify the types of book supports that will be required and the appropriate angle for display. The NPO publishes a leaflet on its website (www.bl.uk/npo) on guidance for exhibiting archive and library materials which is a useful source of advice in this area.

5.3A.8 Book supports are designed to fit the profile of the book at the display opening. Text block pages are restrained using a safe material such as polyethylene strips.

**Explanation**  
When books are displayed open they are fully supported to avoid strain, pressure or abrasion of the binding. The support may be of the same type used in reading and research rooms (see 5.2B.3), covered, if appropriate, with the fabric used to line the showcase. In order to avoid distortion of the text block pages they are gently restrained with strips of a conservation grade material, such as polyethylene, polypropylene or polyester. The strips are approximately 12mm wide, have smooth edges and are secured beneath the book support.

**Guidance on achieving standard**  
A conservator or collection care advisor should work with the exhibition designer and mount maker to specify the types of book supports that will be required and the appropriate angle for display. The NPO publishes a leaflet on its website (www.bl.uk/npo) on guidance for exhibiting archive and library materials which is a useful source of advice in this area.

5.3B.1 A programme is in place for routine checking of all items on display.

**Explanation**  
All items on display, whether in a temporary exhibition or on permanent view, drawn from the institution's own collection or on loan, are checked routinely to determine whether any damage or deterioration is occurring as a result of display. This may be due to handling by visitors, contact with floor cleaning equipment, vibration, deposition of dust and inappropriate levels of relative humidity, temperature and light. The frequency of checks, daily, weekly, monthly or less often, is influenced by the nature and condition of the objects, the method of display, e.g. on open display within reach of visitors, in the open but behind a barrier, in a display case, and possibly by the number of visitors. Each object is looked at for signs of damage and any changes are noted. The checks also assess whether the item is still held securely in its mount, frame or other support.

**Guidance on achieving standard**  
Routine checks can be carried out by a conservator, collection care advisor, curator or another member of staff who has good observational skills. Where checks are not carried out by a conservator or collection care advisor, the staff performing them should be given thorough training in what to look for and how to distinguish between existing and new damage and, if necessary how to monitor the environment. It may be helpful for the conservator/collection care advisor to devise a form (either on paper, database or spreadsheet) for recording observations and also advise on the frequency of the checks. The Spectrum standard, available on the mda website (www.mda.org.uk) contains information on assessing collections.
5 Handling and Use of Collections

Exhibitions

5.3B.2 A conservator or collection care adviser has provided written advice on appropriate display techniques and materials, which is available to staff setting up exhibitions.

Explanation
Written guidance on appropriate display techniques and materials helps designers, technicians and others involved in planning and installing exhibitions to create a benign display environment. The guidance pertains to the types of items in the institution's collections but is amended if different types of item are borrowed for a temporary display. Information is provided on the types of items that can be placed on open display and those that must be shown within a display case. Specifications for frames, mounts and security fixings are included. The advice lists the types of materials that can be used without testing (i.e. conservation grade materials) and those, such as wood, wood products, paints, adhesives, sealants and fabrics, that require testing to determine that they are safe to use.

Guidance on achieving standard
The guidance should be compiled in a format that is easy to update as materials and suppliers can change frequently. The conservator/collection care advisor compiling the advice may find it useful to look at information used in other collections. Information on materials testing procedures and the range on materials that are suitable for use is contained in publications such as “Selection of Materials for the Storage or Display of Museum Objects” by L. Lee and D. Thickett (British Museum 1996) and the MGC ‘Standards in the Museum Care’ series.

5.3B.3 Written condition assessments are made by or in consultation with a conservator/collection care adviser, for all material to be exhibited.

Explanation
A written condition assessment of each item to be displayed is carried out prior to placing them on exhibition. The assessment can help to decide whether the item is in a suitable condition to be displayed and whether it requires any conservation before exhibition. The record can also be compared with the condition of objects during the display period or at the end of the exhibition. This information can help determine whether display conditions, such as mounting techniques, levels of light, relative humidity, temperature, pollutants or vibration, are contributing to damage of the items. A written assessment may also be required for insurance purposes.

The assessment can be carried out by a conservator, collection care advisor or by a curator or other staff member, familiar with the material, in consultation with a conservator. The assessment includes the name/title or brief description of the item, identification number, materials of construction and a brief description of the appearance of any damage. This is often be more helpful than just using terms such as ‘good,’ ‘fair’ or ‘poor’ condition. The written assessment includes the name of the person carrying out the assessment and the date.

The condition assessment in Statement 5.3A.1 may be less thorough than this standard and is not carried out by/in consultation with a conservator or collection care advisor.

Guidance on achieving standard
A conservator/collection care advisor should design the format for carrying out condition assessments. It may be helpful to work with the institution’s IT officer/advisor and the person responsible for documentation to ensure that the format adopted will be compatible with the institution’s IT systems and that records can be readily retrieved. The conservator/collection care advisor should also provide training to any staff carrying out assessments to help insure that they are done in a consistent manner. The Spectrum standard, available on the mda website (www.mda.org.uk) contains guidance for conducting condition assessments.
5 Handling and Use of Collections

Exhibitions

5.3B.4 A conservator/collection care adviser works with other staff to ensure that items have individual specifications for appropriate support.

Explanation
A conservator/collection care advisor assesses all items to be exhibited to determine whether they require a support for display and, if so, of what kind. The types of support could include a shaped and padded mannequin for an item of costume, a weighted plinth for a piece of sculpture, a book cradle or a purpose made bracket to hold a firearm. The conservator/collection care advisor works with the exhibition designer and mount maker to develop specifications for a suitable support for each item. Included in the specification is the requirement that all materials used in the fabrication of supports should be of conservation grade and all contact surfaces should be worked smooth and/or padded or lined to protect the item from abrasion.

Guidance on achieving standard
In devising specifications the conservator/collection care advisor working in conjunction with the designer and mount maker should consider the condition of the item, its size and weight and whether it will displayed in a showcase or in the open. The conservator may find it helpful to consult with colleagues in other institutions with broad experience of exhibition practice.

5.3B.5 Materials and techniques used for display are approved by a conservator/collection care adviser as safe for the purpose, or have been tested by a recognised method.

Explanation
A conservator/collection care advisor evaluates all proposed exhibition materials and techniques to ensure that they will not cause or contribute to damage or deterioration of the items to be displayed. Considerations include whether all materials used within display volume, such as fabrics, paints, coatings, adhesives, wood, sealants, etc, have been shown to be suitable for temporary (where the exhibition will last no more than six months) or permanent use. Display case construction is also evaluated in terms of whether the materials of construction are robust enough to provide an appropriate level of security and will not produce damaging pollutant. The techniques to be used for display are also considered. For example, will mounts, frames, plinths, etc, provide full support for the items and adequate protection against accidental damage, vandalism and theft? They are made of conservation grade materials and all contact surfaces are lined or padded to protect against abrasion or scratching of items. Items are held static but not under pressure. Factors such as whether the floor moves when people walk across it are also considered as items on shelves may 'walk' over time with vibration from the floor.

Guidance on achieving standard
The conservator/collection care advisor should be involved, at an early stage, in the exhibition design process. A generic set of guidelines for exhibition materials and techniques can then be refined for a particular exhibition, in conjunction with the designer and mount maker, to produce a specification for the conservator's approval. There are a number of useful sources of information, including a specifier's guide to display cases published on the MLA website (www.mla.gov.uk), 'Guidance for exhibiting archive and library materials', published on the NPO website (www.bl.uk/npo), 'Selection of Materials for the Storage or Display of Museum Objects' by L. Lee and D. Thickett (British Museum 1996). The British Museum Conservation Research Section offers a testing service and also holds a database of recently tested materials. Regional Museum, Library and Archive Council and hub museums may also be able to offer advice on specifications for display materials and techniques.
5 Handling and Use of Collections

Exhibitions

5.3B.6 Exhibition areas are invigilated when open to the public. Good

Explanation
The role of an invigilator in exhibition areas is to act as a deterrent to theft and vandalism, to raise the alarm in the event of a crime or accident occurring, and to act as a point of information for visitors. In the event of an emergency they summon help and will be involved in evacuation procedures. The invigilator carries out a visual check of the displayed material in their designated area at the beginning of each shift to determine whether anything is missing, damaged or has become loose in its frame, mount or other support. It is essential that the invigilator remains alert and focussed on his/her area and does not become distracted or involved in extended conversation with visitors and members of staff. In small institutions where the invigilator may have other duties, such as selling tickets, it may be necessary to augment security through the use of CCTV.

Guidance on achieving standard
The MLA website (www.mla.gov.uk) contains a number of publications on the role of invigilators including ‘Guide for Attendants in Museums and Galleries,’ ‘Guide for Museum Attendants and the Law’ and ‘Guide to the Use of CCTV in Museums, Archives and Libraries.’ Regional Museum, Library and Archive Council may also be able to provide guidance on the use of invigilators. The institution should have robust recruitment and training procedures for invigilation staff so that they have a clear understanding of their responsibilities and the extent of their duties.

5.3B.7 Access is possible to allow periodic cleaning and maintenance of ‘dead’ areas beneath and behind exhibition furniture. Good

Explanation
‘Dead’ areas, such as the voids beneath and behind exhibition furniture, including display cases, plinths and partition walls can be harbouring places for insect pests. Dust can accumulate in these spaces which is not only a food source for pests but is also a fire hazard. Therefore access to these areas is included in the design specification for display cases and other exhibition furniture, particularly where they are to be a permanent feature. Cleaning and maintenance is possible without disturbing the display volume where the items are housed. For security reasons access points are concealed or should be lockable.

Guidance on achieving standard
The MLA factsheet, ‘A Specifiers’ Guide for Display Cases’ published on the website (www.mla.gov.uk) should be consulted on the design implications of access points. A conservator or collection care advisor should advise on a programme for cleaning for ‘dead’ areas within exhibition furniture.

5.3B.8 Light fittings can be reached without the need for access via the interior of the display case. Good

Explanation
Display cases are designed to provide access to light fittings without having to enter the display volume of the case. This reduces the risk of damage to items during replacement of lamps or in the event of a lamp breaking. It is also a prudent security measure in that maintenance staff can work on the lighting without gaining access to the items.

Guidance on achieving standard
In selecting display cases the institution should discuss with manufacturers the requirement that access to light fittings should be external to the display volume. ‘A Specifiers’ Guide for Display Cases,’ published on the MLA website can be helpful in formulating display case design.
5  Handling and Use of Collections

Exhibitions

5.3B.9  Items are exhibited only in areas designed or designated for that purpose, which can be isolated from other areas.

Explanation
Holding exhibitions in spaces that are isolated from other areas has benefits for security, for controlling the flow of visitors through the display and, where the area can be enclosed, for maintaining environmental conditions within the display space. In designating areas to be used for exhibitions, it is important to site them at some distance from the entrance to the building, both in terms of enhancing security and to reduce the impact of external conditions on the display environment. It is useful to be able to enclose the area with lockable doors or shutters at night and during the installation and deinstallation of the exhibition. Exhibition areas are sited away from catering facilities to reduce the risk of fire, pest infestation and contamination by pollutants produced during cooking.

Guidance on achieving standard
When new exhibition areas are being planned a conservator/collection care advisor should be involved in the design process from an early stage. 'Museum and Gallery Security: Advice for Architects and Planners,' published on the MLA website (www.mla.gov.uk) contains guidance on siting exhibition areas. For further information see 'Environmental Management' by May Cassar (MGC, 1995).

5.3C.1  A conservator maintains responsibility for items included in exhibitions and for the display of all collections.

Explanation
A conservator with responsibility for items in exhibitions and for all collections on display is involved at an early stage with the planning and design process for all new display areas and temporary exhibitions. The conservator works with the architect or designer to ensure that the design brief includes specifications that safeguard the collections to be displayed. These include the selection of display case construction, access and the use of conservation grade materials; planning the display area to avoid hidden areas where an intending thief can operate unobserved; the provision of passive or active environmental control. The conservator also works with the mount maker to ensure that all objects are fully and securely supported while on display. The conservator examines all objects from the institution's own collections to determine whether they are in a suitable condition for exhibition and what treatment they may require before display. Items from other institutions are also assessed on arrival to form a record of their condition prior to exhibition. The conservator develops a system for carrying out periodic checks of the displayed items to determine whether any damage has occurred due to exposure to light, inappropriate levels of humidity and temperature, dust, pollutants, vibration or unauthorised handling.

Guidance on achieving standard
A conservator assuming responsibility for the display of collections may find it helpful to consult with colleagues who have similar experience. A number of advice sheets published on the MLA website such as 'A Specifiers' Guide for Display Cases,' 'Museum and Gallery Security: Advice for Architects and Planners' and 'A Guide to Security for Conservators' provide relevant information.

Borrowing and Lending Items

5.4A.1  Items are assessed to establish their suitability for loan.

Explanation
The institution has in place a procedure for assessing all items requested for loan to an exhibition to establish whether they are suitable. The assessment considers the current condition of the item and whether it can withstand the handling, movement and vibration experienced in any loan. The risks presented by the chosen mode of transport are also considered.

Guidance on achieving standard
The assessment should be carried out by a conservator/collection care advisor or by another member of staff who is familiar with the items to be loaned and has experience assessing risk and condition. Where the assessment is carried out by someone else they may require training in what to look for. The Spectrum standard, available on the mda website (www.mda.org.uk) contains information on loan procedures and assessment of collections.
5 Handling and Use of Collections

Borrowing and Lending Items

5.4A.2 A conservator/collection care advisor writes a condition report of items before the loan is approved; the condition of items is checked against this at the end of the loan.

Explanation
A conservator or collection care advisor either produces or consults on the production of a written condition report for each item requested for loan. Only once an item has been assessed as being suitable is the loan approved. The condition report may contain a proviso that the item would only be suitable for loan following specified conservation treatments. The report clearly and succinctly describes the condition of the item, noting in particular areas that may be vulnerable to damage caused by handling or movement, due to existing damage or previous repair. At the conclusion of the loan each item is assessed, against the initial condition report, to determine whether any damage or alteration has occurred during the course of the display. Any damage that is observed is recorded.

Guidance on achieving standard
The institution should have access to conservation advice, whether in house or externally, for the production of condition reports on items requested for loan. Help in finding an independent conservator can be obtained from the Conservation Register, managed by the Institute of Conservation (www.conservationregister.com). The Spectrum standard, available on the mda website (www.mda.org.uk) contains information on loan procedures and on the assessment of collections.

5.4A.3 A site report, detailing handling, security, emergency procedures and environmental control facilities, is received from the borrower before the loan is agreed.

Explanation
The site, or facilities, report includes details of handling and security in transit and on site, fire detection and suppression at the exhibition site and temporary storage areas, emergency preparedness procedures in the event of flood or theft and arrangements for control of relative humidity, temperature and light. If it is relevant the lender can also request information on display case construction and materials.

Guidance on achieving standard
The UK Registrars' Group website (www.ukrg.org) contains a template for a facilities report, with supplements on security and showcase specifications. Potential lenders can download the template and use it to obtain information from the borrower. If the facilities report indicates that the borrower cannot provide the required standards of care and security, which match those provided in the home institution, the loan can be refused on these grounds. The standards requested by the lending institution should not be more exacting than those that it provides unless there are specific circumstances for doing so.

5.4A.4 Couriers are issued with written guidance before transporting items from the collection. All movements are documented and receipts are signed by authorised staff.

Explanation
A courier accompanying items on loan to another institution is given written guidance, which defines their responsibilities and those of others, including the transport agent and staff at the borrowing institution, and describes all the arrangements for travel. On completion of the trip the courier writes a report detailing all stages in the movement of the items and recording any problems that occurred. The courier is familiar with the condition of the items and how they are packed and once the items are unpacked they are checked to determine whether any damage has occurred during transport. If the courier is satisfied that no change in condition has taken place they sign a receipt to confirm this; staff from the borrowing institution countersign to show that they have accepted the items in the condition described.

Guidance on achieving standard
The UK Registrars' Group publishes detailed guidance for couriers on their website (www.ukrg.org). This could be used as the basis for guidelines developed in house, amended to suit the circumstances of a particular loan. Staff at other institutions with extensive experience of loan procedures may be able to offer training on a formal or informal basis to couriers, registrars and other staff involved with loans.
5 Handling and Use of Collections

Borrowing and Lending Items

5.4B.1 The institution has written procedures and agreements for borrowing and lending items.  

**Explanation**  
Borrowing and lending items for exhibitions, conservation, research, publication or photography, are governed by written procedures and agreements that describe the responsibilities of both parties. The borrowing institution ensures it can provide the conditions stipulated by the lender and at least the same level of care given to items in its own collection. The lender’s procedures detail the types of item that may and may not be loaned, the types of organisations or individuals who would be considered as potential borrowers, the reasons why a loan may be refused and all loan requirements, such as transport arrangements, insurance or indemnity provision, costs that will be met by the borrower, specifications for handling, use, display cases and supports, environmental parameters that must be met by the borrower and security arrangements and emergency procedures.

Loans from scientific collections, initiated for research purposes are sometimes conducted on a less formal basis. Long standing loan agreements between institutions may govern the loan process, rather than individual agreements for each item and each occasion.

**Guidance on achieving standard**  
The Spectrum standard, available on the mda website (www.mda.org.uk) contains detailed advice on the content of incoming and outgoing loan policies and agreements.

5.4B.2 Photographic documentation for all material is included as part of the loan procedures.  

**Explanation**  
Photographs are taken of all items going on loan as part of the process of recording current condition. Where appropriate, for example for complex three dimensional items, several views are taken so that all parts are visible. The photographs are included in the condition assessment and are marked as necessary to indicate areas of damage, old repair or other problems.

**Guidance on achieving standard**  
Photographs should be evenly lit and in focus across the whole of the item, to aid legibility. If a commercial photographer is used they should be briefed on the purpose of taking the photograph to ensure that they understand what is required.
5 Handling and Use of Collections

Borrowing and Lending Items

5.4B.3 Where necessary, a trained courier accompanies material in transit. On arrival, the courier confirms that all the conditions of the loan agreement have been met.

**Explanation**
A courier, who has received training in all aspects of accompanying loan items, travels with the material to oversee the process and, where necessary, intercedes to ensure that all items are transported and handled safely. A courier normally accompanies loaned items for any or all of the following reasons:

- the journey is complicated
- the item is fragile or requires special handling
- for conservation reasons
- the installation or mount is complicated
- the value of the item is very high
- there are concerns relating to the borrowing institution

Where these factors are not a concern the lending institution may not require that a courier accompanies the loan. The courier may be a conservator/collection care advisor, curator, registrar or other member of staff or an independent conservator/collection care advisor appointed by the lending institution to carry out this role. It is accepted professional practice that some loans from scientific collections (e.g. natural history specimens), lent for research purposes, are sent through the post and are thus not accompanied.

On arrival the courier checks that all conditions, set out in the loan agreement, concerned with security, showcase specifications, environmental control and handling, have been met by the borrowing institution.

**Guidance on achieving standard**
The UK Registrars' Group publishes guidelines for couriers on its website (www.ukrg.org) which can be used as part of the courier's training. The courier should be selected on the basis of their knowledge of the items in the loan and understanding of their conservation, handling and display requirements. Staff at other institutions with extensive experience of loan procedures may be able to offer training on a formal or informal basis to prospective couriers. The Spectrum standard, available on the mda website (www.mda.org.uk) contains detailed advice on the content of loan policies and agreements.

5.4B.4 On arrival at the loan venue the condition of items is assessed and reported to the owner.

**Explanation**
On arrival at the borrowing institution the condition of all items is assessed by a courier or other representative of the lender, to determine whether any damage has occurred during transit, using the condition assessment carried out before departure as the basis for comparison. The courier records the assessment and reports to the lender.

**Guidance on achieving standard**
The Spectrum standard, available on the mda website (www.mda.org.uk) contains advice on condition assessment. The courier guidelines contained on the UK Registrars' Group website (www.ukrg.org) describe this aspect of a courier's duties.
5 Handling and Use of Collections

Borrowing and Lending Items

5.4C.1 Where appropriate, the institution applies the conditions described in the Government Indemnity Scheme.  

Explanation
The Government Indemnity Scheme (GIS), which is administered by MLA, provides cost free indemnity cover against loss or damage to items on loan to non-national museums and libraries in the UK. This allows these institutions to borrow items from other non-national collections or private lenders. In the event of loss or damage while on loan compensation will be paid to the owner by the government. The GIS stipulates conditions that govern security arrangements in transit and at the borrowing institution, emergency procedures and the provision of environmental control that meets the requirements of the lending institution. The institution applies these conditions to receive indemnity cover for loans.

Guidance on achieving standard
The MLA website (www.mla.gov.uk) contains the following information on the Government Indemnity Scheme: ‘Government Indemnity Scheme’ (www.mla.gov.uk/publications); ‘Guide to transport conditions under the Government Indemnity Scheme’; ‘Guide to security and environmental conditions under the Government Indemnity Scheme’; ‘Guide to food and drink conditions under the Government Indemnity Scheme’; ‘Guide to the use of barrier rails or ropes’ (www.mla.gov.uk/information/advice & guidance/00 security).

5.4C.2 The institution applies the conditions described in the MLA Standard Touring exhibitions.  

Explanation
The institution adheres to the standards outlined in this publication, which sets parameters for the exhibition organiser, lenders and venues. The areas addressed in the standards include exhibition concepts, research, planning, documentation, design, visitor services, showcase design, lighting, display furniture, insurance and indemnity, condition checks, packing, handling and storage. Standards for couriers, carriers, pest control, environmental control and emergency planning and protection are also included.

Guidance on achieving standard
The Touring Exhibitions Group publishes a handbook (available from www.teg-net.org.uk) containing practical information on all aspects of organising, touring and hosting exhibitions, and complements the revised Standards, which will be re-issued by the Museums, Archives and Libraries Council in 2006.

Operating or Playing Objects

5.5A.1 No object is operated or played unless the governing body/management committee has formally approved this activity.  

Explanation
The institution’s governing body/management committee reviews the operation or playing of each relevant object in its collection and, based on the condition of the object, its significance and the curatorial value of operating it, formally approves this type of use. The types of object that may be operated or played include industrial and agricultural machinery and equipment; scientific instruments, including analytical equipment; clocks and watches; motorised vehicles; musical instruments; and historic sound recording and playing equipment, audiovisual equipment, computers, software and other electronic equipment. Although all of these objects were made to be operated their continued use will result in wear and damage that may be difficult to repair and original parts, with their evidence of manufacture will be lost through essential replacement. For operation, objects such as vehicles, may require modification to allow them to meet current safety legislation.

Guidance on achieving standard
The publication ‘Standards in the Museum Care of Larger & Working Objects’ (MGC) 1994 should be consulted for guidance. For some objects, an alternative to operating or playing may be to produce sound or video recordings of the object in use which can be played in display areas.
5 Handling and Use of Collections

Operating or Playing Objects

5.5A.2 The institution has a written policy on who can operate or play objects that have been designated as suitable. **Basic**

**Explanation**
A written policy describes who can operate or play those objects in the collection that have been designated as suitable for use. Operators may be visitors, who operate the object directly or by pushing a button that then triggers operation, or the object may be operated exclusively by a member of staff. The policy is updated as necessary when staff leave the institution or change responsibilities.

**Guidance on achieving standard**
The publication ‘Standards in the Museum Care of Larger & Working Objects’ (MGC) 1994 should be consulted for guidance. All staff involved with operating or playing objects should receive appropriate training in their operation, including recognising signs of wear that indicate the need for maintenance, repair or a review of the object's continued use.

5.5B.1 Information or instructions relating to operating or playing objects is retained in the object conservation file. **Good**

**Explanation**
Information and instructions on the operation or playing of an object facilitate its safe use. The information may be based on an original operating manual, where available, but also reflects safe operating practice and current safety legislation. Information on the correct fuelling, safe operating temperatures and maintenance procedures to be carried out before and after operation is included. The information is compiled in the object conservation file and is regularly reviewed and updated.

**Guidance on achieving standard**
The publication ‘Standards in the Museum Care of Larger & Working Objects’ (MGC) 1994 should be consulted for guidance.

5.5B.2 A record is kept for each object of all operation (playing, running or working). **Good**

**Explanation**
An operating log is kept for all objects that are operated or played, whether operation is occasional or continuous, for example, a clock that runs. The operating log is retained in the object conservation file and is used in conjunction with condition assessments and the maintenance plan to inform regular reviews on whether the object should continue to operate.

**Guidance on achieving standard**
The publication ‘Standards in the Museum Care of Larger & Working Objects’ (MGC) 1994 should be consulted for guidance.
6 Environmental Monitoring and Control

Monitoring and Equipment - General

6.1A.1 Collections housed indoors are protected from extreme environmental conditions.  

**Explanation**
The institution has a weather tight building to house its collections that provides protection from the elements and has sufficient insulation and/or heating to avoid extremes of hot and cold temperatures, and low and high humidity. Some institutions, such as open air museums and sculpture parks, hold items that are stored or displayed outdoors and are therefore exposed to extreme conditions. Some form of temporary protection for these items during winter months is considered where appropriate.

**Guidance on achieving standard**
Information can be obtained from 'Environmental Management' by May Cassar (MGC 1995), from the MGC Standards in the Museum Care series, from 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment) and from 'Archival Documents. Guide to the interpretation of BS 5454: 2000 Storage and exhibition of archival documents.'

6.1A.2 Any environmental data collected, such as spot measurements of temperature and humidity or light levels, is recorded and retained.

**Explanation**
All environmental monitoring data is recorded and kept for future reference. The data may be used to decide whether environmental control equipment is needed or whether existing controls are functioning correctly. The data may be in the form of spot measurements and the record includes the reading for temperature, humidity, visible light and/or UV, the date, time and location within the gallery, store or reading room at which the measurement was taken, and the type of equipment used to take the reading. Where the data is in the form of ongoing readings from a thermohygrograph the chart papers are changed after each rotation of the drum; they are dated and stored. Readings from electronic data loggers are downloaded as required with a record of the monitoring location and are archived on a CD, DVD, on the institution's server or in hard copy.

**Guidance on achieving standard**
The publication, 'Relative Humidity and Temperature Pattern Book' by May Cassar (MGC, 2000) presents different methods of recording and presenting monitoring data.

6.1A.3 Simple measures e.g. closing doors, moving lights, providing entrance mats and controlling temperature and light levels are taken.

**Explanation**
Simple, low cost measures to control the internal environment are used whenever possible and appropriate. These include closing doors and windows, which can help stabilise the indoor relative humidity and temperature and reduce ingress of pests and pollutants, and providing long looped, wide entrance mats so that visitors can remove grit and dirt from their shoes. Other measures, such as moving lights away from heat and light sensitive objects, and closing curtains/lowering blinds can help control temperatures and light levels. Other beneficial measures include providing a cloak room where visitors can leave wet coats and umbrellas.

**Guidance on achieving standard**
Information can be obtained from 'Environmental Management' by May Cassar (MGC 1995) and from 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment). Training in environmental monitoring and control is available through hubs, regional museum, library and archive councils, museums, and other sources, see ICON. www.icon.org.uk for courses.
6 Environmental Monitoring and Control

Monitoring and Equipment - General

6.1A.4 Monitoring equipment is stored and calibrated as recommended by the manufacturer. **Basic**

**Explanation**
The institution stores, handles, calibrates and maintains its environmental monitoring equipment as recommended by the manufacturer in order to obtain accurate data.

**Guidance on achieving standard**
The supplier or manufacturer of monitoring equipment can advise on storage, handling, maintenance and calibration of the equipment that they provide.

6.1B.1 A programme is in place to measure relative humidity, temperature and light levels (visible and ultraviolet) in galleries and stores. **Good**

**Explanation**
The institution monitors relative humidity, temperature and light (visible and UV) to determine what conditions are present in galleries and stores. Monitoring also indicates whether control measures are needed to protect the collections and whether existing methods are functioning correctly. As many materials are affected in some way by inappropriate levels of relative humidity, which is influenced by temperature, these two parameters are measured widely in areas housing collections. Where material is not sensitive to light or is protected by storage containers from exposure to light, monitoring of visible and UV light may not be necessary.

**Guidance on achieving standard**
Information can be obtained from 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment) and from 'Environmental Management' by May Cassar (MGC 1995). Training in environmental monitoring and control is available through hubs, regional museum, library and archive councils, museums, and other sources, see ICON. www.icon.org.uk for courses.

6.1B.2 The institution has determined the level of control of the environment (temperature, RH, light and pollutants) it wishes to achieve for all areas housing collections. **Good**

**Explanation**
The institution has decided on the desired level of environmental control for its collections in all storage and display areas. The decision is based on the nature and condition of materials represented in the collection and on professionally recognised guidelines on environmental parameters for these materials.

**Guidance on achieving standard**
A conservator/collections care advisor can provide information on appropriate environmental parameters for the collection. Information can also be obtained from 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment). Other sources of information include: 'Archival Documents. Guide to the interpretation of BS 5454: 2000 Storage and exhibition of archival documents,' (BSI 2001), the MGC Standards in the Museum Care series, and the advice and guidance leaflets for various materials, including archives, photographs, natural history specimens, furniture, costume and plastics, published on the MLA website (www.mla.gov.uk) Training in environmental monitoring and control is available through hubs, regional museum, library and archive councils, museums, and other sources, see ICON. www.icon.org.uk for courses.
6 Environmental Monitoring and Control

Monitoring and Equipment - General

6.1B.3 Controlled environments are established for some vulnerable items.  
Good 

Explanation 
Controlled storage and display environments are provided and are in use for some materials identified as being vulnerable to  
damage from uncontrolled conditions. Vulnerable objects may include works on paper, such as water colours at risk of fading in  
high light levels, and appropriate control measures can include storage in a folder or box or display with visible and UV light  
restricted by the use of low wattage lamps, filters and blinds.

Guidance on achieving standard 
A conservator/collections care advisor can identify the items/types of item within a collection that are most at risk from  
uncontrolled environmental conditions and can also recommend appropriate measures for control. Advice is also available in the  
MGC Standards in Collections Care series and 'Environmental Management' by May Cassar (MGC 1995), 'Environmental  
monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment). Other sources of information include: ‘Archival Documents. Guide to the interpretation of BS 5454: 2000 Storage and exhibition of archival documents,’ (BSI 2001), and the advice and guidance leaflets for various materials, including archives, photographs, natural history specimens, furniture, costume and  
plastics, published on the MLA website (www.mla.gov.uk)Training in environmental monitoring and control is available through  
hubs, regional museum, library and archive councils, museums, and other sources, see ICON. www.icon.org.uk for courses.

6.1B.4 A record is kept of calibration and maintenance of all environmental monitoring equipment.  
Good 

Explanation 
A record of calibration and maintenance of environmental monitoring equipment, showing that these services are carried out at  
the appropriate interval, ensures that the accuracy of monitoring data is maintained. The record includes a brief description of  
the service carried out, e.g. replacement of pens on a thermohygrograph, the date and the person carrying out the work.

Guidance on achieving standard 
A conservator/collection care advisor or other member of staff who is familiar with the equipment should set up an effective  
recording system.

6.1B.5 A maintenance programme for environmental control equipment (including UV filter replacement) is in place.  
Good 

Explanation 
The institution carries out a programme of maintenance appropriate to the environmental control equipment in use, to ensure that  
it functions continuously, effectively and to specification. For each type of equipment the institution has identified the  
appropriate maintenance regime, including the correct interval for inspections and servicing. Resources, in terms of staff time  
and a budget for spares and replacement equipment, is available.

Guidance on achieving standard 
The suppliers/manufacturers of environmental control equipment should be able to advise on appropriate maintenance  
procedures and the anticipated lifetime of the equipment. Maintenance should only be conducted by someone with the  
appropriate training and experience. For equipment such as air handling/air conditioning systems, a full maintenance programme  
should be outlined in the operation and maintenance manual, supplied by the contractor who has installed the system. For  
further information see ‘Environmental Management’ by May Cassar (MGC 1995).
6 Environmental Monitoring and Control

Monitoring and Equipment - General

6.1B.6 Staff have management control over operational settings of all environmental control equipment/plant. **Good**

**Explanation**
Conservation/collection care and/or curatorial staff specify the parameters at which all environmental control equipment/plant should function. This includes the required levels of relative humidity, temperature, visible and UV light and the acceptable limits of daily and seasonal fluctuation. For some simple equipment, such as stand alone humidifiers/dehumidifiers or window blinds, staff operate or directly delegate the operation of the equipment. Complex air handling/air conditioning systems require specialist personnel to operate and maintain the plant and equipment; these may be employed by the institution or may be contractors. Conservation/collection care and/or curatorial staff work closely with these staff to ensure that the specified conditions are being consistently met.

**Guidance on achieving standard**
Conservation/collection care and/or curatorial staff involved with specifying operational settings for environmental control equipment must have an understanding of the needs of the collection, in terms of relative humidity, temperature, visible and UV light, and whether the equipment can realistically deliver the required level of control within the context of the building. They should also have a basic understanding of how the environmental control equipment operates. A balance between the needs of the collection and requirements for human comfort should be discussed with those operating the plant. For further information see ‘Environmental Management’ by May Cassar (MGC 1995) and ‘Archival Documents. Guide to the interpretation of BS 5454: 2000 Storage and exhibition of archival documents’ (BSI 2001) Training in environmental monitoring and control is available through hubs, regional museum, library and archive councils, museums, and other sources, see ICON. www.icon.org.uk for courses.

6.1B.7 Records are kept of all environmental monitoring and are collated and reviewed regularly. **Good**

**Explanation**
Records are kept of all forms of environmental monitoring carried out within the institution. These are collated regularly and are reviewed by conservation/collection care staff to determine how the environment within the building fluctuates over the course of a day, week, season or year and whether specified parameters for the environment are being met. A review of the records also shows whether any environmental control equipment is malfunctioning and the effect that this has on the local environment.

The frequency at which monitoring data is reviewed will depend on factors such as the type of monitoring equipment in use and the nature of collections being monitored. For example, if a data logger requires downloading every three months this may be an appropriate time at which to review the data. If data is collected and downloaded continuously a brief weekly review may be appropriate. For material that is highly responsive to changes in relative humidity, for example ivory miniatures, it may be necessary to review data more frequently than it would be required for a robust collection of agricultural machinery acclimatised to seasonal variations in humidity and temperature, for which a monthly (or longer) interval between reviews may be adequate.

**Guidance on achieving standard**
Conservation/collection care staff should implement a system for gathering, collating and reviewing all environmental monitoring data. For further information see ‘Environmental Management’ by May Cassar (MGC 1995) which contains suggestions and sample forms for collating and reviewing data, ‘Relative Humidity and Temperature Pattern Book: A guide to understanding and using data on the museum environment’ by May Cassar and Jeremy Hutchings (MGC, 2000), and ‘Environmental monitoring and control,’ available on the Bodleian Library website (www.bodley.ox.ac.uk/ dept/preservation/information/environment)
6 Environmental Monitoring and Control

Monitoring and Equipment - General

6.1C.1 Records are maintained in a systematic way and retained for a minimum of five years. **Best**

**Explanation**
Environmental monitoring records are retained and stored in a way that facilitates retrieval and future analysis for a minimum of five years. The records may be arranged by date, monitoring location or any other method that allows for ready access. Monitoring may be carried out for relative humidity, temperature, visible light, UV, pollutants and pests. Computer based records are backed up in a secure manner, such as on CD, DVD or on the institution's server and are migrated as necessary to avoid obsolescence of software or hardware.

Retention of records enables the environment of the building to be assessed throughout seasonal and annual variations. The records may be used to help decide on the installation of environmental control equipment and it also enables staff to evaluate the performance of control systems.

It may be necessary to retain records of monitoring carried out during temporary exhibitions to satisfy lenders that specified conditions were maintained during the course of the exhibition. Retention of records may also be necessary for insurance or indemnity purposes.

**Guidance on achieving standard**
A conservator/collection care advisor can help devise a system for compiling records. If the records are computer based the institution's ICT manager/advisor/consultant should advise on methods for backing up and migrating the data; they may also advise on how to integrate the records with other types of information relating to collection care. For further information see 'Environmental Management' by May Cassar (MGC 1995) which contains suggestions and sample forms for collating and reviewing data.

6.1C.2 Environmental monitoring records are examined periodically and a summary prepared. **Best**

**Explanation**
Records from all forms of environmental monitoring carried out by the institution are examined periodically by conservation/collection care staff who prepare a summary outlining the trends in environmental conditions indicated by the records and indicating whether specified conditions are being met. The summary also highlights any problems experienced with the functioning and maintenance of equipment and any extreme conditions resulting from events held within the building or from poor building maintenance.

**Guidance on achieving standard**
Conservation/collections care staff should devise a system for examining environmental monitoring records and a format for the summary. The summary can be brief but should interpret the data so that it is understood by non specialists. The circulation list for the summary should include curatorial/librarian/archivist staff, collection managers and the institution's management team.

6.1C.3 A record is kept of all special events held in the institution, including film-making, concerts or social events. **Best**

**Explanation**
Events such as corporate hospitality, film-making, concerts, openings, etc. may result in abnormal conditions, such as high humidity and/or temperatures produced by large numbers of people or lighting, or increased vibration levels due to amplified music. A record of all such events allows the institution to understand the effect they have on the environment and the collections and to control the risks that events may pose for the collections. Risk reduction measures may include tighter policies on the use of lighting and sound equipment, hiring stand alone humidifiers/dehumidifiers, and having more staff in attendance at events.

**Guidance on achieving standard**
The record should record the date, time and nature of the event, the number of people involved and any comments on problems or concerns resulting from the event.
6 Environmental Monitoring and Control

Monitoring and Equipment - General

6.1C.4 The environmental conditions of the display cases, exhibition and storage areas are kept stable within defined levels.

Explanation
The relative humidity, temperature, visible and UV light prevailing within display cases, exhibition and storage areas are stable within limits set by conservation/collection care staff to ensure the preservation of the collection. For temperature and relative humidity this is achieved through the use of air conditioning or air handling systems, localised control such as stand alone humidifiers/dehumidifiers, silica gel, or combinations of these measures. Light is controlled through the use of blinds/curtains/louvers, low wattage lamps and filters.

Guidance on achieving standard
Information on methods of environmental control can be found in 'Environmental Management' by May Cassar (MGC 1995) and 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment). Training in environmental monitoring and control is available through hubs, regional museum, library and archive councils, museums, and other sources, see ICON, www.icon.org.uk, for courses.

6.1C.5 Appropriate environmental conditions are established for all items according to their requirements.

Explanation
A conservator, collection care advisor or other specialist specifies the environmental conditions that all items are housed in, based on the nature and condition of the items. The institution provides and maintains the conditions specified. The specifications are tailored to the needs of individual items or types or item and cover, as appropriate, parameters for relative humidity, temperature, visible and UV light, pollution and vibration.

Guidance on achieving standard
A conservator/collections care advisor can provide information on appropriate environmental parameters for the collection. Information on obtaining conservation advice can be obtained from the Conservation Register (www.conservationregister.com) which is maintained by the Institute of Conservation (www.icon.org.uk). Further information can be obtained from 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment). Other sources of information include: 'Archival Documents. Guide to the interpretation of BS 5454: 2000 Storage and exhibition of archival documents,' (BSI 2001), the MGC Standards in the Museum Care series, and the advice and guidance leaflets for various materials, including archives, photographs, natural history specimens, furniture, costume and plastics, published on the MLA website (www.mla.gov.uk) Training in environmental monitoring and control is available through hubs, regional museum, library and archive councils, museums, and other sources, see ICON, www.icon.org.uk, for courses.

6.1C.6 The environmental monitoring and control needs of the collection are reviewed at regular intervals.

Explanation
The institution reviews the environmental monitoring and control requirements of its collection at regular intervals. The review process considers whether:
- there is sufficient monitoring data generated to give a clear picture of the environment
- the data is accurate
- the data is analysed and used in a meaningful way to give an understanding of how the environment is affecting the collection
- maintenance of monitoring and control equipment is carried out correctly
- existing control equipment and plant is adequate to provide the conditions required by the collection

The lifetime of plant and equipment is also considered and plans are made for replacing or upgrading equipment.

Guidance on achieving standard
The institution should establish a review procedure and should decide on the appropriate interval for reviews. Those involved in the review should include a conservator/collection care advisor, those responsible for operation and maintenance of monitoring and control equipment.
6 Environmental Monitoring and Control

Temperature and Relative Humidity

6.2A.1 Material is displayed and stored away from heating, air-conditioning vents and windows.  

Explanation

Heating (radiators, hot pipes and hot air vents), air conditioning/air handling vents and windows are all points where temperature and relative humidity can be extreme and unstable. Heating and solar gain can result in a drop in relative humidity which can cause materials such as wood, paper, bone, ivory, leather, parchment, textile fibres, etc to shrink and can lead to embrittlement. Heat also accelerates many deterioration processes, for example, in photographs, and can cause softening of waxes, varnishes, lacquers, etc. Convection currents caused by warm air rising can deposit dust on items. Dust can also be deposited by the flow of air from air conditioning/air handling vents. Windows, unless they are fitted with effective secondary glazing, are poorly insulated against changes in temperature and thus, depending on external conditions, the area next to a window can be colder or hotter than is suitable for the collection. A poorly fitting window can also admit air that is too moist or too dry.

Guidance on achieving standard

A conservator/collection care advisor can advise on the placement of items in relation to heat sources, air conditioning and windows. For further information see 'Environmental Management' by May Cassar (MGC 1995), from the MGC Standards in the Museum Care series, from 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment) and from 'Archival Documents. Guide to the interpretation of BS 5454: 2000 Storage and exhibition of archival documents.' (BSI, 2001)

6.2B.1 The temperature and relative humidity levels in areas where collections are held are monitored and documented.  

Explanation

See section 6.1 'Monitoring and Equipment-General', in particular statements 6.1A.2, 6.1B.1 and 6.1C.1. Monitoring of temperature and relative humidity provide information on prevailing conditions in galleries, stores, reading rooms, etc. Monitoring also indicates whether control measures are needed to protect the collections and whether existing methods are functioning correctly. Relative humidity and temperature can be measured in a variety of ways including mechanical and electronic thermohygrographs, electronic meters and electronic data loggers. The choice of equipment will be influenced by the degree of accuracy required, the need for continuous as opposed to spot readings, cost, infrastructure and the experience and training of the staff who carry out monitoring.

A system for recording and storing monitoring data is established.

Guidance on achieving standard

For further information see 'Environmental Management' by May Cassar (MGC 1995), the MGC Standards in the Museum Care series, and 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment)
Environmental Monitoring and Control

Temperature and Relative Humidity

6.2B.2 An evaluation has been made to consider the benefits of and the options for controlling temperature and relative humidity, with recommendations presented to managers.

**Explanation**

The evaluation includes an analysis of temperature and relative humidity monitoring data gathered over a long period, ideally at least a year. This will show the effects of seasonal variations and the performance of the building itself in buffering against external conditions. The effectiveness of any existing control measures is also considered. As an essential part of the evaluation a conservator/collection care advisor considers the nature and condition of the collections and assesses whether they are adversely affected by existing levels of temperature and relative humidity. The information gathered from these processes is then used to consider the degree of control needed and whether it is required in all areas housing collections or only in certain areas where highly sensitive material is kept. The nature of the building is also considered and how control measures can be introduced.

Options for control could include:

- improvements in insulation and weather tightness
- reduction in solar gain by the use of blinds, curtains and filters
- creating smaller compartments/areas by fitting/closing doors
- improvements in air tightness of display cases
- localised control, such as stand alone humidifiers/dehumidifiers, used independently or in tandem
- reductions in the amount of fresh air introduced into the building, while still maintaining appropriate levels for human comfort
- conservation heating (heating regulated by a humidistat to control relative humidity)
- mechanical air handling system
- air conditioning system

The cost, sustainability and maintenance requirements of all the options selected for consideration are evaluated by management. The implication of any measure on the stability of the building must also be considered.

**Guidance on achieving standard**

For further information see 'Environmental Management' by May Cassar (MGC 1995), the MGC Standards in the Museum Care series, 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment) and 'Archival Documents. Guide to the interpretation of BS 5454: 2000 Storage and exhibition of archival documents.' (BSI, 2001)

6.2B.3 Items arriving in the collection or those stored below ambient temperatures are allowed time to acclimatise gently in areas where they will be stored or exhibited.

**Explanation**

Items entering the collection, which may be new acquisitions or loans to the institution, and items that are stored below ambient temperatures, are allowed to acclimatise before being unpacked. The packed item is placed in the area where it will be used, exhibited or stored and is left to reach room temperature. The packing material provides a buffer to help the item reach equilibrium with the ambient relative humidity and temperature and also protects the item from condensation forming on its surface. Items, such as photographs that are stored at low temperatures, and material treated for pest infestation by freezing, are not be handled directly until they reach room temperature as the cold makes them brittle and they can be readily damaged in this state.

**Guidance on achieving standard**

A conservator/collection care advisor can advise on the length of time required for acclimatisation for different materials. Also see 'Archival Documents. Guide to the interpretation of BS 5454: 2000 Storage and exhibition of archival documents.' (BSI, 2001) and the publication, 'Standards in the Museum Care of Photographs' (MGC, 1996)
6 Environmental Monitoring and Control

Temperature and Relative Humidity

6.2C.1 The temperature and RH requirements of different materials in the collections are met.  

Explanation
The temperature and relative humidity requirements of all materials in the collections have been specified by a conservator/collection care advisor or other specialist and are provided by the institution. Methods of controlling temperature and relative humidity includes:

- a sound, weather tight building with good insulation
- reduction in solar gain by the use of blinds, curtains and filters
- the use of small, compartments/areas/rooms
- air tight display cases
- the use of silica gel in display cases/storage containers
- localised control, such as stand alone humidifiers/dehumidifiers, used independently or in tandem
- reductions in the amount of fresh air introduced into the building, while still maintaining appropriate levels for human comfort
- conservation heating (heating regulated by a humidistat to control relative humidity)
- mechanical air handling system
- air conditioning system

Guidance on achieving standard
For information see 'Environmental Management' by May Cassar (MGC 1995), the MGC Standards in the Museum Care series, 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodleian.ox.ac.uk/dept/preservation/information/environment) and 'Archival Documents. Guide to the interpretation of BS 5454: 2000 Storage and exhibition of archival documents.' (BSI, 2001) For specifications for specific materials/types of item see: the MGC Standards in the Museum Care series, and the advice and guidance leaflets for various materials, including archives, photographs, natural history specimens, furniture, costume and plastics, published on the MLA website (www.mla.gov.uk)
6 Environmental Monitoring and Control

Light

6.3A.1 The overall exposure to light of all light-sensitive material is reduced as much as possible.

Explanation
Exposure to light causes fading of pigments and dyes, discolouration of paper, textiles and certain plastics and the breakdown of cellulose and proteins which are contained in paper, textiles, leather, biological specimens and many other items. The deterioration caused by light is cumulative and not reversible. It is a function of both the intensity of light and the length of exposure to it and damage can be reduced by controlling both of these factors.

Periods of exposure for light sensitive materials are limited: many institutions exhibit such material for no more than six months at a time after which items are ‘rested’ in storage; display of highly light sensitive material is limited to three months.

The intensity of light can be reduced by using lower wattage bulbs, filters, curtains/blinds on windows and louvers on skylights and by placing items in the shadow of other, less sensitive items. Blackout conditions are provided for items on display so that exposure is reduced when the institution is closed to visitors during daylight hours. Items in storage are protected from light by covering them or placing them in boxes or other enclosures. Ultra violet light is not perceived by the human eye and is therefore not required for viewing. It is eliminated as much as possible by the use of filters.

Guidance on achieving standard
The recommendations for exposure (lux/hours) and light intensity (illuminance) are given for four groups of items:
1. Materials that are not responsive to light such as most stone, glass and ceramics need no light control.
2. Materials that have a low response e.g. oil painting, frescos, undyed leather, wood, horn, bone ivory. Illuminance 200 lux, exposure 600,000 lux hours per year
3. Materials that have a medium response to light, such as watercolours, pastels. Illuminance c. 50 lux, exposure 150,000 lux/hours per year.
4. Materials that have a high response to light, e.g. silk, newspapers, photographs, some colourants: Illuminance 50 lux; exposure 15,000 lux/hours per year.

The exposure time is calculated by multiplying the lux by time. Where an exhibition is open for 7 days a week for 10 hours/day the exposure time is 70 x lux. Where the light levels are 200 lux the lux/hours would be 200 x 70 = 14,000 lux/hours.

A conservator or collection care advisor should specify the length of the display period and permitted light level for any light sensitive material. Further information is contained in the advice and guidance leaflets on the conservation of a number of materials (including archives and ephemera, books, costume, costume accessories, furniture, natural history, plastics, photographs and works on paper) published on the MLA website (www.mla.gov.uk) and in 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment). Recommended light levels for a range of materials are contained in the MGC, Standards in Museum Care series.

6.3A.2 Blinds, shutters, curtains and/or ultraviolet filters are used to reduce visible and ultraviolet light in all areas housing light sensitive collections.

Explanation
Blinds, shutters, curtains and/or ultra violet light filters are used to reduce the level of daylight in all areas where light sensitive material is displayed or stored. Windows are kept covered when rooms are not in use, including during daylight hours when the institution is not open to visitors.

Guidance on achieving standard
The institution provides blinds, shutters, curtains and/or UV light filters and other systems for reducing daylight, such as fabric diffusers or louvers fitted to skylights and neutral density film, which reduces visible light. These should be fitted for purpose and should function properly. A light plan, in which maximum light levels are specified for particular areas/items and blinds are lowered or curtains closed when that level is reached, allows staff to regulate exposure while still permitting some daylight to be used. For further information see ‘Environmental monitoring and control,’ available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment) and ‘Archival Documents. Guide to the interpretation of BS 5454: 2000 Storage and exhibition of archival documents.’ (BSI, 2001).
6 Environmental Monitoring and Control

Light

6.3A.3 Sunlight does not fall directly on any light-sensitive material while on display.

**Explanation**
Sunlight falling directly on a light-sensitive item on display not only exposes it to damaging levels of visible and ultraviolet light but also results in heating. This can lead to softening of some materials, such as waxes and varnishes, and because it can result in a drop in relative humidity, embrittlement of others, such as paper, textiles, wood, biological specimens, leather, etc. Heat also accelerates a number of decay processes. Light-sensitive material is positioned away from direct sunlight and daily and annual changes in the angle of the sun are considered.

**Guidance on achieving standard**
A conservator/collection care advisor should work with the exhibition designer to ensure that no light-sensitive items are placed in sunlight.

6.3A.4 Potentially harmful electric light sources are not placed close to collections.

**Explanation**
Light sources placed close to collections, on display or in storage can pose risks of high exposure to light and heating, from either the lamp itself or its control mechanism. Therefore the item should not become warm or hot to the touch under the light source. Damage to items in close proximity to light sources can also occur if an unshielded lamp is broken. Some light sources, such as fibre optics do not produce heat or UV light at the point where the light is emitted and therefore can be placed closer to items than other light sources.

The materials most at risk from this type of damage are organic materials such as paper, textiles, ivory and also include wax, varnish, some adhesives. Some biological materials and plastics are also vulnerable to damage from heating.

**Guidance on achieving standard**
A conservator, collection care advisor or other member of staff should check on the distance between light sources and collections to ensure that the items are not too brightly light or become hot when the lighting is on. For further information see 'Environmental Management' by May Cassar (MGC 1995)

6.3A.5 Materials particularly at risk from light damage, such as photographs, works on paper, textiles, manuscript inks, and biological specimens, have been identified.

**Explanation**
A conservator, collection care advisor or other specialist identifies those materials, items or types of item that are at risk from light damage. These include photographs and other works on paper, textiles, biological specimens such as herbaria, butterflies, insects and birds, organic materials such as leather, wood, feathers, plant material, plastics, rubber, certain minerals etc.

**Guidance on achieving standard**
Information on sensitivity to light is contained in the advice and guidance leaflets on the conservation of a number of materials (including archives and ephemera, books, costume, costume accessories, furniture, natural history, plastics, photographs and works on paper) published on the MLA website (www.mla.gov.uk) and in 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment). Recommended light levels for a range of materials are also contained in the MGC, Standards in Museum Care series.
6 Environmental Monitoring and Control

Light

6.3B.1 Light levels are monitored through seasonal variations in all areas housing light sensitive collections.

Explanation
Visible and UV light are monitored regularly throughout the year in all areas where light sensitive material is displayed, stored or used to ensure that specified levels are maintained. Where daylight is present the intensity and angle of the sun changes throughout the day and the year and more light can enter south facing windows during the winter when the sun is low in the sky than during the summer. The level of artificial light changes as lamps begin to fail. Levels of ultra violet light increase as UV filters deteriorate.

Guidance on achieving standard
Monitoring for both visible and UV light can be carried out with hand held meters or with electronic data loggers. The choice will depend on the budget available and whether continuous data are required or whether spot readings are sufficient. An inexpensive option is the blue wool dosimeter, in which samples of a range of blues dyes of known fading rates are exposed to light, providing a qualitative indication of light levels. However, as dosimeters function in real time, damage to items can occur while the measurement is being taken, i.e., while the wool samples are responding to light. For further information see 'Environmental Management' by May Cassar (MGC 1995), 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment) and 'Archival Documents. Guide to the interpretation of BS 5454: 2000 Storage and exhibition of archival documents.' (BSI, 2001).

6.3B.2 Fluorescent tubes are fitted with UV filtering sleeves or low-UV fluorescent tubes are used. They are checked regularly and replaced when they become ineffective.

Explanation
Light sources, such as fluorescent tubes and tungsten halogen lamps that emit UV radiation of more than 75 microwatts per lumen require filtering to reduce the UV content. As an alternative, low UV tubes and lamps are used. As filters have a lifetime, their effectiveness is checked regularly with a UV meter to ensure that continuous protection is provided.

Guidance on achieving standard
Manufacturers and suppliers of fluorescent tubes and lamps should be able to provide information on the UV content of their products. UV filtering sleeves are available from conservation materials and equipment suppliers. UV light can be measured with a hand held meter or with an electronic data logger. For further information see 'Lighting for Museums and Art Galleries' (Chartered Institution of Building Services Engineers, 1994), 'Environmental Management' by May Cassar (MGC 1995), 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment) and 'Archival Documents. Guide to the interpretation of BS 5454: 2000 Storage and exhibition of archival documents.' (BSI, 2001).


6 Environmental Monitoring and Control

Light

6.3B.3 The overall exposure to light of light sensitive collections during exhibitions is kept within current recognised limits.

Explanation
Overall exposure is a function of both the intensity of light and the length of exposure time. Reduction of exposure involves control of both factors. (see statement 6.3A.1) Therefore, the institution sets limits on both the lux level to which an item or group of items can be exposed and the length of time that it can be on display. If, during the course of an exhibition, additional lighting is required for an event, such as filming, this increased exposure is compensated for by reducing the time the items remain on display, for example, by reducing opening hours.

Guidance on achieving standard
The recommendations for exposure (lux/hours) and light intensity (illuminance) are given for four groups of items:
1. Materials that are not responsive to light such as most stone, glass and ceramics need no light control.
2. Materials that have a low response e.g. oil painting, frescos, undyed leather, wood, horn, bone ivory. Illuminance 200 lux, exposure 600,000 lux hours per year.
3. Materials that have a medium response to light, such as watercolours, pastels. Illuminance c. 50 lux, exposure 150,000 lux/hours per year.
4. Materials that have a high response to light, e.g. silk, newspapers, photographs, some colourants. Illuminance 50 lux; exposure 15,000 lux/hours per year.
The exposure time is calculated by multiplying the lux by time. Where an exhibition is open for 7 days a week for 10 hours/day the exposure time is 70 x lux. Where the light levels are 200 lux the lux/hours would be 200 x 70 = 14,000 lux/hours.

A conservator/collection care advisor should be able to provide specifications for limits on overall exposure times. Recommended light levels for a range of materials are contained in the MGC, Standards in Museum Care series. For further information see 'Environmental Management' by May Cassar (MGC 1995)

6.3C.1 There is a central automatic/zoned switching system to ensure that lights are kept off in storage areas when unoccupied.

Explanation
Light switch control panels in storage areas are configured so that lights can be switched on or off by zones within the area. Alternatively, a system of automatic switch off is used to reduce exposure of the collections to light and to save energy.

Guidance on achieving standard
An electrician or building services engineer should be able to advise on an appropriate system.
6 Environmental Monitoring and Control

Gaseous and Particulate Pollutants

6.4A.1 Items in the collection are protected from excessive dust.  

Explanation
Dust can damage collections because it can be abrasive, corrosive, is a food source for insect pests and can contribute to mould growth. Over time dust becomes bonded to the surface of items, making removal more difficult. The collection is protected from dust by using a combination of measures such as:

- having an effective housekeeping schedule
- keeping doors and windows closed
- having an external door and an inner door at the entrance, with a wide gap between them so that both doors cannot be held open simultaneously
- placing filters on air intake vents on air handling/air conditioning systems
- sealing concrete and plaster floors, walls and ceilings
- placing wide, looped pile mats at entrances so that visitors remove grit as they enter
- the provision of cloakrooms so that visitors are encouraged to leave outdoor clothing, which can shed grit and fibres
- locating collections at the centre of the building
- placing stored items in closed cabinets, covering them or placing them in boxes or other enclosures
- displaying items within showcases
- glazing framed works

Guidance on achieving standard
See section 4 on housekeeping. Training in housekeeping is available through hubs, regional museum, library and archive councils, museums, and other sources, see ICON, www.icon.org.uk, for courses. Further information is contained in the advice and guidance leaflets on the conservation of a number of materials (including archives and ephemera, books, costume, costume accessories, furniture, natural history, plastics, photographs and works on paper) published on the MLA website (www.mla.gov.uk) and ‘Archival Documents. Guide to the interpretation of BS 5454: 2000 Storage and exhibition of archival documents.’ (BSI, 2001), ‘Environmental monitoring and control,’ available on the Bodleian Library website (www.bodley.ox.ac.uk/dept/preservation/information/environment).

6.4A.2 All windows and doors can be closed so that the building provides some protection from airborne pollutants, both gaseous and particulate.  

Explanation
Where windows and external doors are kept closed the building in which the collections are housed can provide some protection from externally generated pollutants. The institution ensures that all doors and windows function properly.

Guidance on achieving standard
A maintenance contractor or builder should be asked to check all doors and windows and to take remedial action where they do not close effectively. The seal can be improved by fitting draft excluders to doors and windows.
6 Environmental Monitoring and Control

Gaseous and Particulate Pollutants

6.4B.1 Evaluation of the risks to the collection from airborne pollution has been made and recommendations presented to managers.

Explanation

An evaluation of the risks to the collection from airborne gaseous and particulate pollution includes the following considerations:

- The nature and condition of items in the collection: are there significant numbers of vulnerable items such as photographs, audiovisual, magnetic and electronic storage media, silver, copper, lead and lead based pigments, some biological and geological specimens, etc that are showing signs of deterioration?
- Are there sources of indoor pollutants such as kitchens, electrostatic photocopiers, inappropriate display, storage, decorating and furnishing materials, unsealed walls, floors and ceilings?
- Is the building located in an urban or rural location?
- Is the building in close proximity to a busy road or an industrial site?

The evaluation also includes information on pollution levels, gained either through a specialist survey employing gas analysers or, more feasibly for many institutions, through the use of passive pollution samplers. These provide an indication of types and levels of pollutants present within the building. Monitoring seeks to identify whether pollutants are generated from within the building, from outside or a combination of both.

Based on the evaluation recommendations are compiled for presentation to management. Any recommended remedial action is appropriate and proportionate to the level of risk to the collection. Actions to reduce risk could include:

- Placing vulnerable items in display cases, closed storage cabinets or drawers, placing them within enclosures
- Placing collections, and specifically, vulnerable items at the centre of the building
- Ensuring that all storage and display materials are fully tested using professionally recognised protocols
- Placing pollution scavenging material in close proximity to vulnerable items
- Locating photocopiers and kitchens away from collections
- Keeping doors and windows closed
- Having an external door and an inner door at the entrance, with a wide gap between them so that both doors cannot be held open simultaneously
- Placing filters on air intake vents of air handling/air conditioning systems
- Sealing concrete and plaster floors, walls and ceilings
- Placing wide, looped pile mats at entrances so that visitors remove grit from their shoes
- Providing cloakrooms so that visitors are encouraged to leave outdoor clothing, which can shed grit and fibres
- Installing an air conditioning/air handling system with suitable filtration
- Introducing more effective filtration in an existing air conditioning/air handling system

Guidance on achieving standard

A conservator/collection care advisor should assess the condition of the collection and its vulnerability to pollution related damage. They may also be able to identify many internal sources of pollution. Information on passive pollution samplers is available from the Collections Management Team, English Heritage, 23 Savile Row, London W1X 1AB. The Building Services Research and Information Association carries out performance checks for air quality. (see www.bsria.co.uk/services/microclimate centre) For information on testing of display and storage materials see 'Selection of Materials for the Storage or Display of Museum Objects' by L. Lee and D. Thickett (British Museum 1996)

A recommendation to install air conditioning/air handling systems, which requires specialist investigation, design and installation, should consider the resources required for installation, operation and maintenance. For further information see 'Archival Documents. Guide to the interpretation of BS 5454: 2000 Storage and exhibition of archival documents.' (BSI, 2001), 'Environmental monitoring and control,' available on the Bodleian Library website (www.bodley.ox.ac.uk/deppt/preservation/information/environment), 'Environmental Management' by May Cassar (MGC 1995), 'Pollutants in the Museum Environment' by P. Hatchfield (Archetype Publications Ltd, 2002).
6 Environmental Monitoring and Control

Gaseous and Particulate Pollutants

6.4B.2 All internal building surfaces are finished, where appropriate, with a seal to reduce dust.  

**Explanation**

Internal surfaces, such as floors, walls and ceilings are sealed, where appropriate, with a material to prevent the spread of dust from these surfaces. Surfaces, particularly, in historic buildings that could be damaged or disfigured by the application of a sealant, are not treated in this way.

**Guidance on achieving standard**

An architect, surveyor or conservator should advise on the application of sealants to historic building surfaces. Sealants for modern plaster, concrete, etc should be applied according to the manufacturer’s instructions. Paint and other sealants must not make surfaces impervious to the passage of water vapour and should be durable and well adhering to the substrate. The paint should not give off acid gases and volatile organic compounds over time as it degrades. Acrylic resin paints are suitable because of their stability. A period of 3-4 weeks is required for off-gassing following application before the collections are installed. For further information see ‘Pollutants in the Museum Environment’ by P. Hatchfield (Archetype Publications Ltd, 2002)

6.4B.3 Products used by cleaning and maintenance staff do not give off potentially hazardous vapours.  

**Explanation**

Cleaning and maintenance products, such as those containing chlorine, hydrogen peroxide, ammonia, vinegar, lemon juice, etc, which can be hazardous to collections, are not used. Damage to metals, photographs and other materials can result from high concentrations of vapour from these chemicals or through contact with them.

**Guidance on achieving standard**

Conservation/collection care staff should advise cleaning and maintenance staff on which products are safe to use in areas housing collections and should explain why this is important. Where necessary, product information, such as material safety data sheets, should be consulted on the content of the products. These can be obtained, free of charge, from the manufacturer/supplier of the product. Where contract cleaners are used the institution should specify in the contract which cleaning products can be used in areas housing collections.
6 Environmental Monitoring and Control

Gaseous and Particulate Pollutants

6.4C.1 Where evaluation finds that airborne pollution is having a significant impact on the condition of collections, measures are taken to protect collections.

Explanation
Where evaluation of airborne pollution, as discussed in statement 6.4B.1, is having an adverse effect on collections, measures to mitigate the effects of pollution are taken. These could include:

- placing vulnerable items in display cases, closed storage cabinets or drawers, placing them within enclosures;
- placing collections and particularly vulnerable items at the centre of the building;
- ensuring that all storage and display materials are fully tested using professionally recognised protocols;
- placing pollution scavenging material in close proximity to vulnerable items;
- locating photocopiers and kitchens away from collections;
- keeping doors and windows closed;
- having an external door and an inner door at the entrance, with a wide gap between them so that both doors cannot be held open simultaneously;
- placing filters on air intake vents of air handling/air conditioning systems;
- sealing concrete and plaster floors, walls and ceilings;
- placing wide looped pile mats at entrances so that visitors remove grit from their shoes;
- providing cloakrooms so that visitors are encouraged to leave outdoor clothing, which can shed grit and fibres;
- installing an air conditioning/air handling system with suitable filtration;
- introducing more effective filtration in an existing air conditioning/air handling system.

Guidance on achieving standard

6.4C.2 Any technical improvements are developed in conjunction with an appropriately qualified engineer.

Explanation
The introduction of plant, such as air conditioning/air handling systems, to improve the air quality in areas housing collections, is planned, designed and implemented in conjunction with an appropriately qualified engineer. The engineer is involved at an early stage in consideration of any such developments.

Guidance on achieving standard
A conservator or collection care advisor should provide specifications for conditions within collection areas and should discuss with the engineer how these can be achieved in an efficient, cost effective and sustainable way. The engineer should, ideally have experience in working with collections and/or in historic buildings. Colleagues in other institutions who have experience of working with an engineer should be consulted. Another source of information is the Chartered Institution of Building Services Engineers (CIBSE) which has an online register of consultants. (see www.cibse.org)
7 Conservation

Programme

7.1A.1 Priorities for conservation of the collections have been identified. Basic

Explanation
Conservation refers to the hands-on intervention applied to materials, objects and specimens held in collections of archives, libraries or museums to achieve chemical and physical stability and to extend their useful life and ensure their continued availability.
The priorities for conservation of the collections will be influenced by the use and/or the condition of an item. The use of an item includes exhibitions, study, readers, research etc.
The institution has decided what type of object it will consider to be of high priority and which not. For example, the institution could decide that the highest priority should go to objects that are heavily used or are on display and the lowest to objects in the store that are not likely to be used.

Guidance on achieving standard
The person responsible for the collection should discuss the condition of the objects with a conservator or suitably experienced person. This information combined with exhibition programmes, frequency of loans etc. and other circumstances that may require an object to be conserved can be used to prioritise the conservation of the items.
Where conservation advice is not available in-house a suitable conservator or collection care adviser can be located through the Conservation Register managed by the Institute of Conservation.

Advice on prioritising the conservation needs of the collection is available from Hub Museums, the National Preservation Office, Northern Ireland Museums Council, Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council or a neighbouring archive, library, historic house or museum.

7.1A.2 Items and collections requiring physical protection have been identified. Basic

Explanation
Physical protection includes: boxes, crates, enclosures, folders, frames, mounts, object mounts, tissue wadding, dust covers, storage furniture, stanchions, display cases etc.
All items and collections that need protecting from physical damage have been identified

Guidance on achieving standard
The person responsible for the collection should assess the collection or discuss the need of physical protection for the collection with conservation or collection care staff and other staff working with the collections.

7.1A.3 Results of all inspections or surveys of collections are recorded. Basic

Explanation
The condition of a collection can be assessed by surveying the collection or by a general inspection. A survey or inspection are usually carried out by a conservator or preservation personnel. It may be done in-house or by a contractor. The results of a survey or inspection have been recorded and are available to staff.

Guidance on achieving standard
The person responsible for the collection must ensure that a report or summary is written whenever the collection or part of the collection is surveyed or inspected. The results must be recorded both when the work is carried out in-house or by a contractor.

Spectrum includes standards on documenting conservation and collection care and on assessing collections, www.mda.org.uk
7 Conservation

Programme

7.1B.1 The institution has a written conservation programme based on defined conservation priorities for the collections. Good

Explanation
A conservation programme is a plan of the conservation work that is to be carried out on the collection. The priorities for conservation of the collections will be influenced by the use and/or the condition of an item. Conservation may be needed on items that are going on display, loaned to another institution, are in a fragile state and are heavily used by readers etc. Objects requiring technical examination for research or publication may require some preliminary conservation work. In addition, an inspection of the collection may have concluded that there are a number of items in danger of being lost or severely damaged if not treated. The person responsible for the collection has written a programme which prioritises the conservation and takes into account all the factors.

Guidance on achieving standard
Information on the items needing conservation and the priorities of these items can be gathered through discussions with the staff who use the collection and the conservation or collection care staff. Appropriate staff should meet together to establish the programme and priorities as compromises may be necessary. A conservator or collection care adviser can be contracted to provide some of the information and help develop a plan where the skills are not available in-house.

7.1B.2 Conservation priority setting is underpinned by condition assessments. Good

Explanation
Condition assessments have been carried out on the collection and the information has been used when deciding on the conservation priorities. A condition assessment is an evaluation of the condition of the objects. Condition assessments vary in form depending on the nature of the collection and the desired outcome of the assessment. For example a condition assessment for an exhibition loan object is very detailed and records the exact condition of the item so that any change in the condition can be recorded. More general condition assessments can be carried out on all or part of the collection. It may involve looking at a number of objects and recording the data required, such as the materials, condition, risks to the item, causes of deterioration, ameliorating treatment etc. This type of assessment will provide general information on the state of the collection. Where there is concern over the condition of particular items a fairly detailed assessment is carried out only on those items. Very often, a general assessment is carried out and the results highlight the need for a more detailed assessment of a particular part of the collection.

Information gathered during an assessment is, along with other relevant particulars, used to develop a prioritised conservation plan.

Guidance on achieving standard
Condition assessments are carried out by a conservator or by other staff following training by a conservator on assessing condition of objects. They can be carried out in-house or by a contractor. A suitable conservator can be located through the Conservation Register managed by the Institute of Conservation or through the Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council or a neighbouring, archive, library, historic house or museum. The NPO has developed tools for assessing museum collections and libraries and archives.

7.1B.3 Conservators work in conjunction with other staff to identify priorities for conservation treatments. Good

Explanation
The priorities for conservation treatments are identified by the staff working with the collection and conservators. The staff discuss the conservation needs and other issues such as use of the collection that are needed to prioritise the conservation work.

Guidance on achieving standard
Where conservation advice and experience is not available in-house a conservator is contracted to help prioritise the conservation work. A suitable conservator can be located through the Conservation Register managed by the Institute of Conservation or through the Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council or a neighbouring, archive, library, historic house or museum.
7 Conservation

Programme

7.1B.4 Sensitive or vulnerable items in the collections are identified and this information recorded centrally. Good

Explanation

Items in poor condition or at risk of deterioration from the conditions within the institution or from use are identified. The information is recorded and available to staff so that they can check whether an item is suitable for use.

Guidance on achieving standard

A conservator or other suitably experienced person can assess the collection and discuss the collection with the staff who use it. This information is recorded on the collection management system or other form of data management system. Spectrum includes standards on documenting conservation and collection care, www.mda.co.uk

7.1B.5 The institution keeps records of collection care programmes. Good

Explanation

Collection care programmes such as re-boxing items and packing textiles, are recorded. The information recorded could include: date, name of person carrying out the work, location, materials used, information written on the old packing and other relevant data.

Guidance on achieving standard

Spectrum includes standards on documenting conservation and collection care, www.mda.org.uk

7.1C.1 The conservation programme is regularly reviewed to set and monitor clear targets, and to check whether previous recommendations have been implemented. Best

Explanation

The conservation programme includes targets such as the number of items to be completed for an exhibition or by a certain date, training of staff or volunteers, improvements to storage conditions. The programme is reviewed to see whether the targets are being met and, if not, what problems or issues may be the cause. The targets are assessed and adjusted where necessary. New targets are set to include new projects established by the institution and/or staff.

7.1C.2 The documentation procedure manual lists standard conservation and related procedures and provides guidance on recording. Best

Explanation

Standard conservation, preservation and collection care procedures include housekeeping, re-boxing and packing, framing, mounting some items, environmental monitoring, pest management, cleaning, repair etc. The processes are included in the documentation procedure manual.

Guidance on achieving standard

Spectrum includes standards and information on procedures for documenting conservation and collection care and on assessing collections, www.mda.org.uk
7 Conservation

Programme

7.1C.3 The institution has a programme to obtain any relevant conservation treatment records of objects not currently held in the collection.

**Explanation**
The conservation treatment records of objects that are on loan to other institutions should be included in the institution's documentation. Where the records are missing there is a programme to obtain the records from the institution holding the object.

Implementation

7.2A.1 Any commercial conservation/binding company undertaking preservation or conservation services is provided with written specifications and a contract.

**Explanation**
A commercial company undertaking conservation or preservation work for the institution is provided with written specification for the work being carried out. The specifications should outline: the aim of the project; the work that is needed and the outcomes; description of the method and materials, as appropriate; stages for consultation and completion date. The contract includes, where appropriate, the responsibilities of the institution including provision of facilities; the responsibilities of the contractor; insurance conditions; completion date; collection and delivery information; cost; payment terms. The statement 1.3B.2. 'All consultants working on collection care related issues have a written brief' refers to consultants. This statement refers to larger organisations that could be taking on large projects.

**Guidance on achieving standard**
Specifications are sometimes drawn up by the contractor and institution together so that they are both clear about the scope of the work.

Large institutions and those that are part of a local authority or other group may have standard contracts.

*Working with Independent Conservators, guidelines for good practice.* Published by MGC (MLA) 2000 provides advice on contents of a brief or specifications.

See also *Working with Consultants* Museums Association. 2003

7.2A.2 The institution keeps records, including photographs, of both in-house and external conservation or rebinding treatments.

**Explanation**
Conservation or collection care treatments include any process or project that is carried out as part of preserving the collection and can include interventive conservation, rebinding projects, producing surrogates, reframing and mounting. Records, including photographic images, are kept of these processes.

**Guidance on achieving standard**
A procedure of ensuring that records are kept should be instigated. Record keeping, with a template or list of contents, should be included in a contract with external consultants and companies.

Spectrum includes standards on recording conservation and collection care.
7 Conservation

Implementation

7.2A.3 Conservation treatment records are linked to the institution's main documentation cataloguing scheme.

Explanation
The institution’s main cataloguing scheme includes or is linked to the conservation treatment records. It is possible, when using the collection management system or cataloguing scheme, to access conservation treatment records for a particular item.

Guidance on achieving standard
Spectrum includes information on documenting conservation and collection care. www.mda.org.uk

7.2B.1 Conservators employed or contracted to work on collections are asked to show that the treatments and techniques they use are in line with current professional practice.

Explanation
The institution ensures that the work carried out by an in-house or contracted conservator is in line with current practice and requests that the conservator demonstrates this. It is not always easy to find another conservator working on exactly the same type of project however, demonstrating current practice can be done by: visits to other archives, libraries or museums; published information including conference papers; information from the internet; inviting another conservator to visit. Occasionally there are differences of opinion on suitable treatments, this may not mean that the institution’s conservator is not in line with current practice. Under these circumstances independent conservation advice should be sought.

Guidance on achieving standard
Specialist conservators can be located from the Conservation Register. The Institute of Conservation may be able to mediate in the event of a disagreement over treatment methods.

7.2B.2 A quality control system is in place to evaluate the work undertaken by commercial conservation or binding contractors.

Explanation
The institution has a system in place to check the quality of the work being carried out by conservation or binding contractors or other contractors carrying out collection care or preservation work. The system will depend on the organisation but could include employing a consultant or in-house conservator to manage and check the project or checking items or samples of large quantities when they are returned.

7.2B.3 Cleaning and minor repair of collections is carried out by conservators/others working under the instruction of a conservator.

Explanation
Some conservation and collection care work, particularly routine work such as cleaning or minor repairs, may be carried out by students, volunteers or non-conservation members of staff. A conservator with relevant experience decides on the treatment methods and instructs the people carrying out the work, he/she continues to check the project and standard of work. Even in apparently routine tasks unexpected problems can arise, having a conservator involved reduces the risk of damage. The conservator may be in-house or a consultant.
7 Conservation

Implementation

7.2B.4 Records are kept of all commercial binding work, including details of the materials and techniques used. Good

Explanation
The records of commercial binding work are included in the main cataloguing system or kept on a separate database. They include: title of work and other identifying information, date of collected, reason for rebinding; binder, materials used, date completed.

7.2B.5 Documentation records for condition-checking, conservation or other relevant procedures conform to Spectrum: Good
the UK museum documentation standard (mda).

Explanation
Spectrum provides standards for the procedures of documenting condition checking, conservation and collection care activities. For example it recommends for condition checking that:
- the documentation of condition checks is completed by trained persons;
- all condition check documentation is up-to-date;
- all information is documented and is accessible via the object number;
- individual and collective responsibilities within the organisation for condition checking are clearly defined and identified;
- the date, name of the condition checker and the reason for checking is recorded;
- condition checking is carried out whenever a change to the object, its use or surrounding environment occurs;
- the condition of an object is monitored over time;
- a set procedure is followed when object condition ‘danger signals’ are observed;
- a condition check happens as part of the following procedures: object entry, loans in, acquisition, conservation and collections care, use of collections and de-accession and disposal.

Guidance on achieving standard
Spectrum is available to download from the internet www.mda.org.uk or a printed version can be purchased from the mda.

7.2C.1 Conservation records are held and updated on a database. Best

Explanation
Conservation treatment records are held on a database and are regularly updated. The database should preferably be a part of or linked to the main cataloguing database or collection management system.

7.2C.2 Records are produced to archival standards and are stored in an environment designed to ensure their long-term preservation. Best

Explanation
Records of conservation treatments, condition checks and other records that are to be kept with the collection are kept using archival quality materials such as paper, ink, enclosures and printing. The records are stored in archival quality furniture, files, boxes or other suitable containers.

Guidance on achieving standard
Conservation suppliers and some stationary suppliers list archival quality computer, photocopy or writing paper and inks etc.
7 Conservation

Implementation

7.2C.3 Conservation procedures are recorded as part of the MARC record.  

Explanation
MARC is the acronym for Machine-Readable Cataloging. It defines a data format that emerged from a Library of Congress-led initiative. It provides the mechanism by which computers exchange, use, and interpret bibliographic information, and its data elements make up the foundation of most library catalogues used today. The British Library decided that MARC 21 is the standard for data creation and processing of its bibliographic records. The institution includes conservation procedures as part of the MARC record.

Guidance on achieving standard
Contact the CILIP or the NPO for more information on MARC.
8  **Surrogate Copies and New Media**

**Procedures**

**8.1A.1** The institution has assessed appropriate techniques and equipment for making preservation copies of fragile or heavily used materials.  

**Explanation**

Libraries and archives often copy material that is particularly fragile or is heavily used. The copies are frequently referred to as surrogates. The most common forms of preservation copies are photocopies of all or part of the item; facsimiles; microfilm; and digital or electronic copies. The process of making the copy can be damaging. For example, the leaves can be creased; folded or torn, stress may be put on the structure of a volume causing the spine to break; light damage can occur if an item is frequently photocopied. In order to reduce the risk of damage an assessment must be made of the condition of the material to be copied and the method of copying.

Museums, galleries and historic houses may also make copies of objects. This is often carried out for display and loan purposes but also for marketing. Copying is frequently carried out by taking a mould of the item and casting from the mould. An alternative method is to fashion a copy in similar materials often measuring the original. Taking a mould or handling objects for measuring can cause damage to the surface of the object. The condition of the item and the method used for making the copy has been assessed and a procedure agreed.

In either case the institution has looked at the various methods and formats available for copies and has assessed the advantages and disadvantages in relation to their collection and use of the collection.

**Guidance on achieving standard**

A conservator or collection care adviser can assess the condition of items. Assessing the techniques and equipment can be carried out by a trained and or experienced person from a reprographic department or experienced in producing copies and reproductions.

Advice on copying may be available from Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. A neighbouring museum, archive, library, historic house or museum may be able to advise. A consultant collection manager or conservator could be located through the Conservation Register managed by the Institute of Conservation.

**8.1A.2** The selection of items or collections for surrogacy includes an assessment of the level of current and potential use.  

**Explanation**

When choosing items to be copied the demand for and interest in the item now and in the future is assessed. It is a poor investment to copy an item or collection that will only have a small audience and a limited life span.

**Guidance on achieving standard**

Assessment of the significance of the collection locally, nationally and internationally as well as its current use will help inform the decision.
8 Surrogate Copies and New Media

Procedures

8.1A.3 A system is in place to provide users with surrogate copies rather than the originals.  

Explanation

In a library and archive a surrogate copy of an original can be a photocopy, facsimile, microfilm or digital/electronic copy. The main reasons for making surrogates are for access and preservation. The use of surrogates allows heavily used material to be more freely available to existing and new users. It also reduces the handling of original items, this is particularly important if the item is in poor condition, has a fragile structure, is a non-standard format or is rare and valuable.

For a museum this standard refers to which items are used for handling or education collections. Under normal circumstances accessioned items are not used for handling and education but non-accessioned items may be used. However, in cases where there are a large number of similar accessioned objects, the museum may decide to keep aside the best or most interesting examples and use some of the remaining objects for handling, education etc.

Guidance on achieving standard

Producing surrogates requires planning and funding. Preparation work includes identifying the items or collections to be copied; checking that the collection is in a suitable condition to be copied; planning conservation work to prepare the material where necessary; deciding on the appropriate format of the surrogate; setting up a system to manage the process of copying and of storing the surrogates; checking on the copyright status of the original items.

A museum should decide on which material is considered core to the collection and ensure that it is not used for handling etc. The non-core material can then be identified for use.

Photocopying of Library and Archive Materials. NPO  
Managing the digitization of library, archive and museum materials. NPO

8.1A.4 All equipment used to produce surrogate copies, such as cameras or computers, is protected from dust.  

Explanation

8.1A.5 Fragile items are assessed by a conservator or collection care adviser before surrogate copies are made.  

Explanation

Items that are at risk of being damaged by the copying process or items that are already in a poor condition are checked by a conservator or preservation or collection care adviser.

Items at risk that should be assessed include: items with torn or brittle pages, items with damaged bindings, broken sewing or loose pages; vellum or parchment; books with historically important or fine bindings; books with fold-outs which are larger than their covers; books which are glued rather than sewn, or stapled or stitched through the sides, or with tight binding; items with seals attached; books which weigh 4.6 Kg (10lb) or more or which are more than 50mm thick; large items such as sheet maps, plans and charts, newspapers, large format books.

The conservator or collection care or preservation adviser assess that the method of copying is appropriate and whether remedial conservation work is carried out before copying can take place.
8 Surrogate Copies and New Media

Procedures

8.1A.6 The process of re-formatting is not undertaken if this is likely to cause damage to original material. In such cases, preparatory conservation work is included in the programme.

Explanation
Damage can include further weakening of an already fragile binding structure and tearing or creasing leaves or pages. The item is not copied until conservation work can be carried out.

8.1A.7 The preparation and selection of items for surrogate copying is carried out by staff trained in handling and preservation awareness.

Guidance on achieving standard
Training may be provided in-house or externally. Advice on receiving handling training may be available from CILIP, Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. A neighbouring museum, archive, library, historic house or museum may be able to advise. A collection care or preservation adviser or conservator may be able to provide training and could be located through the Conservation Register managed by the Institute of Conservation if the expertise is not available in-house.

8.1A.8 The production of surrogate copies is carried out by staff trained in quality control, handling collections and preservation awareness.

Guidance on achieving standard
Training may be provided in-house or externally. Advice on receiving handling training may be available from CILIP, Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. A neighbouring museum, archive, library, historic house or museum may be able to advise. A collection care or preservation adviser or conservator may be able to provide training and could be located through the Conservation Register managed by the Institute of Conservation if the expertise is not available in-house.
8 Surrogate Copies and New Media

Procedures

8.1A.9 The metadata provided for digital copies, includes all necessary details of the material’s content and other Technical information essential to its present and future accessibility. Basic

Explanation
Metadata is developed when digital copies are being made and includes description of images and captions to aid searching for and retrieval of the item. It also provides all necessary details of the material’s layout, format, mode and density of recording and other technical information essential to its present and future accessibility.

Guidance on achieving standard
Managing the digitisation of library, archive and museum materials. NPO

8.1B.1 Audio-visual machine-readable records (i.e. reel-to-reel, video) are not acquired unless the institution has, or plans to obtain and maintain, the necessary equipment to use them. Good

Explanation
Records that require equipment to enable them to be seen or read are only acquired when the institution has, or plans to obtain, such equipment, and where the institution is able to keep the equipment maintained. Without good maintenance the equipment may produce poor copies or stop functioning.

8.1B.2 The existence of surrogate copies is indicated by the retrieval system. Good

Explanation
The retrieval system includes information on whether surrogates are available so that the surrogates can be used in preference to the original.

8.1B.3 Contractors hired to produce surrogate copies can demonstrate good handling practices and quality control measures, and have been given written specifications. Good

Explanation
It is essential that contractors employed to produce surrogate copies are trained and experienced at safe handling of items and quality control. These practices are discussed with the contractor who is requested to demonstrate their abilities. The language and terms used must be clarified so that both the institution and the contractor are ‘speaking the same language’ to prevent confusion over expectations and deliverables. This is particularly important when discussing and specifying the quality standards. The contractor is provided with written specifications laying out the scope of work, timing, costs etc.

Guidance on achieving standard
Good handling principles and practice for library and archive materials. NPO
Managing the digitisation of library, archive and museum materials. NPO
Photocopying of library and archive materials. NPO
Working with Consultants, Museums Association
Working with Contractors. MGC (MLA) 1998
8 Surrogate Copies and New Media

Procedures

8.1B.4 A quality control check is made of all surrogate copies and collections returned from commercial contractors. Good

Explanation
A member of staff from the institution carries out quality control checks on material returning from contractors. This includes the quality of the image or other format and the metadata.

Guidance on achieving standard
The quality control does not necessitate examining each item but a random check of the items. Managing the digitisation of library, archive and museum materials. NPO

8.1B.5 A surrogate copy is not produced by the institution if a surrogate created to preservation standards is available for purchase from another source. Good

Explanation
Making a surrogate copy exposes the items to risk of damage from handling etc. The process is also time consuming and expensive. It is therefore preferable to purchase a surrogate from another source. However, the quality of the surrogate must reach the preservation standards of the institution. It must be made from suitable archival quality materials and to the appropriate standard for use in the collection.

8.1C.1 The condition of master microfilms is checked every two years by inspection of a sample. Best

Explanation
When items are microfilmed a master copy is produced from which a copy is made. This second copy is used to make subsequent copies. The master copy is not used except when necessary. This procedure is designed to preserve the master copy so that the chances of having to re-film the original item are reduced. A sample of the master copies is checked every two years for signs of damage or deterioration.

8.1C.2 The procedures, standards and innovations of digital preservation technology are regularly reviewed. Best

Explanation
Digitisation is the conversion of analogue material to a digital format for use in computer based applications. The image of the original is usually made with a scanner or digital camera. The digital format is saved as a computer file. The process of making and preserving the digital surrogates must be reviewed every two years in relation to the needs of the institution and developments in technology and software. The digital format, hardware, software, and the condition of the files must be checked.

Guidance on achieving standard
Where in-house information is not available advice can be sought from CILIP, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. A neighbouring archive, or library may be able to advise.
8 Surrogate Copies and New Media

Procedures

8.1C.3 The institution has a preservation microfilm programme.  

**Explanation**  
Where microfilms are produced as part of a preservation programme the institution has a programme in place to ensure the preservation of these microfilms. Equally, where microfilms form part of the collection, the institution has a preservation programme to preserve these microfilms.

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Photocopying

8.2A.1 Written guidelines for photocopying and photocopying services are available to users.  

**Explanation**  
Guidelines explaining the appropriateness of material for photocopying and the criteria for restricted materials are available to users. The guidelines include information on how to order a photocopy and the charges. Where a self-service copier is available for users, information on what material can be copied, how to use the machine and on careful handling is provided. Copyright information is also available.

**Guidance on achieving standard**  
Photocopying of library and archive material. NPO

8.2A.2 The institution has identified material that can safely be photocopied by users.  

**Explanation**  
Material that can be copied by the users themselves has been identified and the information is clearly available.

**Guidance on achieving standard**  
Photocopying of library and archive material. NPO

8.2A.3 The institution does not allow self-service photocopying of fragile or light-sensitive material.  

**Explanation**  
Items that are very fragile for example have brittle paper or are torn (see 8.2A.2) or are very light sensitive, such as certain photographic material, may not be photocopied by users.

**Guidance on achieving standard**  
Photocopying of library and archive material. NPO
8 Surrogate Copies and New Media

Photocopying

8.2B.1 Photocopying is carried out by staff trained in safe handling practices. Good

Explanation
All staff who carry out photocopying have been trained in the safe handling of items for photocopying. The training includes general handling of books and archives as well as good photocopying practice such as: not exerting pressure on the spine of a book; not opening a volume more than 180°; providing adequate support for the pages; the number of openings that can be copied; how to copy fold-outs; copying photographs.

Guidance on achieving standard
Training may be provided in-house or externally. Advice on receiving handling training may be available from CILIP, Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. A neighbouring museum, archive, library, historic house or museum may be able to advise. A collection care/preservation adviser or conservator may be able to provide training and could be located through the Conservation Register managed by the Institute of Conservation if the expertise is not available in-house.

8.2B.2 Photocopies made for permanent retention are printed on lignin-free, alkaline-buffered paper. Good

Explanation
Photocopies that are being retained by the institution are made on archival quality paper: lignin-free, alkaline buffered paper. It is also advisable to ensure that the copier is a high quality machine that is maintained in good enough condition to produce well-fused images. These are images that will not smudge.

Guidance on achieving standard
Archival quality paper is available from conservation suppliers and some paper suppliers.

8.2B.3 Books and items larger than the available copier platen are not photocopied. Good

Explanation
Items that are larger than the copier platen may be damaged by being photocopied, they are therefore not copied.

8.2C.1 The frequency of copy requests for individual items is monitored and popular items are produced in an alternative format. Best

Explanation
In order to protect popular items and prevent them from being photocopied frequently they are either produced as indexed master copies on permanent paper or prioritised for microfilming.
8 Surrogate Copies and New Media

Photocopying

8.2C.2 Photocopiers with edge platens, which allow the book page to be copied with the book open and supported at an angle of less than 120°, are available.

Explanation

Guidance on achieving standard
Specialist photocopiers have been developed which have a sloping edge leading away from the edge of the platen area of the glass. This allows the page to lie flat on the platen while avoiding stress on the sewing and binding structure. Even when using these copiers care must be taken to avoid damage to the items.

Preservation Microfilm

8.3A.1 Only silver-gelatine, polyester-base 35mm roll microfilm is used for archival master negatives.

Explanation

Silver-gelatine, polyester-base 35mm roll microfilm have been found to be the most stable form of microfilm. Microfilm is available in 16 or 35 mm widths: 35mm is the norm for preservation filming. Microfilm is available as silver-gelatine, diazo and vesicular. Silver-gelatine is the only type recognised from preservation purposes. Cellulose acetate and triacetate bases are available but have a shorter lifespan than polyester. Other forms are not used in the institution to produce archival master negatives.

Guidance on achieving standard

8.3A.2 Silver-gelatine, polyester-base film is processed to archival standards and tested to ensure quality control.

Explanation

Quality control includes testing to ensure that residual processing chemicals have been removed and inspection for blemishes, legibility and completeness.

Guidance on achieving standard
Advice on quality control for microfilming may be available from CILIP, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. A neighbouring archive or library may be able to advise. Information on microfilming operations is available from the National Library of Australia (www.nla.gov.au/preserve/trainmat.html) and from Cornell University Library (www.librarypreservation.org). Standards for microfilm are available from the International Organisation for Standardisation (ISO) www.iso.ch and the American National Standards Institute (ANSI) www.ansi.org
8 Surrogate Copies and New Media

Preservation Microfilm

8.3A.3 A master negative copy and a user positive copy are produced for each preservation microfilm. Basic

Explanation
Ideally three generations of preservation microfilm are produced: the master negative, the print master negative (i.e. a copy of the master negative), and the user positive copy. The master negative is the archival copy. It is used to produce one other negative for printing or reproducing positive copies. The print master negative is used to create the positive copy and any additional copies. The print master negative and the preservation microfilm are not used by readers. The positive copy is used by the readers. New copies may be needed if the positive copy is used frequently. This standard requests that a master negative copy and a user positive copy are produced. See 8.3C.2.

8.3A.4 The institution has sought specialist advice about the storage of microfilm. Basic

8.3A.5 Microfilm and microfiche readers are well maintained. Basic

Explanation
The microfilm and readers are well maintained in order to keep the film in good condition. If the film is not stored and handled correctly and kept clean the image will deteriorate and the print will need to be replaced. The reader must also be well maintained so that it does not scratch the image or cause other damage.

Guidance on achieving standard
Establish a regular programme of maintenance for the reader. This can be carried out by trained and experienced personnel either in-house or a contractor. Ensure that all staff working with microfilm are trained in handling, care and maintenance of the film. Check the film at regular intervals (the frequency will depend on use and environmental conditions) to assess the condition. See 8.1C.1.

8.3B.1 Master negative copies are kept off-site. Good

Explanation
It is standard practice to store the master negatives off site to reduce the risk of total loss in the event of a disaster.

Guidance on achieving standard
The store should be safe, fire- and flood-proof (See 8.3C.3). It is therefore not advisable to store the master negatives in an office or someone’s home. Check with other institutions in the region for shared facilities or mutual arrangements. Some archive storage companies can provide suitable storage.

Advice on storing master negatives may be available from CILIP, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council.
8 Surrogate Copies and New Media

Preservation Microfilm

8.3B.2 All items filmed are included in the Register of Preservation Microforms at the British Library and the European Good

Register of Microform Masters.

Explanation
A register of preservation microforms is maintained in order to prevent unnecessary duplication and to enable access to the microfilmed items.

The Register of Preservation Microforms (RPM) at the British Library is an on-line catalogue of printed book titles on archival microform. It became an online national database in 1989 on the inception of a national programme of conservation microfilming.

EROMM - The European Register of Microform Masters is the collaborative database of archival negatives produced by libraries across Europe to promote the sensible use of scarce conservation resources by encouraging the single copy archival filming of material held in more than one institution.

Before microfilming takes place the register is checked to ensure that film does not already exist or whether another institution is planning to copy the same item. The institution registers the intention to copy the item and confirms the registration on completion of the task.

Guidance on achieving standard
Contact the British Library www.bl.uk for more information. For more information on the EROMM database go to www.eromm.org

8.3C.1 The existence of a microfilm copy is recorded on the catalogues and finding aids. Best

Explanation
The institution’s index, catalogue or other system available to users and staff for finding items includes a record of the existence of a microfilm copy of an item.

Guidance on achieving standard
For information on cataloguing etc. contact from CILIP, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council, a neighbouring archive or library.

8.3C.2 A master negative copy, a print duplicate negative and a user positive copy are produced for each preservation microfilm. Best

Explanation
Three generations of preservation microfilm are produced: the master negative, the print duplicate master negative (i.e. a copy of the master negative), and the user positive copy.

The master negative is the archival copy. It is used to produce one other negative for printing or reproducing positive copies. The print master negative is used to create the positive copy and any additional copies. The master negative and the duplicate print master negative are not used by readers.

The positive copy is used by the readers. New copies may be needed if the positive copy is used frequently. See 8.3A.3.
8 Surrogate Copies and New Media

Preservation Microfilm

8.3C.3 Master copies kept off-site are stored in a facility that meets national environmental, security and access standards.

Best

Explanation
The store is safe, fire- and flood-proof, the temperature is constant at about 15°C - 18°C and the relative humidity is steady in the region of 35% (25-40% RH). A lower temperature reduces the rate of deterioration and is recommended (c. 10°C +/- 3 degrees) where the collection is not used regularly and there are facilities for acclimatisation when the items are to be taken to room conditions. Ideally, an air filtration system removes harmful chemical pollutants and provides adequate air circulation. The film is housed in a stable, protective enclosure and protected from dust. The furniture, boxes etc. are all of archival quality. The master copies are stored off site and not with the second generation copies.

Guidance on achieving standard
BS 1153 provides standards on processing and storing microfilm.

International standards for storage include:
ISO 18911:2000 Photography - Processed safety photographic films, Storage practices
ISO 18902:2001 Imaging materials - Processed photographic films, plates and papers, Filing enclosures and storage containers

Advice on storage standards may be available from CILIP, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. Or a neighbouring archive or library.

8.3C.4 All preservation microfilm is produced to archival standards.

Best

Explanation
Archival standards for preservation microfilming include: standards for handling the original items; preparation of items; security, record keeping; copyright issues; microfilm formats; the film base and emulsion layer; the reduction ration; image orientation; density; resolution; quality index; documentation; chemical processing; handling and storage of the microfilms; quality testing

Guidance on achieving standard

BS 1153 provides standards on processing and storing microfilm


Advice on storage standards may be available from CILIP, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. Or a neighbouring archive or library.
8 Surrogate Copies and New Media

Modern Media

8.4A.1 Information on the specific storage, environmental conditions, handling and labelling requirements of modern media has been made available to staff responsible for their storage.

Explanation
Modern media includes materials other than paper (or similar materials such as leaf) and parchment that are found in museum, library archive and historic house collections. Modern media includes photographs; film based-media; compact discs (CDs) and digital video discs (DVDs); computer files, computer hard discs, and magnetic discs such as zip discs, floppy discs; and video and audio cassettes. CDs and DVDs may be referred to as optical media or laser discs. Information on the conditions for storing handling, using and labelling this material is available to the staff, either in the form of written material, regular training or from trained and experienced in-house staff.

Guidance on achieving standard
The temperature and humidity requirements of most magnetic media and non-magnetic media (such as CDs and DVDs) are within the same range as most other archive, library and museum objects. Keep the items in a cool, dry and stable environment (temperature 9-15 degrees Celsius and RH 25-40%) with adequate ventilation. Ultraviolet (UV) radiation affects plastics, so keep light to a minimum. Never touch the playing surface (the underside of CDs and DVDs and the tape or disc of magnetic media). If it is unavoidable wear lint-free cotton gloves. Store items vertically in sleeves or boxes of archival quality card or plastic. Heavy reels should be supported on rods through their hubs to avoid weight settling on the reel edges. Avoid magnetic fields which could corrupt or destroy the data. Magnetic fields are produced by some electrical or battery powered objects such as VDUs, mains cables, light switches and electric motors.


Advice on modern media may be available from CILIP, Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council or a neighbouring museum, archive or library may be able to advise.

8.4A.2 Modern media for retention are security- protected against accidental and deliberate erasure, for example by removal of protective tabs.

Explanation
It can be quite simple to erase data by writing over it. Computer magnetic discs have a tab that can be removed to make them read only. CDs are available as recordable CD-r or read only CD-ROM. DVDs can be in read only ROM, erasable E or recordable R formats. Where possible the institution should make all the material read only. In some cases this can only be done using software which would protect the disc from accidental erasure but not deliberate.

Guidance on achieving standard
Advice should be sought from an appropriate archive or library or from Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council. A consultant conservator, preservation adviser or collection care adviser working with modern media would be able to advise and can be located through the Conservation Register managed by the Institute of Conservation.
8 Surrogate Copies and New Media

Modern Media

8.4B.1 The specific storage, environmental and labelling requirements of modern media are provided by the institution. **Good**

**Explanation**
The institution is able to provide suitable storage and environmental conditions and documentation for the modern media that it holds. See 8.4A.1.

**Guidance on achieving standard**
BS5454:2000 'Recommendations for the storage and exhibition of archival documents' contains information for Modern media.

Managing the digitisation of library, archive and museum materials. NPO
Preservation of photographic material
Conservation of Photographic Materials MLA
Magnetic and digital Materials MLA
Care of photographic materials and related media. 1998, MGC (MLA)
Standards in the Museum Care of Collections: Photographic Collections. 1996 MGC. MLA

Advice on modern media may be available from CILIP, Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council. A neighbouring museum, archive or library may be able to advise.

8.4C.1 Current information on technological innovations relating to the preservation, storage and retention of modern media is regularly provided to staff working in these areas. **Best**

**Explanation**

**Guidance on achieving standard**
Staff attend training courses, consult appropriate trade literature and can have access to the internet. Information can also be relayed through planned informal discussions within the institution and exchanges with or visits to other institutions. Useful web sites include:
RLG DigiNews www.rlg.org/preserv/diginews/
Technical Advisory Service for Images TASI www.tasi.ac.uk/
The Kodak website contains information sheets on the care and preservation of photographic, magnetic and digital products www.kodak.com, search for preservation.
9 Emergency Preparedness

Prevention and Recovery

9.1A.1 The institution has a firm plan to write an emergency preparedness plan, which includes a strategy for prevention and risk assessment within one year.  

Explanation 
The institute has a programme in place to write an emergency plan. The programme includes key dates and goals and has allocated responsibilities to key staff.

Guidance on achieving standard
An emergency plan gathers information on how to prepare for and minimise the risk of an unexpected event that may threaten the safety of the staff and visitors and cause damage to the collections. The preparation of a plan enables the organisation to have systems in place so that it can respond to an emergency swiftly and effectively. 
A plan includes:
procedures for dealing with an emergency when it is discovered;
arrangements for staff and visitors, e.g. evacuation;
dealing with the collections and buildings e.g. alarms, fire protection; snatch lists of items, emergency or temporary treatment/storage or the collection after the emergency;
an assessment of the risk of a disaster.
The aims of a plan are to help prevent a disaster taking place, enable staff and visitors to respond to the disaster so that there is a minimum of harm to people and damage to the building and collection. It also includes guidelines to help preserve the collection and allow the institution to return to normal as soon as possible.

The Accreditation Scheme for Museums in the United Kingdom. Appendix 4: Guidance on emergency planning

9.1A.2 At least one individual or preferably a team is responsible for implementing the plan. Identify by name.  

Explanation 
One person has been appointed to be the emergency coordinator. This person has responsibility for producing the plan and implementing it. A small emergency planning team has been appointed to work with the coordinator.

Guidance on achieving standard
The emergency planning team will help gather all the necessary information and to compile the emergency plan. Where possible the team should be made up of people who, between them, are familiar with the main areas of operation of the institution such as the building, site and facilities; visitor services; using and managing the collections; collection care and conservation; security; and health and safety.

The Accreditation Scheme for Museums in the United Kingdom. Appendix 4: Guidance on emergency planning
9 Emergency Preparedness

Prevention and Recovery

9.1A.3 Risk assessments have been made of hazards from, for example, water pipes, drains and inflammable materials, and priorities have been acted upon.

Explanation
The most common disaster in the U.K. are fire and flood. The hazards come from various sources for example, flooding can be caused by: plumbing, rainwater goods, roof, nearby lakes, rivers etc., drains and sewers. The causes of fire include: electrical wiring or junction boxes, hot working on the premises, kitchen/cooking, smoking, flammable materials, and activities in a studio or workshop. Other events that cause or threaten damage to buildings and their contents include: war or terrorism; storms; building collapse or subsidence; vandalism and theft; accidents and explosions.

The emergency planning team has carried out a risk assessment.

Guidance on achieving standard
The coordinator and team members should consult with other organisations to learn from their mistakes and successes and to help achieve a successful assessment of the risks. The team may need training to carry out the risk assessment.

For advice on training and information on risk assessment for emergency planning contact CILIP, Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council, the Museums Association. A neighbouring museum, archive, library, historic house or museum may be able to advise.

The Accreditation Scheme for Museums in the United Kingdom. Appendix 4: Guidance on emergency planning

9.1A.4 A security copy of the accession register/catalogue data files is stored at a separate building or location.

Explanation
In the event of a disaster it is important to have copies of important documents stored in a building separate from the institution, preferably some distance away. The list of items in the collection and their related information (such as the accession register or catalogue data files) are stored elsewhere.

Guidance on achieving standard
Institutions that are part of a group or larger body may be able to store relevant records in the central office. Cooperation with local institutions can result in mutual sharing and storing of data. An off-site store may be a suitable site for storing documentation.

9.1A.5 A report of any flood or fire, however minor, is made to managers together with any recommendations for improvement in prevention and response arrangements.

Explanation
The institution had a system of reporting any incident to managers within the organisation. Following the incident an assessment of methods of reducing the risk of a similar incident and improving the response to the incident should be made and also reported to the appropriate manager.
9 Emergency Preparedness

Prevention and Recovery

9.1A.6 Areas used for display and storage, including individual display cases, are protected against theft, vandalism, fire and flood.

**Explanation**

Systems are in place to protect the collection from theft, vandalism, fire and flood. There are many aspects to consider when deciding on the security of the collection (see 2.2). These include the value and desirability of the material, the ease with which it can be removed, the type of display and visitor experience that the institution plans, the probability of someone breaking in or removing items. An assessment of the risks will inform the decision on the theft and vandalism protection. Alarm systems, electronic surveillance, gallery/study room invigilation, supervision of visitors to reserve collections and study areas, electronic tagging, physical barriers such as stanchions, show cases that can be locked, secure fixings for objects on open display are used to help prevent theft along with other security procedures. Preventing physical access into sites is an important aspect of protection against vandalism.

Protecting a collection from fire involves minimizing the possibility of a fire breaking out and then spreading. The construction and design of the building can help prevent fire spreading, for example by dividing the repositories or stores into compartments and constructing walls between the repository/store and other areas so that they provide a reasonable fire resistance (BS5454:2000 recommends 4 hr fire resistance which is difficult but possible to achieve and may not be appropriate for all collections). Other measures include installing suitable fire-fighting equipment; installing fire detection, alarm and fire suppression systems. Some collections can be protected from fire using fire resistant cupboards etc.

Preventing the fire from breaking out requires assessing the fire hazards in the building. The risk of fire can be reduced by maintaining and checking the electrical circuits, fitting and appliances and other provisions such as control over hot working, smoking and cooking on the premises.

Protection against flood also starts with the building, making sure that the roof, gutters and pipes are all in good condition is essential. Old water system pipes that may be prone to leaking can be encased in larger pipes or have a trough placed underneath which lead outside so that water from a leak can be drained away easily. Equally drains in the floor to take the water away help protect the collection. Leak alarms can be used. Where the institution is placed in a flood zone it is essential to regularly check flooding risk updates and to have in place flood protection.

Placing the collection away from possible sources of fire and flooding is advisable. For example, avoid pipes carrying water or sewage, electrical junction boxes or other electrical circuits beyond what is needed placed in or passing through the store or repository. Regular maintenance of the building and inspection of the facilities is essential for protection against fire and flood.

**Guidance on achieving standard**

Specialist advice on security and protection against fire and flood should be sought from the local police security officer, the fire service, MLA Security Adviser, consultant disaster and emergency advisers. Discussions with a local archive, library or museum may help locate suitable advisors. The Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council may also be able to help. BS5454:2000 provides information on security and protection against fire,

Museum Practice, Issue 29 contains a section on Emergency Planning

Museum Practice, Issue 8, contains information on security,

Flooding and historic buildings, English Heritage Technical Advice note www.english-heritage.org.uk much of the information is useful for all types of building.

9.1A.7 Following any disaster or near disaster, MLA's Incident Report Form is completed and returned.

**Explanation**

When a disaster occurs or nearly arise the Incident Report Form published by MLA is completed and returned. MLA wishes to monitor and assess disasters.

**Guidance on achieving standard**

The Incident Report form is available from the MLA website at www.mla.gov.uk/action/can/can_security.asp in CAN the Collection Advice Network. The theft incident report is in the same location.
9 Emergency Preparedness

Prevention and Recovery

9.1B.1 The institution has a written emergency preparedness plan which includes strategies for disaster prevention and Good
the salvage of collections.

Explanation
An emergency preparedness plan that includes systems and protocols to help prevent a disaster as well as information on salvaging the collection has been written.

Guidance on achieving standard
An emergency plan gathers information on how to prepare for and minimise the risk of an unexpected event that may threaten the safety of the staff and visitors and cause damage to the collections. The preparation of a plan enables the organisation to have systems in place so that it can respond to an emergency swiftly and effectively.

A plan includes:
- procedures for dealing with an emergency when it is discovered;
- arrangements for staff and visitors, e.g. evacuation;
- dealing with the collections and buildings e.g. alarms, fire protection; snatch lists of items, emergency or temporary treatment/storage or the collection after the emergency;
- an assessment of the risk of a disaster.

The aims of a plan are to help prevent a disaster taking place, enable staff and visitors to respond to the disaster so that there is a minimum of harm to people and damage to the building and collection. It also includes guidelines to help preserve the collection and allow the institution to return to normal as soon as possible.

The Accreditation Scheme for Museums in the United Kingdom. Appendix 4: Guidance on emergency planning
Flooding and historic buildings, English Heritage Technical Advice note www.english-heritage.org.uk

9.1B.2 Copies of all emergency details and contingency plans are kept at a separate, accessible location. Further Good
copies are kept by relevant members of staff or departments.

Explanation
The information in the emergency plan must be available in the event of a disaster and therefore the essential information such as the emergency details and contingency plans are kept in a nearby location which can be accessed 24 hours a day. Copies of the same information or the full emergency plan can also be stored elsewhere such as with staff, or nearby library, archive or museum.

9.1B.3 At least one member of staff is responsible for revising the plan on an annual basis. Identify by post. Good

Explanation
Some of the information in the plan will need revising, for example the names and call out numbers of the emergency controller, the emergency response team, the salvage team and people from other organisations who may be required. Other information to be checked includes any changes to the building that could affect the evacuation and safety procedures; priorities for salvaging the collection; location and contents of emergency kits and information that may have come to light during a real or practice emergency.

Ideally, the format of the plan is such that updates can be made without having to update the entire plan, for example using a loose leaf binder. Updates are dated and copies of earlier versions destroyed.

Guidance on achieving standard
One person or post is made responsible for revising the plan and the organisation’s management allow time for this and check it has been completed. The emergency coordinator may be the most suitable person to carry out the revision.
9 Emergency Preparedness

Prevention and Recovery

9.1B.4 Automatic fire detection devices are fitted in display areas, reading/research rooms and storage areas. **Good**

**Explanation**
Fire detection devices detect a fire in its incipient stages and sound an alarm.
A fire detection system should: sound the alarm; indicate the location of the fire; automatically transmit an alarm to the fire authority or central alarm station; shut down any mechanical air-handling system and operate dampers in ducts to prevent the spread of smoke; close fire shutters or doors; start up any smoke extraction system.
Fire detection systems are often combined with fire suppression systems which are either gas or water-based systems designed to put out or suppress a fire until the fire service can arrive.

**Guidance on achieving standard**
Advice from a consultant familiar with the needs of archives, libraries and museums should be taken on the design, installation and maintenance of fire detection systems. Any system proposed should be approved by the fire authority. The insurance company should also be consulted.
The local fire service may be able to provide advice and information. Discussions with a local archive, library or museum may help locate suitable advisors and the Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Scottish Museums Council may also be able to help. Consultants may also be located through the British Fire Protection Systems Association www.bfpsa.org, Association for Specialist fire protection, www.asfp.or or www.FireUK.net.

9.1B.5 Staff are trained in emergency response procedures, including the use of fire extinguishers. **Good**

**Explanation**
Emergency response procedures include: evacuating staff and visitors from the building; contacting appropriate emergency services and staff; locating assembly points; the safe use of fire-suppressant equipment or flood protection. The staff are trained in the procedures so that they are very familiar with them. The training includes the use of fire extinguishers and fire blankets and other fire-suppressing procedures.

**Guidance on achieving standard**
Training by a consultant or in-house staff familiar with the needs of archives, libraries and museums should be arranged. More than one session will be needed as all staff should undergo the training. The training should also be updated or repeated at regular intervals.
Discuss with a local archive, library or museum may help locate suitable trainers and the Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council; CyMAL, Scottish Museums Council may also be able to help. The local authority may have a fire prevention officer who can supply training or advice on trainers. The local fire service may be able to provide advice and information. Consultants may also be located through the British Fire Protection Systems Association www.bfpsa.org, Association for Specialist fire protection, www.asfp.or or www.FireUK.net.

9.1B.6 Floor plans are available which identify the key features of the building and its contents. **Good**

**Explanation**
Copies of the floor plans should be included in the emergency plan. The floor plans indicate useful information such as: the emergency access; alarm control panels and switches; valves for isolating mains services; dead spaces in the building construction; flammable materials; items that are a priority for removal; routes for removing prioritised items; and location of disaster kits.

**Guidance on achieving standard**
Floor plans can be marked up and copied and placed in the emergency plan. It may be helpful to encapsulate the plans so that they can be carried around if necessary and will not be damaged by water. If the floor plans contain security sensitive information care should be taken that they are not distributed widely.
9 Emergency Preparedness

Prevention and Recovery

9.1B.7 The local police, fire and ambulance services have advised on emergency planning both verbally and in writing.  

Explanation

It is recommended that the emergency services (fire, police and ambulance) are involved with the emergency planning. Their experience is essential and it is important that they are familiar with the layout of the institution, the routes through and the keyholders. In the case of fire, the fire service also needs to know the priorities in relation to the rescue of material from the collections. Involve them in discussions when drawing up plans and obtain advice on access and evacuation procedures. Ensure that they are aware of the location of any hazardous materials: radioactive specimens, asbestos, chemical stores, and these are marked on the plans.

Guidance on achieving standard

Most fire, police and ambulance services have liaison officers who work with the public and businesses in the area. An adviser from the emergency services should visit the institution and discuss the risks, preventing disasters and the response to a disaster. They should become familiar with the building, particularly if it is old or complicated and access to the building and various floors. They can also advise on preparing for and reducing the risk of a disaster. They should be asked to provide a written report or response to their visit so that all the points discussed are recorded.

A nearby archive, library or museum that has already made contact with the emergency services may be able to advise.

9.1B.8 Disaster recovery equipment and materials are available.  

Explanation

Equipment and materials that are reserved only for disasters are stored in the institution and/or nearby, off-site. How much kit is necessary and where it should be stored will depend on the size and nature of the institution and the space available. Larger institutions or services (museum service local authority service etc.) may have a local off-site store. Smaller museums may prefer to keep a small amount of equipment on site. The materials and equipment may include: torches, spare batteries, first-aid kit; tie-on labels, plastic bags, spill control booms, pads and cushions; buckets, plastic trays and boxes, polyethylene sheet; dustpan and brush; floor mop; sponges; basic tools (e.g. screwdriver, pliers, hammer, crow bar, saw); protective clothing including overalls, masks, hard hats, gloves, face masks.

A list of equipment and materials is included in each box or location and the store is checked at least once per year.

Guidance on achieving standard

The minimum at least, of the materials and equipment should be purchased. One or more crates or other container containing the kit should be clearly labelled.


9.1B.9 The institution has details of suppliers of specialist equipment and services for use in an emergency.  

Explanation

Specialist equipment, materials and services may be needed during an emergency. These may include: suppliers or lenders of handling and lifting equipment, contents of the emergency kit, pumps, generators, temporary lighting; providers of specialist help including conservators and technicians, freezing facilities, builders, surveyors, transport for temporarily removing the collection to another site etc.
9 Emergency Preparedness

Prevention and Recovery

9.1C.1 Emergency response rehearsals are carried out at least once a year. Best

Explanation
A fire practice and other emergency responses such as dealing with suspect packages or theft are rehearsed once a year.

Guidance on achieving standard
The emergency coordinator or other staff should plan emergency rehearsals. The staff should not be warned ahead of time. The time taken to evacuate the building should be noted and, when it is too long, another rehearsal should be planned.

Contact Regional Museum, Library and Archive Council and Hubs for information on Emergency Planning Training.

9.1C.2 An early warning detection system has been installed in any building at high risk from water damage. Best

Explanation
Water damage can come from facilities within or near the building or from nearby sea, rivers, lakes, canals, dams etc. Where the probability of flooding is high and/or the impact of flooding is severe an early warning detection system can be installed. The system detects the presence of water or high humidity, an alarm will be activated which is usually visual but may also be audible. The location of the water is indicated.

Guidance on achieving standard
Advice from a consultant familiar with the needs of archives, libraries and museums should be taken on the design, installation and maintenance of a flood detection systems. The insurance company should be consulted.

Local-authority run museums may be able to get advice from the emergency planning officer. Discussions with a local archive, library or museum may help locate suitable advisors and the Hub Museums, the National Preservation Office, Northern Ireland Museums Council, the Regional Museum, Library and Archive Council, CyMAL, Historic Scotland, Scottish Museums Council may also be able to help. In addition to installing an alarm the institution could consider improving flood defences and relocating its collections so that items that could be severely damaged by a flood are not stored in areas where there is a high risk of flooding.

9.1C.3 Staff have carried out joint familiarisation exercises with representatives of the emergency services. Best

Explanation
Where possible an emergency rehearsal or other exercise is carried out with the emergency services. Fire services, in particular, are often pleased to participate as the rehearsal can be used for training and allow them to become familiar with the property.

Guidance on achieving standard
Contact the emergency services to discuss joint exercises. Encourage them to visit the buildings regularly with new members of the fire service. Carry out joint rehearsals, and discuss feedback from each other.
9 Emergency Preparedness

Prevention and Recovery

9.1C.4 Materials used for interior decoration or storage furniture are of a standard that will minimise the emission of harmful substances in the event of fire.

Explanation

Materials such as paints, coatings, plaster board, flooring, furniture, insulation etc. which are used inside the institution do not give off harmful substances such as soot, toxic chemicals and smoke, in the event of a fire.

Guidance on achieving standard

The Building Advice Centre www.buildingadvice.co.uk can provide literature and standards for materials used in construction and furniture. Suppliers should also be able to provide the appropriate information.