

TAHO

Tasmanian Archive + Heritage Office

State Records Guideline No 11

Physical Storage of State Records

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Information Security Classification

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I Introduction

This guideline applies to all State records regardless of their location. It states clear minimum requirements for the physical storage of records and includes optimal conditions.

Agencies are encouraged to plan management strategies for their records. It is beneficial to develop disposal schedules to cover all agency records as soon as possible, so that records can be stored in environments appropriate to their disposal status and retention period. This will support both the preservation of permanent value records, and the cost-efficient management of temporary value records which can be destroyed after retention periods have expired. This guideline defines and sets out the minimum and/or desirable requirements for the physical storage of records. While it is recognized that the storage conditions outlined in this guideline, may not currently be met by all storage facilities, the guidelines outlines the conditions to which all agencies and storage providers should aspire.

The guideline covers all types of storage media (for example paper, audio visual material, microforms, and machine-readable formats such as magnetic tapes and optical disks), but excludes electronic records on networks or on hard drives. Guidelines relating to the digital preservation of electronic records will be issued separately.

Permanent records must be stored in the best possible conditions while in the custody of the agency to ensure their long-term preservation. This guideline provides advice on these conditions.

I.1 Purpose

Section 10 of the *Archives Act 1983*, requires agencies to preserve State records until they are dealt with by the Act. This guideline provides advice to agencies to enable them to meet these statutory obligations and to provide a benchmark for assessing records storage facilities. It will assist agencies assess in-house storage facilities and those controlled by storage providers.

The objectives of this guideline are to ensure that:

- records are stored in the most cost-effective manner possible
- records are protected, secure and accessible for as long as they are required to meet business and accountability needs and community expectations
- permanent value records are stored in the best possible conditions while in agency custody

1.2 Authority

This guideline is issued under the provisions of Section 10A of the *Archives Act 1983*. Guidelines issued by the State Archivist under this Section set standards, policy, and procedures relating to the making and keeping of State records. This section also requires all relevant authorities to take all reasonable steps to comply with these guidelines, and put them into effect.

Keyword	Interpretation
MUST	The item is mandatory.
MUST NOT	Non-use of the item is mandatory.
SHOULD	Valid reasons to deviate from the item may exist in particular circumstances, but the full implications need to be considered before choosing this course.
SHOULD NOT	Valid reasons to implement the item may exist in particular circumstances, but the full implications need to be considered before choosing this course.
RECOMMENDS RECOMMENDED	The item is encouraged or suggested.

'MUST' and 'MUST NOT' statements are highlighted in capitals throughout the Guideline. Agencies deviating from these MUST advise TAHO of the decision to waive particular requirements.

Agencies deviating from a 'SHOULD' or 'SHOULD NOT' statement MUST record:

- the reasons for the deviation,
- an assessment of the residual risk resulting from the deviation,
- the date at which the decision will be reviewed, and
- whether the deviation has management approval.

Agencies deviating from a 'RECOMMENDS' or 'RECOMMENDED' requirement are encouraged to document the reasons for doing so.

2 Storage Principles

This guideline outlines seven principles that should be taken into consideration by agencies when storing records in in-house facilities or by outside storage providers.

Each principle is stated and explained, and a list of minimum standards that satisfy each principle is provided as a guide for implementation. A checklist of minimum requirements is also provided at Appendix I. The principles are:

Location - sites, facilities and area for records storage should be located away from known hazards and be convenient to user needs.

Environmental control - records should be stored in environmental conditions that are appropriate to their format and retention period.

Shelving and packaging - the shelving, equipment and containers for records storage should ensure that records are secure, accessible and protected from deterioration.

Maintenance and security - records storage facilities, areas and records should be maintained to safeguard their security, condition and accessibility.

Protection from disaster - disaster management programs should be established and maintained to ensure that risks to records are minimised and managed appropriately.

Careful handling - the retrieval and use of records in storage areas should be subject to controls that prevent damage and deterioration.

Accessibility - records should be stored and controlled in facilities where they can be identified, located and retrieved easily.

2.1 Location

Sites, facilities and areas for records storage should be located away from known hazards and be convenient to user needs.

2.1.1 Building Location

Records should only be stored in facilities that are suitable for records storage. A light industrial area, such as a warehouse estate or a technology park, is preferred.

Buildings used to store records should not be located near known risks such as:

- floodplains, creeks, rivers or stormwater drains that may be prone to flooding or seepage from contaminants
- earthquake prone areas or land liable to subsidence
- hazardous or heavy industries associated with atmospheric pollutants such as oil refineries, chemical plants, paint or rubber factories
- bushfire-prone areas
- strategic installations such as munitions factories or fuel depots
- major airports or directly under flight paths due to risk of accident and exhaust pollutants

If any of these risks are present, preventative measures should form part of the organisation's disaster management plan (see 5.5 – Protection from disaster).

2.1.2 Building construction

Buildings chosen for records storage should:

- be soundly constructed of appropriate materials and well insulated to maintain stable environmental conditions
- be fully weatherproof so that records are not at risk of exposure to the elements or infestation by vermin
- have good drainage to remove water from the building and surrounds as rapidly as possible.

2.1.3 Records storage areas

Records require controlled conditions for environmental, disaster and security reasons. It is therefore important that they are stored in dedicated areas. It may be possible to co-locate records and library materials in the same area, providing the security of the records is not compromised by such arrangements. Other parts of a storage facility may be used to store different types of goods, providing the records are not put at risk (see 5.4 – Maintenance and security). Storage of potentially combustible or hazardous materials in other parts of a multi-purpose facility should not be permitted.

Records storage areas should be physically separated from:

- areas of known risk, eg kitchens, washrooms, electrical plants, overhead pipes and other exposed plumbing
- storage areas used for non-record purposes

Subject to these risk conditions, decisions regarding the location of the storage facility should also take into account user convenience (see 5.7 – Accessibility).

Potential storage locations and facilities should be inspected by appropriate personnel and authorised by a senior representative of the agency to ensure that they are suitable.

2.2 Environmental Control

Records should be stored in environmental conditions that are appropriate to their format and retention period.

2.2.1 Record format

Records may be created in a variety of physical formats such as:

- paper (files, maps and drawings)
- audiovisual media (photographs, x-rays, microforms, cine films)
- magnetic media (computer tapes and disks, videotapes, audio tapes)
- optical media (laser disks, compact disks)
- mixed media (models, objects)

The optimal storage conditions for records in a wide range of common formats are provided in Appendix 2. Specific advice on other formats should be sought from the Tasmanian Heritage and Archives Office.

2.2.2 Retention Period

Retention periods will influence the storage environment chosen. Records that are required on a long-term basis should be stored in the best environmental conditions possible from the time of their creation. Such storage may be considered unnecessary for records that are only required for the short term. Records required to be retained for a finite period in accordance with an authorised disposal schedule must be stored in suitable conditions until the records are due for destruction.

2.2.3 Environmental conditions

Temperature and humidity are two of the most critical components for records storage. High temperature and humidity levels can cause mould to grow. Conversely, low humidity levels can cause paper to become brittle. Records can be damaged if temperature and humidity levels fluctuate sharply. Temperature and humidity levels should remain as stable as possible.

Air-conditioning systems may enable these requirements to be met. To achieve optimal conditions for some record formats, specially designed air conditioning systems will be required. Standard air-conditioning systems may suffice for other records depending on location and format. For facilities without air-conditioning, insulation and a suitable location can help reduce temperature and humidity fluctuations.

Records should be stored in a 'clean air' environment with minimal industrial or gaseous contamination. Careful selection of the storage location (6.1 Location) can assist in achieving this. Air must circulate freely and there should be intake of fresh air. Additional recommendations for air quality, according to the format and retention period of the records, are provided at Appendix 2.

Records should be protected from direct sunlight. Ideally, storage areas should have no external windows or skylights. If these do exist they should be covered or screened. Additional recommendations for light restrictions, according to the format and retention period of the records, are provided at Appendix 2.

2.3 Shelving and packaging

The shelving, equipment and containers for records storage should ensure that records are secure, accessible and protected from deterioration for as long as they are required

Appropriate shelving and packaging play a vital role in slowing down the rate of temperature and humidity changes, protecting items from light, dust and pollutants and minimising damage through handling. Records should be packaged in appropriate containers (e.g. boxes) before they are moved into a storage facility.

2.3.1 Shelving

Shelving (housing) in storage areas should be:

- suitable for the type of record stored
- clean and in good condition
- strong enough to carry potential loads
- raised off the floor as a disaster precaution
- arranged to promote good ventilation

2.3.2 Containers

Containers used to store records should:

- be appropriate to the record format and retention period (Appendix 2)

- be constructed of strong, durable material suitable for the weight of the records they contain, handling, and stacking on shelves or on pallets
- be the correct size for the records they contain
- be in good condition
- boxes should have a fitted lid to exclude light, dust, water and airborne pollutants

Records storage containers should not be stored directly on floors due to the risk of flood damage, dampness and dust. They should be stored on shelves or pallets.

2.4 Maintenance and Security

Records storage facilities, areas and records should be maintained to safeguard their security, condition and accessibility.

All records require a basic level of security to ensure their authenticity, reliability and integrity, and to prevent misuse.

2.4.1 Privacy

The Privacy Information Protection Principles contained in the *Personal Information Protection Act 2005* require agencies to take reasonable steps to protect the personal information it holds from misuse, loss, unauthorised access, modification or disclosure.

2.4.2 Security

The Tasmanian Government Information Security Charter has been endorsed by Cabinet as policy for Government Agencies. The purpose of the charter is to provide a whole of government framework to enable the government to manage security risks to its information. Each agency must create and maintain an appropriate security environment for the protection of its information assets.

The Information Security Principles and Policies that form part of the security framework require agencies to implement appropriate record security policies and procedures and to ensure the security of information access, transmission, storage and destruction. Agencies are required to ensure that appropriate physical security measures are adopted to prevent unauthorised access, damage, loss or interference to agency information, information systems, services or equipment. Agencies are also required to actively inform personnel who have access to agency information resources of their roles and responsibilities in regard to information security.

In a storage facility all records should be protected through controlled access to the storage areas, and through a secure physical environment. Access to storage areas should be restricted to authorised personnel only.

2.4.3 Maintenance of facilities

Storage facilities should be regularly monitored and well maintained to ensure that they provide a stable and suitable environment for records. The objective should be to minimize emergencies through periodic maintenance and inspection of the building's fabric, fittings, services and holdings.

- maintenance and monitoring programs should be in place to monitor and treat:
- the external fabric of the building and its surroundings
- physical security of building
- environmental conditions including light and air quality levels, temperature and humidity.
- conditions of utilities and internal fittings including electrical equipment, pipes, shelving, fire detection/suppression mechanisms
- cleanliness of the storage areas
- mould or pest infestations

2.4.4 Records Maintenance

Maintenance programs should be in place to monitor the condition of individual records and the need for conservation work. Records should be monitored regularly for:

- mould or pest infestation
- deterioration, such as corrosion or physical damage

Repairs to records should be undertaken where necessary if they are not likely to damage the records further. Major repairs or repairs to permanent value records should be carried out or supervised by a trained conservator. Agencies should contact TAHO for conservation advice.

The maintenance of records may involve copying or conversion to other formats such as digital scanning or microfilming. Where this occurs, procedures should be in place to ensure that:

- adequate care is taken during the process
- the process is undertaken in accordance with recognised standards and TAHO guidelines
- reproductions have the required degree of authenticity, reliability and useability necessary to substitute for the source records.
- source records are only destroyed with appropriate disposal authorisation from the State Archivist

State Records *Guideline No. 8, Digitisation and Disposal of Source Records* provides further details of these requirements.

2.5 Protection from disaster

Disaster management programs should be established and maintained to ensure that risks to records are minimised and managed appropriately

Disaster management is an integral part of good management practice for all organisations. Many agencies will already have disaster, business continuity or risk management plans in place. At the very least, such programs

should include the examination and treatment of risks to records, particularly those that are vital to business operations and to building and areas of records storage.

Agencies that outsource their records storage should ensure that the service provider's facilities are subject to a current disaster plan and that steps have been taken to minimise known risks.

2.5.1 Types of disaster

- disasters affecting storage facilities and records may include:
- natural events such as bushfires, storms, floods and vermin plagues
- structural or building failure such as malfunctioning sprinklers, heating or air conditioning systems and roof leaks
- industrial accidents such as nuclear or chemical spills
- technological disasters such as viruses and computer equipment failure
- criminal behaviour such as theft, arson, vandalism, riots, and terrorism

Disasters may also be caused by storage conditions that are unsuitable for the media stored and by the natural decay of materials.

2.5.2 Fire

In order to reduce the risk of damage by fire, record storage areas should be fitted with alarms, heat and smoke detection equipment, and fire suppressant systems. For the optimum level of protection, install an automatic water sprinkler fire suppressant system compliant with Australian Standard AS2118 and, in areas used for magnetic media storage, an automatic chemical fire suppressant system. Chemical fire suppressant systems are also recommended for confined records storage spaces because they pose less risk of damage to records than water-based systems. Where storage facilities are used for multiple purposes and sprinklers are installed, the record storage area should be separated by doors and walls with two-hour fire rating. Where sprinklers are not installed, the records storage area should be separated by doors and walls with a four-hour fire rating.

2.5.3 Disaster management

Due to the strategic and operational importance of records and their role in public accountability, it is essential that agencies and/or their storage providers adopt disaster management strategies. Establishing and maintaining a disaster management program will ensure that disaster is averted or minimised. Such a program should cover four phases:

- prevention – identifying records vital to the agency and identifying and assessing risks to facilities where records are stored
- preparedness – managing the risks through a disaster management plan
- reaction/response – implementing the plan promptly when a disaster occurs and deploying resources to protect or secure the organisation from loss
- recovery – restoring the site and records to stable and useable conditions

In many cases, cost-effective methods can be found to eliminate or reduce risks. These include improving maintenance practices, implementing integrated pest management strategies and monitoring security arrangements

If a disaster occurs despite such preventive measures, a disaster management program will enable staff to know how to react and will ensure that they have access to adequate materials for initial response. A disaster management program should also enable staff to identify and contact people with specialised skills who can assist in records recovery and salvage. In this way, the agency will be able to ensure continued access to its vital records, salvage damaged records and resume normal business as soon as possible. (see 5.4 – Maintenance and security).

2.6 Careful handling

The retrieval and use of records in storage should be subject to controls in order to prevent damage and deterioration.

Records in all formats are likely to deteriorate if they are not treated correctly. Personnel may also be injured if appropriate occupational health and safety considerations are not observed during the handling of records. Steps should be taken to promote the correct handling, use and transport of records to minimise the risk of personal injury and to ensure the preservation of records for as long as they are required. Special techniques may be required to handle records in certain formats.

The following practices should be forbidden in or near records and records storage areas:

- Smoking, as this encourages airborne pollutants and, at worst, fire
- Eating, as grease and food particles may collect on records and attract insects and other vermin
- Drinking, as there is a risk that spillage may occur

Handling procedures should also be developed for records in transit to ensure they are secured and protected against weather, light, pollution, unauthorised access, theft and other risks. For example, records should be transported in enclosed and secure vehicles, and loading and unloading should be carried out in covered areas by authorised personnel.

Records of permanent or long term temporary value may be subject to additional controls to ensure that they survive for as long as they are needed. Such controls may include establishing policies and procedures for the copying or conversion of heavily used or fragile records (see 5.4 –Maintenance and security).

2.7 Accessibility

Records should be stored and controlled in facilities where they can be identified, located and retrieved easily.

Authorised users must be able to locate and retrieve records from storage when required. The location of storage facilities should not impede retrieval requirements.

Records should be described and listed before they are stored. Location documentation, such as box lists and shelf numbers, should be in place so that the records can be found promptly.

Agencies must ensure that equipment or technology dependant records remain accessible for as long as they are required (e.g. audiovisual material and magnetic tapes). This may involve the conversion or migration of some records formats during the time in storage (see 5.4 – Maintenance and security).

3 Definitions

agency - is used in this guideline to refer to all agencies, authorities, statutory offices, departments, councils and other organisations that are subject to, and defined in, the *Archives Act 1983*.

conversion - involves a change of the format of the record but ensures that the record retains the identical primary information (content). Examples include microfilming or digital imaging of paper records, and change of character sets.

copying - is the production of an identical copy within the same type of medium (paper/microfilm/electronic) for example, from paper to paper, microfilm to microfilm or the production of backup copies of electronic records (which can also be made on a different kind of electronic medium).

migration - involves a set of organised tasks designed to periodically transfer digital material from one hardware/software configuration to another, or from one generation of technology to another. The purpose of migration is to preserve the integrity of the records and to retain the ability for users to retrieve, display and otherwise use them. Migration may occur when hardware and/or software becomes obsolete or may be used to move electronic records from one file format to another.

permanent records - records that must be transferred to TAHO 25 years after the date of creation for retention as State archives.

record - is a document or an object that is, or has been, made or kept by reason of any information or matter that it contains or can be obtained from it or by reason of its connection with any event person, circumstance, or thing. A document includes any printed or written material and an object includes a sound recording, coded storage device, magnetic tape or disc, microfilm, photograph, film, map, plan, or model or painting or other pictorial or graphic work.

reproduction - the output of a copying, conversion, or migration process, i.e. the copy, converted, migrated or reformatted version of the source record.

service provider - an organisation (or individual) engaged by an agency to provide a service where the facility and staff are not controlled or managed by that agency. These organisations could be private sector operations or other Federal, State or local government bodies.

source record - a document or record that has been copied converted or migrated, or will be the input for such a process. A source record may be an original record or it may be a reproduction that was generated by an earlier copying, conversion or migration process.

State records - records of State government agencies/departments, State authorities, or local authorities. These public bodies are defined in Section 3 of the *Archives Act 1983*.

storage - the activity of storing records for future retrieval and use.

storage facilities - any building, equipment or system that houses records, including commercial storage facilities, in-house storage facilities and archival storage facilities.

temporary value record - a record that can be destroyed under the authority of an authorised disposal schedule.

Further Advice

For more detailed advice, please contact:

Government Information Strategy Unit
Tasmanian Archive and Heritage Office
91 Murray Street
HOBART TASMANIA 7000
Telephone: 03 6165 5581
Email: gisu@education.tas.gov.au

Acknowledgements

The storage principles in this guideline are drawn from national and international best practice including:

- Standards Australia, AS ISO 15489 – 2002 *Records Management*
- Standards Australia AS 4390 – 1996 - *Records Management, Part 6 – Storage*
- State Records Authority of New South Wales, *Standard on the Physical Storage of Public Records and Archives, February 2000*
- The National Archives of Australia, *Standard for the Physical Storage of Commonwealth Records* is acknowledged as a significant source document for this guideline.
- Ling, Ted, *Solid, Safe, Secure: Building Archives Repositories in Australia*, National Archives of Australia, Canberra, 1998, Chapter 3.
- Australian Archives and Standards Australia and Standards New Zealand, *Guidelines for Mobile Shelving for Archives, Libraries and Museums*, Commonwealth of Australia and Standards Australia 1997.
- National Archives of Australia, *Archives Advice* series.

Appendix A - Checklist of minimum requirements

1	Location <i>Sites, facilities and areas for records storage should be located away from known hazards and be convenient to user needs.</i>		
1.1	The agency's authorised representative has approved all locations for records storage and use	<input type="checkbox"/> Yes	<input type="checkbox"/> No
1.2	The storage site is located away from known risks such as flood plains, fuel depots and industrial installations	<input type="checkbox"/> Yes	<input type="checkbox"/> No
1.3	The storage site has good drainage	<input type="checkbox"/> Yes	<input type="checkbox"/> No
1.4	The building and its services (eg electrical, plumbing) comply with Australian building standards and codes	<input type="checkbox"/> Yes	<input type="checkbox"/> No
1.5	The building's roof is pitched sufficiently to ensure rapid rainwater run-off and its guttering and down pipes are appropriate and well maintained to prevent water overflow or blockages	<input type="checkbox"/> Yes	<input type="checkbox"/> No
1.6	The storage facilities are entirely weatherproof and sealed against dust, moisture penetration and the entry of birds and other pests	<input type="checkbox"/> Yes	<input type="checkbox"/> No
1.7	The building and or storage areas have controlled access.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
1.8	Storage areas are dedicated to records or records and library storage	<input type="checkbox"/> Yes	<input type="checkbox"/> No
1.9	Storage areas are isolated from internal hazards such as electrical plants and exposed plumbing.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2.	Environmental control <i>Records should be stored in environmental conditions that are appropriate to their format and retention period.</i>		
2.1	Records are appraised to determine if they have permanent value before storage decisions are made so that appropriate environmental conditions can be selected	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2.2	Permanent value records are stored in environmental conditions as close as possible to the ranges described in Appendix 2 until they can be transferred to the custody of TAHO.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2.3	Temporary value records are stored in suitable environmental conditions (Appendix 2 – Table B) until the records are destroyed.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2.4	Storage areas exclude sunlight	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2.5	Storage areas are well ventilated and insulated to maintain stable environmental conditions.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

2.6	Storage areas for magnetic media include a filtration system to exclude dust and other particles, such as acidic and oxidising gases.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2.7	Environmental conditions are regularly monitored and sustained at appropriate levels over time.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
3.	Shelving and packaging <i>The shelving, equipment and containers for records storage should ensure that records are secure, accessible and protected from deterioration for as long as they are required.</i>		
3.1	Shelving and equipment used to store and handle records is appropriate to the format and retention period of the items.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
3.2	Storage containers are clean, in good conditions and appropriate to the format and retention period of the records they hold.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
3.3	Records storage facilities, shelving, containers and equipment comply with occupational health and safety requirements.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4.	Maintenance and Security <i>Records Storage facilities, areas and records should be maintained to safeguard their security, condition and accessibility</i>		
4.1	Records storage facilities are regularly maintained, monitored and inspected as part of an ongoing program	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4.2	Repairs to facilities are carried out promptly once problems are identified	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4.3	Policies and guidelines for access to records storage areas are clearly defined and communicated	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4.4	Access to records storage areas is controlled and restricted to authorised personnel only.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4.5	Records are regularly monitored and appropriate conservation action is undertaken when needed	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4.6	Copying and conversion procedures are based on established standards and TAHO guidelines	<input type="checkbox"/> Yes	<input type="checkbox"/> No
5.	Protection from disaster <i>Disaster management programs should be established and maintained to ensure that risks to records are minimised and managed appropriately.</i>		
5.1	Current disaster management plans are in place for all storage facilities and records, and known by staff.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
5.2	Staff are assigned responsibilities in the records disaster management process and are trained to meet them.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

5.3	Risks are identified and preventative measures incorporated in the design and management of records storage facilities.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
5.4	Fire protection and suppression measures are in place including heat/smoke detection, fire alarms, extinguishers and sprinklers that comply with Australian Standard AS2118.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
5.5	After recovery from a disaster, the cause is identified and treated or managed and the disaster management plan is reviewed.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
6.	Careful handling <i>The retrieval and use of records in storage should be subject to controls in order to prevent damage and deterioration</i>		
6.1	Guidelines for records handling are consistent with occupational health and safety legislation, standards and codes of practice.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
6.2	Guidelines for records handling are defined and communicated to all users (including staff, contractors, and the public).	<input type="checkbox"/> Yes	<input type="checkbox"/> No
6.3	Guidelines for the safe transport of records are clearly defined and communicated.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
6.4	Policies and procedures are implemented to ensure that records of permanent or long term temporary value are handled with care.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
6.5	Records handling procedures are monitored appropriately.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
7.	Accessibility <i>Records should be stored and controlled in facilities where they can be identified located and retrieved easily.</i>		
7.1	The location of records storage areas and storage facilities promotes easy access and retrieval.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
7.2	Documentation and location controls enable records to be identified and retrieved quickly and easily.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Notes for Appendix 2

The following set of tables has been reproduced from the National Archives of Australia's Standard for the Physical Storage of Commonwealth Records. The tables are included to help agencies provide optimum storage for a range of record types. Table A specifies storage guidelines for permanent value records and Table B specifies storage guidelines for temporary value records.

These tables are based on current understanding of the deterioration of commonly used materials. The levels described in the tables are set as the optimum levels that should be maintained to minimise the risk of degradation of various record media.

Any variation to the levels should be evaluated using a risk management approach: the greater the variation from the levels described the greater the risk of serious degradation and information loss occurring. Levels of sustainable risk will vary depending on the value of the records to the agency's business and identified retention requirements.

Table A

Table A summarises the basic environment and protective requirements for optimum storage of permanent value records.

Agencies are expected to comply with the air quality, lighting, housing, containers and packaging parts of this table for permanent value records from their creation.

The rest of the table recommends ideal conditions that should be provided for permanent value records from their creation if possible.

The levels described in the tables are set as optimum levels, which should be maintained to minimise the risk of degradation of various record media. It is recognised that there may sometimes be practical hindrances to achieving these level.

Table B

Table B summarises the basic environmental and protective requirements for temporary value records.

Agencies are expected to comply with all parts of this table except for the temperature and humidity requirements.

Clarification of information in the tables

The symbol '±' in the Temp/RH column under Environmental Conditions is used to describe allowable variations in temperature and relative humidity. For example, 20°C ± 2°C means that a temperature ranging between 18°C and 22°C is acceptable. Similarly, for relative humidity, 50% ± 5% means that the acceptable range is 45% to 55%. The most important factor within these ranges is that the level remains constant. Fluctuations in temperature and relative humidity will hasten the deterioration rate of the records.

In Table A the temperature recommended for black and white photographic materials is expressed as '<18°C'. This is meant to indicate that while a temperature of 18°C is suitable for storing this type of material, lowered

temperatures are even more advantageous, as they will increase the longevity of the material. For instance, if cellulose acetate film is stored at 18°C and 35% RH, its predicted lifespan before the onset of 'vinegar syndrome' (a type of irreversible deterioration) is 80 years. If the temperature is lowered to 13°C the period before onset of vinegar syndrome is 175 years. Similarly, for colour photographic materials 5°C is an acceptable temperature level, but at temperatures lower than 5°C even greater longevity is predicted. However, lowered temperature should only be used if stability can be concurrently achieved, as widely fluctuating temperatures will also lead to deterioration. It should also be noted that at lower temperatures it is necessary to establish an acclimatisation procedure for movement in and out of storage.

Table A - Guidelines for storage of Permanent Value Records

Format	Environmental conditions			Safety and protection				
	Temp/RH	Air quality	Lighting	Fire	Security	Housing	Containers	Packaging
Paper (a) <ul style="list-style-type: none"> Files Cards Volumes Computer print-outs and other papers 	<ul style="list-style-type: none"> 20°C ± 2°C 50%RH ± 5% 	<ul style="list-style-type: none"> Well-ventilated and filtered to exclude dust and other particles, acidic and oxidising gases 	<ul style="list-style-type: none"> UV filtered fluorescent lighting Timer controlled switches 	<ul style="list-style-type: none"> Heat/smoke detection Fire alarms Sprinkler system Extinguishers 	<ul style="list-style-type: none"> 24-hour physical or electronic surveillance Alarm systems Controlled access 	<ul style="list-style-type: none"> Powder coated or baked enamel metal shelving 	<ul style="list-style-type: none"> Archival quality acid-free boxes 	<ul style="list-style-type: none"> Archival quality acid-free file covers, folders or envelopes
Paper (b) <ul style="list-style-type: none"> Maps Plans Charts 						<ul style="list-style-type: none"> Powder coated or baked enamel metal shelving or plan cabinets Flat storage 	<ul style="list-style-type: none"> Archival quality acid-free folders or containers 	<ul style="list-style-type: none"> Archival quality acid-free sleeves enclosures or interleaving
Photographic media (a) black and white <ul style="list-style-type: none"> Sheet film Cine film Xrays Microforms Glass plate photos 	<ul style="list-style-type: none"> <18°C ± 2°C 35% RH Records stored at <10°C must be acclimatised before and after cold storage 	<ul style="list-style-type: none"> As above NB degrading cellulose acetate or nitrate films must be isolated from other records 	<ul style="list-style-type: none"> UV filtered fluorescent lighting Timer controlled switches 	<ul style="list-style-type: none"> Heat/smoke detection Fire alarms Sprinkler system Extinguishers 	<ul style="list-style-type: none"> 24-hour physical or electronic surveillance Alarm systems Controlled access 	<ul style="list-style-type: none"> As above NB glass plates require stationary shelving and vertical storage 	<ul style="list-style-type: none"> Archival non-buffered containers that have passed the Photographic Activity Test (PAT) 	<ul style="list-style-type: none"> Archival non-buffered enclosures that have passed the Photographic Activity Test (PAT)
Photographic media (b) colour <ul style="list-style-type: none"> Sheet film Cine film 						<ul style="list-style-type: none"> As above 	<ul style="list-style-type: none"> As above Frozen material must be in sealed vacuum packages 	
Magnetic media <ul style="list-style-type: none"> Computer tapes and disks Video tapes Audio tapes Magneto-optical disks 						<ul style="list-style-type: none"> As above 	<ul style="list-style-type: none"> Non-magnetisable shelving 	<ul style="list-style-type: none"> Non-magnetisable, archival quality sealed containers, cassettes cases or sleeves
Optical media <ul style="list-style-type: none"> Compact and mini discs Laser discs 	<ul style="list-style-type: none"> 18°C ± 2°C 35% RH ± 5% 	<ul style="list-style-type: none"> As above 	<ul style="list-style-type: none"> UV filtered fluorescent lighting Timer controlled switches 	<ul style="list-style-type: none"> Heat/smoke detection Fire alarms Sprinkler system Extinguishers 	<ul style="list-style-type: none"> 24-hour physical or electronic surveillance Alarm systems Controlled access 	<ul style="list-style-type: none"> Powder coated or baked enamel metal shelving 	<ul style="list-style-type: none"> Archival quality acid-free containers or boxes 	<ul style="list-style-type: none"> Archival quality acid-free envelopes or enclosures
Miscellaneous <ul style="list-style-type: none"> Gramophone discs Models Objects Mixed media items 						<ul style="list-style-type: none"> As above 	<ul style="list-style-type: none"> As above Stationary shelving Gramophone disks require vertical storage 	<ul style="list-style-type: none"> Archival quality acid-free enclosures or wrapping

Table B - Guidelines for storage of Temporary Value Records

Format	Environmental conditions			Safety and protection				
	Temp/RH	Air quality	Lighting	Fire	Security	Housing	Containers	Packaging
Paper (a) <ul style="list-style-type: none"> Files Cards Volumes Computer print-outs and other papers 	<ul style="list-style-type: none"> Temperature not exceeding 27°C Relative humidity not exceeding 60% 	<ul style="list-style-type: none"> Well ventilated 	<ul style="list-style-type: none"> Ambient light 	<ul style="list-style-type: none"> Heat/smoke detection Fire alarms Sprinkler system Extinguishers 	<ul style="list-style-type: none"> Intruder resistant area Controlled access 	<ul style="list-style-type: none"> Coated metal shelving 	<ul style="list-style-type: none"> Robust, clean containers (eg new cardboard boxes) 	<ul style="list-style-type: none"> Clean file covers, folders or envelopes
Paper (b) <ul style="list-style-type: none"> Maps Plans Charts 						<ul style="list-style-type: none"> Coated metal shelving or plan cabinets Rolled or vertical storage is acceptable 	<ul style="list-style-type: none"> Robust, clean containers (eg new cardboard boxes) 	<ul style="list-style-type: none"> Individual enclosures not required
Photographic media black and white or colour <ul style="list-style-type: none"> Sheet film Cine film Xrays Microforms Prints 	<ul style="list-style-type: none"> 20°C ± 2°C 50% RH ± 5% 					<ul style="list-style-type: none"> Coated metal shelving 	<ul style="list-style-type: none"> Robust, clean containers (eg new cardboard boxes) 	<ul style="list-style-type: none"> Clean folders or enclosures
Magnetic media <ul style="list-style-type: none"> Computer tapes and disks Video tapes Audio tapes Magneto-optical disks 						<ul style="list-style-type: none"> Non-magnetisable shelving 	<ul style="list-style-type: none"> Non-magnetisable sealed containers, cassettes cases or sleeves 	<ul style="list-style-type: none"> Non-magnetisable sealed containers, cassettes cases or sleeves
Optical media <ul style="list-style-type: none"> Compact and mini discs Laser discs 						<ul style="list-style-type: none"> Coated metal shelving 	<ul style="list-style-type: none"> Robust, clean containers (eg new cardboard boxes) 	<ul style="list-style-type: none"> Clean envelopes or enclosures
Miscellaneous <ul style="list-style-type: none"> Gramophone disks Models Objects Mixed media items 						<ul style="list-style-type: none"> Robust, clean containers (eg new cardboard boxes) 	<ul style="list-style-type: none"> Clean enclosures or wrapping 	