

State Records Authority of New South Wales

Standard: No. 3

**Standard on the physical storage of
State records**

issued under the State Records Act 1998

Approved April 2000

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Standard for Records Management

Standard no 3

SR file no 00/0174

Title of Standard Standard on the physical storage of State records

Scope

The standard sets out principles for the storage of State records. It covers the storage of active and semi active records in the custody of public offices. Records stored by external storage and records management service providers on behalf of public offices and, records created and maintained by contractors on behalf of public offices in the course of outsourced government business, are also covered by the standard. The standard does not cover the storage of State archives.

Application

The standard applies to all public offices as defined in section 3 of the *State Records Act 1998*, to which Part 2 of the Act applies. This standard covers all State records on any topic and in any format, but excludes the storage of electronic records on networks or on hard drives.

Authority

This standard is issued under section 13(1) of the State Records Act. It has been approved by the Board of the State Records Authority in accordance with section 13(2) of the State Records Act.

Authorised

This standard was approved by David Roberts, Director, State Records Authority of New South Wales, on 19 April 2000.

Standard on the physical storage of State records

Executive summary

This standard has been developed by the State Records Authority of New South Wales, known as 'State Records'. It is issued under the *State Records Act 1998* and applies to NSW public offices, as defined in s.3 of the Act. Public offices that are exempt from Part 2 of the Act, namely the Governor acting in a vice-regal capacity, the Houses of Parliament, and courts and tribunals in respect of their judicial functions, are not required to comply with this standard except by agreement.

This standard forms part of the framework of standards and codes of best practice, supported by guidelines, training and other forms of advice and assistance, provided by State Records to help NSW public offices to meet their obligations under Part 2 (*Records management responsibilities of public offices*) of the State Records Act. In particular, it aims to assist each public office to '*...ensure the safe custody and proper preservation of the State's records that it has control of*' (s.11).

Objectives of the standard

The objectives of the standard 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, and
- records of continuing value which will be transferred to State Records' control and/or custody as State archives are stored in the best conditions possible.

Scope

This standard covers all types of storage media (for example, paper, tapes, disks) but excludes the storage of electronic records on networks or on hard drives. These electronic records will require different storage options. These will be examined under separate guidance to be issued by State Records.

The standard covers active and semi active records in the custody of public offices.

The standard also covers records stored by external storage and records management service providers on behalf of public offices. When selecting such service providers, public offices should ensure that all aspects of storage facilities, conditions, practices and other relevant arrangements conform to the requirements of this standard.

While s.19(4) of the State Records Act empowers State Records to accredit repositories and facilities for storing State Records, it is not currently feasible for State Records to establish an accreditation scheme for storage service providers.

This standard also covers records created and maintained by contractors on behalf of public offices in the course of outsourced government business. Public offices remain responsible under the State Records Act for such records.

The standard does not cover the storage of State archives, that is, records that have been transferred to State Records' control under Part 4 of the State Records Act. The storage of State archives in the custody of a public office or other body under a distributed management agreement, made under s.30 of the Act, is governed by the terms of that agreement.

The standard does, however, contain reference to archives and how they should be stored. This is to promote the long-term preservation of records to be kept as State archives and to encourage public offices to adopt a holistic management strategy for storing its records.

Public offices should store records required as State archives in the best conditions practically possible while the records are still under their control. This includes records that are subject to 'still in use' determinations under s.28 of the State Records Act. At the very minimum records required as State archives should be kept according to the requirements for active and semi active records in this standard.

Contents of the standard

This standard outlines seven principles that should be taken into account by NSW public offices when they store records. The principles are:

1. **Location:** Sites for records storage should be located away from known hazards.
2. **Environmental control:** Records should be stored in environmental conditions that are appropriate to their format and retention period.
3. **Shelving and packaging:** The shelving, equipment and containers for records storage should ensure that records are secure, accessible and protected from deterioration.
4. **Protection from disaster:** Disaster management programs should be established and maintained to ensure that risks to records are either removed or managed appropriately.
5. **Maintenance:** Programs for the maintenance and monitoring of records and storage areas should be implemented.
6. **Careful handling:** The retrieval and use of records in storage should be subject to controls in order to prevent damage and deterioration.
7. **Accessibility:** Records should be stored in facilities where they can be identified, located and retrieved easily.

The principles are drawn from current national and international best practice, notably Australian Standard, AS 4390-1996, *Records Management, Part 6, Storage*. Each principle is stated and explained, and is followed by minimum compliance requirements. Further guidance relevant to the principle is provided where appropriate.

Further guidance

Lists of further reading for each principle are supplied with this standard. In addition, State Records has produced *Solutions for Storage: Guidelines on the Physical Storage of State Records* to assist public offices in understanding and meeting the requirements of the standard.

For further information about recordkeeping standards and codes of best practice and associated guidance, contact State Records.

Introduction

Background

This standard has been developed by the State Records Authority of New South Wales, known as State Records. It is issued under the *State Records Act 1998*. The Act

requires State Records to '*...approve standards and codes of best practice for records management by public offices and...to consult with public offices on any proposed standards and codes under this section*' (s.13).

This standard forms part of the framework of standards and codes of best practice, supported by guidelines, training and other forms of advice and assistance, provided by State Records to help public offices to meet their obligations under Part 2 (*Records management responsibilities of public offices*) of the State Records Act. In particular, it aims to assist each public office to '*ensure the safe custody and proper preservation of the State's records that it has control of*' (s.11).

Objectives of the standard

The objectives of the standard 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, and
- records of continuing value which will be transferred to State Records' control and/or custody as State archives are stored in the best conditions possible.

Scope

This standard covers all types of storage media (for example, paper, tapes, disks) but excludes the storage of electronic records on networks or on hard drives. These electronic records will require different storage options. These will be examined under separate guidance to be issued by State Records.

The standard covers active and semi active records in the custody of public offices.

The standard also covers records stored by external storage and records management service providers on behalf of public offices. When selecting such service providers, public offices should ensure that all aspects of storage facilities, conditions, practices and other relevant arrangements conform to the requirements of this standard.

While s.19(4) of the State Records Act empowers State Records to accredit repositories and facilities for storing State Records, it is not currently feasible for State Records to establish an accreditation scheme for storage service providers.

This standard also covers records created and maintained by contractors on behalf of public offices in the course of outsourced government business. Public offices remain responsible under the State Records Act for such records.

The standard also applies to State records held by private organisations or any body or institution that exercises public functions and is declared to be a public office for the purposes of the Act (s.3). Privatised records will be examined under separate guidance.

The standard does not cover the storage of State archives, that is, records that have been transferred to State Records' control under Part 4 of the State Records Act. The storage of State archives in the custody of a public office or other body under a distributed management agreement, made under s.30 of the Act, is governed by the terms of that agreement.

The standard does, however, contain reference to archives and how they should be stored. This is to promote the long-term preservation of records to be kept as State

archives and to encourage public offices to adopt a holistic management strategy for storing its records.

Public offices should store records required as State archives in the best conditions practically possible while the records are still under their control. This includes records that are subject to 'still in use' determinations under s.28 of the State Records Act. At the very minimum records required as State archives should be kept according to the requirements for active and semi active records in this standard.

Non-mandatory guidelines *Solutions for Storage: Guidelines on the Physical Storage of State Records* have been prepared to support this standard and to give practical guidance on how to comply with it.

Application

This standard applies to public offices as defined in s.3 of the State Records Act 1998. Public offices that are exempt from Part 2 of the Act, namely the Governor acting in a vice-regal capacity, the Houses of Parliament, and courts and tribunals in respect of their judicial functions, are not required to comply with this standard, except by agreement.

Structure

This standard outlines seven principles that should be taken into account by NSW public offices when they store records. The principles are:

1. **Location:** Sites for records storage should be located away from known hazards.
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5. **Maintenance:** Programs for the maintenance and monitoring of records and storage areas should be implemented.
6. **Careful handling:** The retrieval and use of records in storage should be subject to controls in order to prevent damage and deterioration.
7. **Accessibility:** Records should be stored in facilities where they can be identified, located and retrieved easily.

This standard is arranged according to these principles. Each principle is stated and explained, and is followed by minimum compliance requirements. Sources of further guidance to the principle are included, where relevant.

Responsibilities

Public offices should assign responsibility for the management of storage facilities to an appropriate delegate, such as the Chief Information Officer or the Corporate Records Manager. In large public offices, the management of storage facilities may need to be assigned to a number of officers who report to this delegate. Storage activities should be undertaken by appropriate staff with relevant skills and knowledge.

Monitoring and compliance

A compliance checklist forms an attachment to this standard to assist NSW public offices to assess their own performance against the minimum compliance requirements. In addition, State Records will monitor the implementation of storage requirements by examining responses to the annual *Records Management Survey*.

State Records has the power under s.15 of the Act to inspect NSW public offices and commercial storage facilities to ensure that the minimum compliance principles are met.

For more information

For further information about recordkeeping standards and codes of best practice and associated guidance, contact State Records.

Further reference

State Records Authority of New South Wales, *Recordkeeping in Brief 16: Safe Storage* January 2000.

State Records Authority of New South Wales, *Solutions for Storage: Guidelines on the Physical Storage of State Records*, April 2000.

State Records Authority of New South Wales, *Standard on Full and Accurate Records*, April 2004.

State Records Authority of New South Wales, *Standard on Managing a Records Management Program*, April 2004.

Definitions

For the purposes of this standard the following definitions apply.

References taken from the Australian Standard, AS 4390—1996, *Records Management, Part 1: General*, are marked by an asterix (*). Terms that have not been referenced are taken from State Record's sources. All other sources are provided in brackets after the definition.

Active records

Those records required for the day to day functioning of an agency or person. Also referred to as current records (Ellis, Judith, editor, *Keeping Archives*, 2nd edition, Thorpe in association with the Australian Society of Archivists, Melbourne, 1993, p.461).

Archives

Those records that are appraised as having continuing value. *

Facilities

See *Storage facilities*.

Inactive records

Those records no longer required for the conduct of business and which may therefore be transferred to intermediate storage, archival custody or destroyed (Ellis, Judith, editor,

Keeping Archives, 2nd edition, Thorpe in association with the Australian Society of Archivists, Melbourne, 1993, p.472). See also *Archives*.

Records

Record means any document or other source of information compiled, recorded or *stored* in written form or on film, or by electronic process, or in any other manner or by any other means (State Records Act 1998, Part 1, *Preliminary*, Section 3(1), *Definitions*).

See also *State record*.

Records continuum

The whole extent of a record's existence. Refers to a consistent and coherent regime of management processes from the time of the creation of records (and before creation, in the design of recordkeeping systems), through to the preservation and use of records as archives. *

Relative humidity

The ratio, expressed as a percentage, of the amount of water-vapour present in the atmosphere to the amount required to saturate it at the same temperature. Relative humidity varies with temperature. (Ellis, Judith, editor, *Keeping Archives*, 2nd edition, Thorpe in association with the Australian Society of Archivists, Melbourne, 1993, p.478).

Retention period

The period of time, usually based on an estimate of the frequency of current and future use, and taking into account statutory and regulatory provisions, that records need to be retained before their final disposal. Sometimes used to indicate the length of time records are to be retained in offices before being transferred to intermediate storage. (Ellis, Judith, editor, *Keeping Archives*, 2nd edition, Thorpe in association with the Australian Society of Archivists, Melbourne, 1993, p.479).

Secondary storage

A low-cost, warehouse style repository or storage area where inactive or intermediate records [semi active records] are housed and referenced, pending their ultimate destruction or transfer to archives. (Ellis, Judith, editor, *Keeping Archives*, 2nd edition, Thorpe in association with the Australian Society of Archivists, Melbourne, 1993, p.479). Secondary storage could be in the public office's own facilities or in a commercial storage facility.

Semi active records

Those records that are required so infrequently in the conduct of current business that they can be transferred from offices to separate storage areas. Also referred to as intermediate or semi current records (Ellis, Judith, editor, *Keeping Archives*, 2nd edition, Thorpe in association with the Australian Society of Archivists, Melbourne, 1993, p.472).

State record

Any record, made and kept, or received and kept, by any person in the course of the exercise of official functions in a public office, or for any purpose of a public office, or for the use of a public office (State Records Act 1998, s.3(1), *Definitions*).

Storage

The function 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.

Principles

Principle 1: Location

Sites for records storage should be located away from known hazards.

Explanation

Active and semi active records should only be stored in facilities that are suitable for records storage.

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

- heavy atmospheric pollution
- hazardous industries
- flood plains, rivers and creeks
- land liable to subsidence
- strategic installations, and
- bush fire prone areas.

If any of these risks are present, protection measures against such risks should form part of the public office's disaster management plans. See Principle 4 of this standard: *Protection from disaster*.

Buildings chosen for records storage should:

- be soundly constructed of appropriate materials so that the records are not in danger of exposure to the elements, including risks of fire or infestation by vermin
- have good drainage and water run-off
- be secure against intruders
- have controlled access.

They should also be weatherproof and, if possible, insulated.

Storage areas must not be located near areas of known risk, including:

- chemical storage areas, kitchens and washrooms, and
- air conditioning units, or in
- attics and basements which do not meet the requirements of the standard.

Within buildings walls should, wherever possible, divide storage areas from non-storage areas such as work spaces. Storage rooms or equipment should be lockable and access controlled.

Storage areas must be exclusively used for the storage of records or for the storage of records and library materials. Environmental conditions should be in accordance with the recommendations in Principle 2 of this standard: *Environmental control*.

Storage locations should be inspected by appropriate personnel and authorised by the Corporate Records Manager to ensure that they are appropriate.

Minimum compliance requirements

1. The Corporate Records Manager has approved all locations for records storage.
2. Buildings chosen for records storage are entirely weatherproof.
3. Storage areas have good drainage.
4. Storage areas are dedicated to either records or records and library storage.
5. Storage areas are intruder resistant and access controlled.

Further reference

Australian Standard, AS 4390—1996, *Records Management*, Part 6, *Storage*, Cl.5.2

British Standard, BS 5454—1989, *Storage and Exhibition of Archival Documents*.

Ling, Ted, *Solid, Safe, Secure: Building Archives Repositories in Australia*, National Archives of Australia, Canberra, 1998, Chapter 2.

Principle 2: Environmental Control

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

Explanation

Ideally, public offices should identify the likely retention periods of records at creation or pre-creation. This will allow them to:

- create records on suitable media
- store the media in suitable environmental conditions for that format, and
- store the records in suitable environmental conditions for the retention period of the records.

Records with long term retention should be stored in the best environmental conditions possible from when they are created. Such storage may be considered unnecessary for records only required in the short term.

Records required to be retained for a finite period in accordance with approved retention and disposal authorities must be stored in suitable conditions until the records are due for authorised destruction.

Temperature and humidity

At the minimum, active and semi active records in the custody of the public office should be maintained in a stable environment within a range of 15° to 27° Celsius and 30% to

60% relative humidity. Office air conditioning may enable this requirement to be met. For those offices without air conditioning, insulation and a suitable location (see Principle 1 of this standard: *Location*) can help to reduce extremes of temperature and humidity.

The **ideal** temperature and humidity levels for all formats are provided for:

- short term records at Appendix A , and
- long term and archival records at Appendix B.

When records that are identified as having archival value are moved to inactive storage they must be placed in environmentally controlled storage and maintained at temperature and humidity levels as close as possible to those described in the Australian Standard, AS 4390-1996, *Records Management, Part 6, Storage, Appendix C* (reproduced in this standard as Appendix B). Records subject to 'still in use' determinations are of archival value and, as such, should be stored in the best conditions possible.

Light

Direct sunlight should not enter records storage areas. Ideally, storage areas should have no external windows. If windows are unavoidable, they should be heavily screened with curtains or blinds. Additional requirements for light restrictions, according to the format and retention period of the records, are provided at Appendix A and Appendix B.

Air quality

Records should be stored in a 'clean air' environment, with minimal industrial or gaseous contamination. This can be achieved to some extent by careful selection of the location (see Principle 1 of this standard: *Location*). Air must freely circulate 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 A and Appendix B.

Magnetic fields

Magnetic fields can distort the data contained in some record formats, such as computer disks and tapes. Hence these record formats require a storage area protected from magnetic fields.

Minimum compliance requirements

1. Active and semi active records are kept in a stable environment, within the range of 15°C to 27°C temperature and 30% to 60% relative humidity.
2. Records of archival value are transferred when they are inactive to environmentally controlled storage as close as possible to the ranges described in Appendix B.
3. Records required to be retained for a finite period in accordance with approved disposal authorities are stored in suitable conditions until the records are destroyed.
4. Records storage areas exclude direct sunlight.
5. The air in records storage areas circulates freely and there is an intake of fresh air.
6. Storage areas for magnetic media are protected from magnetic fields.

Further reference

Australian Standard, AS 4390-1996, *Records Management, Part 6, Storage*, Cl.5.3.

British Standard BS 5454-1989, *Storage and Exhibition of Archival Documents*.

Harvey, Ross, 'Preservation', Chapter 3, in Ellis, Judith, editor, *Keeping Archives*, 2nd edition, Thorpe in association with the Australian Society of Archivists, Melbourne, 1993, pp.74-107.

Ling, Ted, *Solid, Safe, Secure: Building Archives Repositories in Australia*, National Archives of Australia, Canberra, 1998, Chapter 3.

Principle 3: Shelving and packaging

The shelving, equipment and containers for records storage should ensure that records are secure, accessible and protected from deterioration.

Explanation

Public offices need to use appropriate shelving and equipment that enable records to be accessible and unharmed. Appropriate enclosures, including boxes, envelopes or item containers, play a vital role in slowing down the rate of temperature and humidity changes and protecting items from light, dust and pollutants.

Shelving and equipment

The shelving (housing) requirements for the major types of records storage media, according to their retention periods, are provided in the tables attached at Appendix A and Appendix B.

Shelving, racking, cabinets, other storage devices, and handling equipment should facilitate access to and ensure the survival of records for as long as they are required. They should be:

- suitable for the type of record stored (see Appendix A and Appendix B)
- clean
- in a good state of repair, and
- strong enough to carry potential loads.

In addition, shelving should be:

- raised off the floor by 85-150mm as a disaster precaution, and
- lockable if it is to hold sensitive records.

The floor of the building must be capable of holding the weight of fully loaded shelving and racking. Shelving should not restrict good ventilation in the storage area.

Record formats and item containers

If a public office identifies the retention period of the record at creation or pre-creation, it can determine:

- the appropriate format on which to create the record, and
- the appropriate item containers, including wrappings, envelopes, boxes or other enclosures to promote survival of the record for as long as it is required.

For example, strong clean containers and file covers are adequate for short term temporary paper records but long term records should be stored in archival or permanent quality acid-free file covers, folders or envelopes and acid free boxes. Retention periods can be ascertained from *General Disposal Authorities* and the public office's *Functional Disposal Authorities*.

The tables attached at Appendix A and Appendix B give further details of appropriate containers and protective packaging.

In addition, the containers used for records should be:

- appropriate to the record format and retention
- in good condition, and
- the correct size for the records they contain.

All containers should be of durable material capable of sustaining expected use and the correct size and shape for the shelving on which they are stored. Boxes should possess lids that fit cleanly.

Records storage facilities, shelving, containers and equipment should comply with occupational health and safety requirements.

Minimum compliance requirements

1. Shelving and handling equipment is clean, in good condition and appropriate to the format and retention period of the records.
2. Item containers are clean, in good condition and appropriate to the format and retention period of the records they hold.
3. Records storage facilities, shelving, equipment and containers meet occupational health and safety requirements.

Further reference

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.

Australian Standard, AS 4390-1996, *Records Management*, Part 6, *Storage*, Cl.5.4.

British Standard, BS 5454-1989, *Storage and Exhibition of Archival Documents*.

Harvey, Ross, 'Preservation', Chapter 3, in Ellis, Judith, editor, *Keeping Archives*, 2nd edition, Thorpe in association with the Australian Society of Archivists, Melbourne, 1993, pp.74-107.

National Archives of Australia, *Archives Advice* series.

Principle 4: Protection from disaster

Disaster management programs should be established and maintained to ensure that risks to records are either removed or managed appropriately.

Explanation

Disaster management is an integral part of good management practice in public offices. In many cases disaster and/or risk management programs may already exist for the

assets of the public office. These programs should include the examination and treatment of risks to:

- buildings and areas for records storage, and
- records, particularly those that are vital to business operations.

If no organisation wide disaster and/or risk management program exists, a program should be established to cover at least the records, and the buildings and areas used for records storage.

Coverage

A disaster management program for records should cover four phases:

Prevention

The prevention phase should involve the:

- identification and assessment of risks to records and buildings and areas where records are stored, and
- identification of the important and vital records in the organisation.

Where cost effective methods can be found to eliminate or reduce risks, these should be implemented. For example, improving housekeeping practices and implementing contracts with pest control agencies can reduce the risk of pests.

Of prime importance to records storage are the provision of fire detection and suppression systems. Alarms, heat and smoke detection and extinguishing equipment should be placed in all storage areas to reduce the risk of damage from fire. Storage areas being constructed or substantially renovated should also have sprinkler systems. See Appendix A and Appendix B for fire protection measures for record formats.

Preparedness

Where risks cannot be eliminated they need to be managed. The public office should establish and maintain a disaster management plan. This plan should identify the most appropriate way to:

- initially respond to a disaster
- maintain business continuity during the disaster, or
- recover quickly after the disaster.

This phase also involves:

- maintaining lists of materials and contacts that can be used in a disaster
- keeping recovery supplies on site
- testing and reviewing the plan, and
- training staff in the plan's use.

Reaction/response

This phase involves implementing the plan when a disaster occurs and initiating resources to protect or secure the organisation from loss.

Recovery

The recovery phase involves restoring the site and records to stable and useable conditions.

Minimum compliance requirements

1. Risk management exercises within the public office include examination of records storage areas.
2. Fire prevention and suppression measures include heat/smoke detection, fire alarms and extinguishers.
3. Records storage areas being constructed or substantially renovated have sprinklers installed.
4. Current disaster reaction and recovery plans, that cover each records storage location, are in place.
5. Staff are assigned responsibilities in the records disaster management process and are trained to meet them.
6. After recovery from a disaster, the cause is identified and treated or managed, and the plan reviewed.

Further reference

Australian Standard, AS 4390-1996, *Records Management*, Part 6, *Storage*, Appendix B, *Contents of a Model Disaster Response Plan*.

Australian/New Zealand Standard, AS/NZS 4360-1995, *Risk Management*.

Emergency Management Australia, *Non-Stop Service: Continuity Management Guidelines for Public Sector Agencies*, Commonwealth of Australia, Canberra, 1997.

Harvey, Ross, 'Preservation', Chapter 3, in Ellis, Judith, *Keeping Archives*, 2nd edition, Thorpe in association with the Australian Society of Archivists, Melbourne, 1993, pp.74-107.

State Records Authority of New South Wales, *Guidelines on Disaster Management for Records*, 1999.

Principle 5: Maintenance

Programs for the maintenance and monitoring of records and storage areas should be implemented.

Explanation

Facilities need to be regularly monitored and well maintained to ensure that they provide a stable and suitable environment for records. Records also need to be subject to regular maintenance and monitoring. For example, they may require conservation work or migration/copying to ensure they are protected, secure and accessible for as long as they are required. Planned maintenance programs can prevent many storage problems and reduce costs.

Elements of maintenance and monitoring programs

Maintenance and monitoring programs for records storage may involve checking and treating factors such as:

- environmental conditions, including light and pollution levels, temperature and humidity
- the building surrounds and fabric
- the physical security of buildings and storage areas
- internal factors, including electrical equipment and pipes, and structures like shelving, to ensure they are safe and in good condition
- the cleanliness of storage areas
- fire detection mechanisms such as alarms, sprinkler systems and extinguishers to ensure they are working correctly
- other identified risks that need to be managed, and
- any new risks that may arise.

In addition, individual records may need to be checked for:

- mould or pest infestation
- signs of deterioration, such as corrosion, and
- copying or conversion needs.

Monitoring and maintenance programs can isolate factors that public offices should address in their disaster management programs. See Principle 4 of this standard: *Protection from disaster*.

Repairs to records should be undertaken where necessary and if they are not likely to damage the records further. Major repairs or repairs to important or valuable records should be carried out by a trained conservator.

Minimum compliance requirements

1. Records storage areas and buildings are regularly maintained and monitored as part of an ongoing program.
2. Repairs to records storage areas and buildings are carried out promptly after identification.
3. Mould or pest infestation is treated promptly and appropriately.
4. Appropriate conservation action is undertaken as required but repairs to records do not damage the records further.

Further reference

Harvey, Ross, 'Preservation', Chapter 3, in Ellis, Judith, editor, *Keeping Archives*, 2nd edition, Thorpe in association with the Australian Society of Archivists, Melbourne, 1993, pp.74-107.

Ling, Ted, *Solid, Safe, Secure: Building Archives Repositories in Australia*, National Archives of Australia, Canberra, 1998, Chapter 6.

Principle 6: Careful handling

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

Explanation

Records of all formats are likely to suffer damage and deterioration if they are not treated correctly. Adequate steps must be taken to promote the correct handling and use of records to minimise damage and ensure their preservation for as long as they are required.

Access and handling

Only authorised users should be able to access records. See also Principle 1 of this standard: *Location* and Principle 7 of this standard: *Accessibility*.

Techniques for handling records of all formats used by the public office should be known and communicated to all users (including staff, contractors and the public).

Handling procedures should also be developed for records in transit to ensure they are secured and protected at all times against weather, light, pollution, unauthorised access, theft and other dangers. For example, records should only be transported in enclosed and lockable vehicles and loaded and unloaded in covered areas under supervision.

Records temporarily out of custody

If records are transferred to the custody of another public office or organisation for short periods of time for legitimate reasons, for example when they are presented in court, the public office should inform the temporary custodian of their responsibilities for records protection and security.

Additional controls for records of long term value

Records of long term value may be subject to additional handling controls to ensure that they survive for as long as they are needed. For example, precautions for paper records may include:

- establishing policies for the copying of heavily used records or records of long term value
- monitoring use, and
- implementing guidelines and education programs for staff, clients and other users.

Conversion to other formats

If records are going to be converted to other formats, such as by microfilming or migration, care should be taken to ensure that the records are:

- handled carefully in the conversion process, and
- converted according to recognised standards.

Copies of records in other formats should be authentic.

Minimum compliance requirements

1. Guidelines for the handling and use of records are defined and communicated to all users (including staff, contractors and the public).
2. Guidelines for the safe transport of records are defined and communicated to all staff and contractors.
3. Policies and procedures are implemented to ensure that records of long term value are handled with care.

4. Records are handled carefully during conversion and converted according to recognised standards.

Further reference

Australian Standard, AS 3674-1989, *Storage of Microfilm*.

British Standard, BS 5454-1989, *Storage and Exhibition of Archival Documents*.

Harvey, Ross, 'Preservation', Chapter 3, in Ellis, Judith, editor, *Keeping Archives*, 2nd edition, Thorpe in association with the Australian Society of Archivists, Melbourne, 1993, pp.74-107.

National Archives of Australia, *Archives Advice* series.

State Records Authority of New South Wales, *Recordkeeping in Brief 14: Handle with Care*, January 2000.

State Records Authority of New South Wales, *Recordkeeping in Brief 15: Records in Transit*, January 2000.

Principle 7: Accessibility

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

Explanation

Public offices must be able to locate and retrieve any records in their care when required. Records should be in accessible locations and there must be standards for documentation and location controls, such as box lists and shelf numbers, to enable them to be found promptly. Public offices may also require conversion or migration programs to enable equipment/technology dependent records to remain accessible.

Means of improving accessibility should be used in conjunction with security measures that safeguard records against unauthorised access or theft.

Location

Public offices should know where their records are located and the location should not impede retrieval requirements.

Standards for documentation and location controls

Public offices should develop or adopt standards for documentation quality and location controls to facilitate retrieval. For example, naming conventions and accurate listings, with locators reflected on items and shelving, can facilitate retrieval and hence reduce costs. Classification using a keyword thesaurus, which identifies the functions, activities and transactions the records represent, may assist public offices to improve accessibility.

Records that are placed in semi active in-house or commercial storage facilities should be listed before they are stored, to ensure that they can be located and retrieved easily and cheaply.

Equipment/technology dependent records

The State Records Act s.14, requires public offices to ensure that the information in equipment/technology dependent records in their control and custody can be produced or made available. Public offices should therefore ensure that the media on which technology dependent records are stored (for example, electronic disks and tapes, audiovisual materials and other technology dependent formats) allow for accessibility for as long as the records are required. See *Future Proof: Ensuring the accessibility of equipment/technology dependent records* for more guidance.

Minimum compliance requirements

1. The location of records storage areas and records facilitates prompt retrieval.
2. There are standards for documentation and location controls that enable records to be identified and retrieved quickly and easily.

Further reference

Australian Standard, AS 4390-1996, *Records Management, Part 4, Control*.

Edgecombe, Jennifer, 'Finding Aids', Chapter 9 in Ellis, Judith, editor, *Keeping Archives*, 2nd edition, Thorpe in association with the Australian Society of Archivists, Melbourne, 1993, pp.248-272.

State Records Authority of New South Wales, *Future Proof: Ensuring the accessibility of equipment/technology dependent records*

State Records Authority of New South Wales, *Keyword AAA: A Thesaurus of General Terms*, revised edition, 1998.

Compliance checklist

1	Location	Yes	No
1.1	The Corporate Records Manager has approved all locations for records storage.		
1.2	Buildings chosen for records storage are entirely weatherproof.		
1.3	Storage areas have good drainage		
1.4	Storage areas are dedicated to either records or records and library storage.		
1.5	Storage areas are intruder resistant and access controlled.		
2	Environmental control		
2.1	Active and semi active records are kept in a stable environment, within the range of 15° to 27°C and 30% to 60% relative humidity.		
2.2	Records of archival value are transferred when they are inactive to environmentally controlled storage as close as possible to the ranges described in Appendix B.		
2.3	Records required to be retained for a finite period in accordance with approved retention and disposal authorities are stored in suitable conditions until the records are destroyed.		
2.4	Records storage areas exclude all direct sunlight.		
2.5	The air in records storage areas circulates freely and there is an intake of fresh air.		
2.6	Storage areas for magnetic media are protected from magnetic fields.		
3	Shelving and packaging		
3.1	Shelving and handling equipment is clean, in good condition and appropriate to the format and retention period of the records.		
3.2	Item containers are clean, in good condition and appropriate to the format and retention period of the records they hold.		
3.3	Records storage facilities, shelving and equipment meet occupational health and safety requirements.		
4	Protection from disaster		
4.1	Risk management exercises within the public office include examination of records storage areas.		
4.2	Fire prevention and suppression measures include heat/smoke detection, fire alarms and extinguishers.		

4.3	Records storage areas being constructed or substantially renovated have sprinklers installed.		
4.4	Current disaster reaction and recovery plans are in place which cover each records storage location.		
4.5	Staff are assigned responsibilities in the records disaster management process and are trained to meet them.		
4.6	After recovery from a disaster, the cause is identified and treated or managed and the plan reviewed.		
5	Maintenance		
5.1	Records storage areas and buildings are regularly maintained and monitored as part of an ongoing program.		
5.2	Repairs to records storage areas and buildings are carried out promptly after identification.		
5.3	Mould or pest infestation is treated promptly and appropriately.		
5.4	Appropriate conservation action is undertaken as required but repairs to records do not damage the records further.		
6	Careful handling		
6.1	Guidelines for the handling and use of record formats are defined and communicated to all staff.		
6.2	Guidelines for the safe transport of record formats are defined and communicated to all staff and contractors.		
6.3	Policies and procedures are implemented to ensure that records of long term value are handled with care.		
6.4	Records are handled carefully in the conversion process and converted according to recognised standards.		
7	Accessibility		
7.1	The location of records storage areas and records facilitates prompt retrieval.		
7.2	There are standards for documentation and controls that enable records to be identified and retrieved quickly and easily.		

Notes for Appendices A and B

Appendices A and B have been reproduced from the National Archives of Australia's publication *Solid, Safe, Secure: Building Archives Repositories in Australia*, NAA, Canberra, 1998, pp.136-137, *Guidelines for Environmental Conditions and Safety and Protection Levels for Storage*:

- Permanent and Long-term Temporary Value Commonwealth Records (30 years and over), and
- Short-term Temporary Value Commonwealth Records (up to 30 years).

The notes to accompany the tables are also partly based on advice gathered by the National Archives of Australia and their contribution is gratefully acknowledged.

Appendix B is also featured in the Australian Standard, AS 4390—1996, *Records Management, Part 6, Storage, Appendix C*. Permission to reproduce has been granted to State Record by Standards Australia.

The tables

The levels outlined in the tables are based on current understanding of the deterioration of commonly used materials and are drawn from a variety of sources such as:

- Australian and international standards
- published research findings, and
- best practice principles.

Research in the area of materials degradation is ongoing and therefore the levels described in the tables may be subject to revision as new information becomes available.

Appendix A

Appendix A summarises the basic environmental and protective requirements for short term records. **NSW public offices are expected to comply with all parts of this table except for the temperature and humidity and fire requirements.** Minimum requirements for:

- temperature and humidity are provided in Principle 2 of this standard: *Environmental control*, and
- fire protection are provided in Principle 4 of this standard: *Protection from disaster*.

Appendix B

Appendix B summarises the basic environmental and protective requirements for optimum storage of long term temporary records and archives. **NSW public offices are expected to comply with the air quality, lighting, housing, containers and protective packaging parts of this table for archives from their creation.**

The rest of the table recommends **ideal** conditions that should be provided for archival records from their creation if possible. **Minimum** requirements for:

- security are provided in Principle 1 of this standard: *Location*
- temperature and humidity are provided in Principle 2 of this standard: *Environmental control*, and

- fire protection are provided in Principle 4 of this standard: *Protection from disaster*.

Once records identified as having **archival** value become inactive they should be transferred to archival storage (either in-house or offsite) that offers conditions as close as possible to those recommended in Appendix B.

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 levels. Any variations to the levels should be viewed with a risk management approach: the greater the variation from the levels described here, then the greater the risk of serious degradation or information loss occurring.

Clarification of information in the tables

Some particular aspects of the tables also require clarification, as follows:

In the tables, in the Temp/RH column under Environmental Conditions, the symbols ' \pm ' is used to describe allowable variations in temperature and relative humidity. If the differential set point is $\pm 2^{\circ}\text{C}$ then this means that temperature can vary by 2°C . That is, $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$ means that a temperature level ranging between 19°C and 21°C is acceptable. It does **not** mean that a range between 18°C to 22°C is acceptable. Likewise, for relative humidity, $50\% \text{ RH} \pm 5\%$, means that 47.5% to $52.5\% \text{ RH}$ is an acceptable range, **not** 45% to $55\% \text{ RH}$.

In Appendix B, the temperature level recommended for black and white photographic materials is expressed as ' $< 18^{\circ}\text{C}$ '. 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 $35\% \text{ RH}$, 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 lowered temperatures it is necessary to establish an acclimatisation procedure for movement in and out of storage.

Appendix A: Short Term Temporary Value Records (Up to 30 years)

See notes regarding use of these tables. This table has been reproduced with the kind permission of the National Archives of Australia from their publication *Solid, Safe, Secure: Building Archives Repositories in Australia*, NAA, Canberra, 1998, p.137, Appendix 2, *Guidelines for Environmental Conditions and Safety and Protection Levels for Storage: 2. Short-term Temporary Value Commonwealth Records (up to 30 years)*.

FORMAT	ENVIRONMENTAL CONDITIONS			SAFETY AND PROTECTION				PROTECTIVE PACKAGING
	TEMP/RH	AIR QUALITY	LIGHTING	FIRE	SECURITY	HOUSING	CONTAINERS	
Paper (a) Files Cards Volumes Computer printout 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 shelves 	<ul style="list-style-type: none"> robust, clean containers 	<ul style="list-style-type: none"> file covers, folders or envelopes
Paper (b) Maps Plans Charts	<ul style="list-style-type: none"> as above* 	<ul style="list-style-type: none"> as above 	<ul style="list-style-type: none"> as above 	<ul style="list-style-type: none"> as above* 	<ul style="list-style-type: none"> as above 	<ul style="list-style-type: none"> coated metal shelves or plan cabinets rolled or vertical storage is acceptable 	<ul style="list-style-type: none"> robust, clean folders or containers 	<ul style="list-style-type: none"> individual enclosures not required
Photographic media black and white or colour sheet film cine film x-rays microforms Prints	<ul style="list-style-type: none"> 20°C ± 2°C* 50% RH ± 5%* 	<ul style="list-style-type: none"> as above 	<ul style="list-style-type: none"> as above 	<ul style="list-style-type: none"> as above* 	<ul style="list-style-type: none"> as above 	<ul style="list-style-type: none"> coated metal shelves 	<ul style="list-style-type: none"> robust, clean containers 	<ul style="list-style-type: none"> clean folders or enclosures

FORMAT	ENVIRONMENTAL CONDITIONS			SAFETY AND PROTECTION				PROTECTIVE PACKAGING
	TEMP/RH	AIR QUALITY	LIGHTING	FIRE	SECURITY	HOUSING	CONTAINERS	
Magnetic media Computer tapes and disks video tapes audio tapes magneto-optical disks	• as above*	• as above	• as above	• as above*	• as above	• non-magnetisable shelving	• non-magnetisable, sealed containers, cassettes cases or sleeves	
Optical media Compact and mini disks Laser disks	• as above*	• as above	• as above	• as above*	• as above	• coated metal shelves	• clean, robust containers or boxes	• clean envelopes or enclosures
Miscellaneous Gramophone disks Models Objects mixed media items	• temperature not exceeding 27°C* • relative humidity not exceeding 60%*	• as above	• as above	• as above*	• as above	• as above	• as above	• clean enclosures or wrapping

This table has been reproduced with the kind permission of the National Archives of Australia from their publication *Solid, Safe, Secure: Building Archives Repositories in Australia*, NAA, Canberra, 1998, p.137, Appendix 2, *Guidelines for Environmental Conditions and Safety and Protection Levels for Storage: 2. Short-term Temporary Value Commonwealth Records (up to 30 years)*.

These tables set out best practice for the storage of records. State Records recognises that some of these measures will be difficult to implement so it is not mandatory to meet all requirements. An asterisk (*) indicates where the standard's minimum compliance requirements may be less stringent than the recommendations in the tables. See the notes regarding use of these tables and the individual principles for more information.

Appendix B: Permanent and Long Term Temporary Value Records (30 years and over)

See notes regarding use of these tables. This table has been reproduced with the kind permission of the National Archives of Australia from their publication *Solid, Safe, Secure: Building Archives Repositories in Australia*, NAA, Canberra, 1998, p.136, Appendix 1, *Guidelines for Environmental Conditions and Safety and Protection Levels for Storage: 1. Permanent and Long-term Temporary Value Commonwealth Records (30 years and over)*. This table is also featured in the Australian Standard, AS 4390—1996, *Records Management, Part 6, Storage*, Appendix C. Permission to reproduce has also been granted to State Records by Standards Australia.

FORMAT	ENVIRONMENTAL CONDITIONS			SAFETY AND PROTECTION				PROTECTIVE PACKAGING
	TEMP/RH	AIR QUALITY	LIGHTING	FIRE	SECURITY	HOUSING	CONTAINERS	
Paper (a) Files Cards Volumes Computer printout And other papers	<ul style="list-style-type: none"> • 20°C and 50% RH* • difference between maximum and minimum values shall be ≤2°C and ≤5% RH* 	<ul style="list-style-type: none"> • filtered to exclude: dust and other particles; acidic and oxidising gases • well ventilated 	<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 shelves 	<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) Maps Plans Charts	<ul style="list-style-type: none"> • as above* 	<ul style="list-style-type: none"> • as above 	<ul style="list-style-type: none"> • as above 	<ul style="list-style-type: none"> • as above* 	<ul style="list-style-type: none"> • as above* 	<ul style="list-style-type: none"> • powder coated or baked enamel metal shelves 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 enclosures or interleaving
Photographic media (a) Black and white Sheet film Cine film x-rays microforms glass plate photographs	<ul style="list-style-type: none"> • < 18°C and 35% RH* 	<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"> • as above 	<ul style="list-style-type: none"> • VESDA (very early smoke detection apparatus) • fire alarms • extinguishers • gas flooding or sprinkler system* 	<ul style="list-style-type: none"> • as above* 	<ul style="list-style-type: none"> • as above • NB glass plates require stationary shelving and vertical storage 	<ul style="list-style-type: none"> • archival quality acid-free containers or boxes • glass plates require additional shock protection 	<ul style="list-style-type: none"> • archival quality acid-free sleeves, envelopes, enclosures or canisters
Photographic media (b) Colour Sheet film Cine film	<ul style="list-style-type: none"> • maximum stability required • < 5°C* • 35% RH ± 5%* 	<ul style="list-style-type: none"> • as above • NB records must be acclimatised before and after cold storage 	<ul style="list-style-type: none"> • as above 	<ul style="list-style-type: none"> • as above* 	<ul style="list-style-type: none"> • as above* 	<ul style="list-style-type: none"> • as above • (may be in a freezer/refrigerator) 	<ul style="list-style-type: none"> • as above 	<ul style="list-style-type: none"> • as above • frozen material must be in sealed vacuum packages

FORMAT	ENVIRONMENTAL CONDITIONS			SAFETY AND PROTECTION				PROTECTIVE PACKAGING
	TEMP/RH	AIR QUALITY	LIGHTING	FIRE	SECURITY	HOUSING	CONTAINERS	
Magnetic media Computer tapes and disks Video tapes Audio tapes magneto-optical disks	<ul style="list-style-type: none"> • maximum stability required • 18°C ± 2°C* • 35% RH ± 5%* 	• as above	• as above	• as above*	• as above*	• non-magnetisable shelving	• non-magnetisable, archival quality sealed containers, cassettes cases or sleeves	
Optical media Compact and mini disks Laser disks	• as above*	• as above	• as above	• as above*	• as above*	• powder coated or baked enamel metal shelves	• archival quality acid-free containers or boxes	• archival quality acid-free envelopes or enclosures
Miscellaneous Gramophone disks Models Objects mixed media items	<ul style="list-style-type: none"> • maximum stability required • 20°C ± 2°C* • 50% RH ± 5%* 	• as above	• as above	• as for Paper records*	• as above*	<ul style="list-style-type: none"> • as above • stationary shelving • gramophone disks require vertical storage 	• as above	• archival quality acid-free enclosures or wrapping

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These tables set out best practice for the storage of records. State Records recognises that some of these measures will be difficult to implement. Consequently it is not mandatory to meet all requirements. An asterisk (*) indicates where the standard's minimum compliance requirements may be less stringent than the recommendations in the tables. See the notes regarding use of these tables and the individual principles for more information.