

num01-19-01 7 April 2001

ISO/TC 46/SC 11 **N301 TR**

TECHNICAL REPORT TO ACCOMPANY ISO 15489

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INTRODUCTION

This Technical Report is supplementary to ISO 15489 (Records management). Both ISO 15489 and the Technical Report apply to records in any format or media, created or received by any public or private organization during the course of its activities. Thus, in this report systems may be interpreted as paper/manual or electronic, and a document may be either paper or electronic.

ISO 15489 specifies the requirements of records management and defines the necessary results or outcomes to be achieved. This Technical Report provides one methodology for implementing the standard. However, it should be noted that national standards and legislation may dictate other factors and requirements for legal compliance.

In addition to using this Technical Report, those seeking to implement the standard should consult requirements and guidance of national standards and legislation that apply in their jurisdictions. In addition, a variety of professional societies and associations have resources available to assist in the implementation of ISO 15489.

1 **SCOPE**

This Technical Report is an implementation guide to ISO 15489 for use by records management professionals and those charged with managing records in their organizations. It provides a set of generic methodologies that will facilitate the implementation of ISO 15489 in all organizations that have a need to manage their records. It gives an overview of the processes required and factors to consider in organizations wishing to comply with ISO 15489.

2 POLICIES AND RESPONSIBILITIES

2.1 Introduction

ISO 15489 Clause 6 sets out in general terms the need for organizations seeking to comply with the Standard to have a records management policy in place and to define and assign to individuals records-related responsibilities. This Technical Report provides additional guidance on records management policies and expands on the types of responsibilities to be defined and assigned.

2.2 Records management policy statements

Organizations should define and document policies for records management and should ensure that the policies are implemented and maintained at all levels in the organization.

A records management policy statement is a statement of intentions. It sets out what the organization intends to do and, sometimes, includes an outline of the programme and procedures that will achieve those intentions. However, a policy statement on its own will not guarantee good records management: critical to its success are endorsement and active and visible support by senior management and the allocation of the resources necessary for implementation. An effective policy statement will, therefore, identify a senior member of staff with lead responsibility for records management and for overseeing policy and programme implementation.

The policy statement should refer to other policies relating to information, for example on information systems policy, information security or asset management, but should not seek to duplicate them. It should be supported by procedures and guidelines, planning and strategy statements, disposition authorities and other documents that together make up the records management regime.

Support and endorsement of the policy by all employees should be encouraged at all times. It is particularly important that the policy obliges all employees to create and maintain records that meet the legal, fiscal, operational, and archival/historical needs of the organization. Monitoring of compliance with the policy is also important.

2.3 Responsibilities

2.3.1 The objectives of defining responsibilities and authorities

The overriding objective of defining responsibilities, authorities and inter-relationships is to establish and maintain a records management regime that meets the needs of internal and external stakeholders.

More specifically, the definition of responsibilities, authorities and inter-relationships should put in place standard practices or business rules that:

- a) require employees to create records according to the business needs and business processes that adequately document the business activities in which they take part;
- b) ensure that information and processing systems that support business activities create appropriate records as part of supporting those activities;
- c) ensure the transparency of record processes and the adequacy of records systems throughout the active life of the records (records that are needed to perform current operations and that are subject to frequent use are usually located near the user, if it is a physical record, or on-line via a computer system);
- d) ensure that records are maintained, stored and preserved for the period of their usefulness to the organization and, if appropriate, to external stakeholders such as archival institutions, researchers and auditors; and
- e) ensure that records are disposed of only in accordance with a defined approval process.

2.3.2 Authorities and responsibilities within the organization

An organization should define the authorities and responsibilities of all employees involved in records management. These are likely to include the following categories:

- a) Senior management should be assigned the highest level of responsibility for ensuring a successful records management programme. Senior management support is translated into the allocation of resources at a lower level. It promotes compliance with records management procedures throughout the organization.
- b) Records management professionals have primary responsibility for implementing the Standard. In particular, they establish the overall records management policies, procedures, and standards for the organization and implement the processes outlined in Clause 4.
- c) Managers of business units or organizational groupings are responsible for ensuring that their staff create and keep records as an integral part of their work and in accordance with established policies, procedures and standards. They provide the resources necessary for the management of records and liaise with records management professionals on all aspects set out in Clause 4.
- d) Others in the organization have specific records-related duties. They include in particular staff responsible for security, staff responsible for designing and implementing systems using information and communication technologies, and staff responsible for compliance.
- f) All staff create and keep records as part of their daily work, and should do so in accordance with established policies, procedure and standards. This includes disposing of records only in accordance with authorized disposition instruments.

Where contractors carry out the organization's records management programme, it is important to ensure that they meet the standards laid down in the organization's policies.

3 STRATEGIES, DESIGN AND IMPLEMENTATION

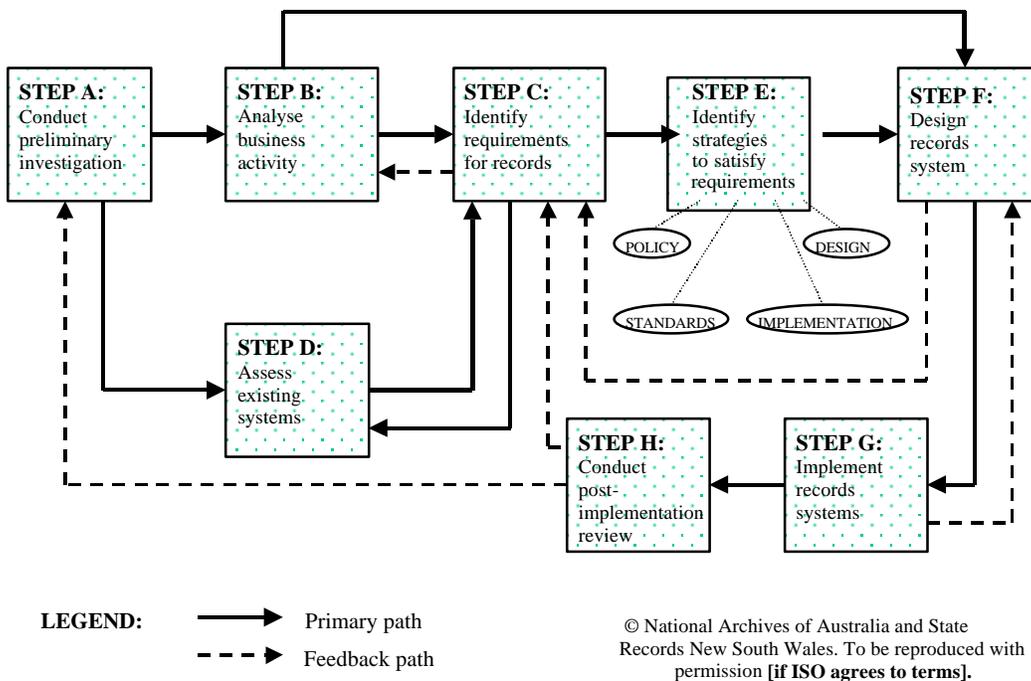
3.1 Introduction

ISO 15489 Clause 8 describes the essential characteristics of records systems and provides a framework for their implementation. This section of the Technical Report amplifies Clause 8.4 only. It provides some guidance on designing and implementing systems for managing records.

3.2 Design and implementation of a records system

Note that the steps in this process are expansions of the general descriptions provided in ISO 15489 at Clause 8.4 and that Step A is linked to paragraph (a), Step B to paragraph (b) and so on.

Figure 1: Design and Implementation of Records Systems (DIRS)



3.2.1 Step A: Preliminary investigation

The purpose of Step A is to provide the organization with an understanding of the administrative, legal, business and social contexts in which it operates so that it can identify the major factors that influence its need to create and maintain records.

Step A will also provide a general appreciation of an organization's strengths and weaknesses in managing its records. It represents a sound basis for defining the scope of a records project and presenting a business case for managerial support.

The preliminary investigation is needed to make effective decisions about an organization's records systems. It will help define records problems within an organization, and assess the feasibility and risks of various potential responses.

Step A is an important precursor to the compilation of a business classification scheme and the development of functions-based processes for deciding what records need to be captured and how long they should be retained. In conjunction with the two subsequent steps, B and C, the preliminary investigation will also help assess the organization's responsibility for records and its compliance with external requirements to create and keep records. It is also a useful basis for assessing existing systems.

3.2.2 Step B: Analysis of business activity

The purpose of this step is to develop a conceptual model of what an organization does and how it does it. It will demonstrate how records relate to both the organization's business and its business processes. It will contribute to decisions in subsequent steps about the creation, capture, control, storage and disposition of records, and about access to them. This is particularly important in an electronic business environment where adequate records will not be captured and retained unless the system is properly designed. This step provides the tools to undertake and document the business analysis in a systematic way and to make best use of its results.

An analysis of business activity and processes will provide an understanding of the relationship between the organization's business and its records.

The products coming from this step may include:

- a) documentation describing the organization's business and business processes;
- b) a business classification scheme that shows the organization's functions, activities and transactions in a hierarchical relationship; and
- c) a map of the organization's business processes that shows the points at which records are produced or received as products of business activity.

The analysis provides the basis for developing records management tools, including:

- a) a thesaurus of terms to control the language for titling and indexing records in a specific business context; and
- b) a disposition authority that defines the retention periods and consequent disposition actions for records.

The analysis will also help in identifying and implementing appropriate metadata strategies and in formally assigning responsibilities for keeping records.

3.2.3 Step C: Identification of requirements for records

The purpose of this step is to identify an organization's requirements to create, receive and keep records of its business activities, and to document the requirements in a structured and easily maintainable form. Keeping the appropriate records facilitates the proper conduct of business. It ensures that individuals and organizations are accountable for their actions in matters of law and administration. It also ensures they are accountable to business and related interest groups, internal and external, and sensitive to their needs and expectations.

These requirements for records are identified through a systematic analysis of business needs, legal and regulatory obligations and any broader responsibilities to the community. An assessment of an organization's exposure to risk if records are not created and kept will also help identify requirements. The step also provides the rationale for the creation, maintenance and disposition of records, the basis for designing systems that will capture and maintain records, and the benchmark for measuring the performance of existing systems.

Some of the products that may emerge from the completion of this step include:

- a) a list of all sources containing records requirements relevant to the organization;
- b) a list of the regulatory, business and any more general community requirements to keep records;
- c) a risk assessment report endorsed by management; and
- d) a formal document for management and staff that sets out the organization's requirements to keep records.

3.2.4 Step D: Assessment of existing systems

The purpose of this step is to survey an organization's existing systems for records and any other information systems to measure the extent to which they capture and maintain records of business activities. The assessment will help to reveal any gaps between an organization's agreed requirements for records and the performance and capabilities of its existing systems. This will provide the basis for developing new systems or redesigning existing systems to meet the need for records that have been identified and agreed in previous steps.

Products from this step may include:

- a) an inventory of the organization's existing business systems; and
- b) a report outlining the extent to which they address the organization's agreed requirements for records.

3.2.5 Step E: Identification of strategies for satisfying records requirements

The purpose of this step is to determine the most appropriate policies, procedures standards, tools and other tactics that an organization should adopt to ensure that it makes and keeps the necessary records of its business activity. The choice of strategies may take into account:

- a) the nature of an organization including its goals and history;
- b) the type of business activities it carries out;
- c) the way it conducts business activities;
- d) its supporting technological environment;
- e) the prevailing corporate culture; and
- f) any external constraints.

Selection will also be influenced by the potential of each strategy to achieve its desired result and the risk to the organization if the approach fails.

In some cases' archival authorities may help to develop record strategies.

Strategies might include:

- a) adopting policies and procedures;
- b) developing standards;
- c) designing new system components; or
- d) implementing systems

in a way that satisfies the identified requirements to keep and maintain records.

When this step is complete, there will be a planned, systematic and appropriate approach to the creation, capture, maintenance, use and preservation of records that will provide the basis for the design or redesign of the records system.

Products coming from this step are likely to include:

- a) a list of strategies that will satisfy the organization's requirements for records while meeting its other business needs;
- b) a model that maps strategies to requirements; and
- c) a report for senior management recommending an overall design strategy.

3.2.6 Step F: Design of a records system

This step involves converting the strategies and tactics selected in Step E into a plan for a records system that fulfils the requirements identified and documented during Step C and remedies any organizational records management deficiencies identified during Step D.

Step F, like the other steps in this methodology, adopts a broad definition of systems, encompassing people and processes as well as tools and technology. Therefore, this step is likely to involve:

- a) designing changes to current systems, processes and practices;
- b) adapting or integrating technological solutions; and
- c) determining how best to incorporate these changes to improve the management of records across an organization.

It is sometimes difficult in practice to see where determining strategies for records systems ends (Step E) and designing systems to incorporate those strategies begins (Step F). It is, however, useful to focus on strategies separately to ensure that requirements to create and maintain records are feasible, consistent and properly incorporated into the system design.

This step involves records management professionals and other experts working with users to produce specifications that best meet the requirements for records. This ensures that users develop a sense of system ownership, understand the system and use it as intended.

Products coming from Step F may include:

- a) design project plans, showing tasks, responsibilities and timelines;
- b) reports detailing the outcomes of periodic design reviews;
- c) documentation of changes to requirements, signed off by both user and project team representatives;
- d) design descriptions;
- e) system business rules;
- f) system specifications;
- g) diagrams representing system architectures and components;
- h) models representing different system views, such as processes, data flows and data entities;
- i) detailed specifications to build or acquire technological components such as software and hardware;
- j) plans showing how the design will integrate with existing systems and processes;

- k) initial training and testing plans; and
- l) a system implementation plan.

3.2.7 Step G: Implementation of a records system

The purpose of Step G is to systematically identify and put in place an appropriate mix of strategies to implement the plan designed in Step F. That plan provided an overview of how the various system components (processes, procedures, people and technology) should fit together.

The integration of new or improved records systems with office communication systems and business processes can be a complex undertaking with high accountability and financial stakes. Such risks can be minimized through careful planning and documentation of the implementation process.

After completing this step, an organization should have integrated improved records management practices into the organization with minimum disruption to business activities; contributed to organizational requirements for quality accreditation; and capitalized on the long-term investment made in Steps A to F.

Documentation produced by completing this step may include:

- a) a detailed project plan outlining the mix of strategies selected;
- b) documented policies, procedures and standards;
- c) training materials;
- d) documentation of the conversion process and ongoing migration procedures;
- e) documentation required for 'quality systems' accreditation;
- f) performance reports; and
- g) report(s) to management.

3.2.8 Step H: Post-implementation review

The purpose of Step H is to measure the effectiveness of the records system, to evaluate the system development process so that deficiencies can be remedied, and to establish a monitoring regime for the duration of the system.

Step H involves:

- a) analysing whether records have been created and organized according to the necessities of the business activities and are appropriately interrelated to the business processes they are part of;
- b) interviewing management, staff and other stakeholders;
- c) conducting surveys;
- d) examining documentation developed during the earlier phases of the systems development project; and

- e) observing and randomly checking operations.

By completing the initial post-implementation review and by conducting periodic checks, an organization will help guarantee a continuing return on its investment in the records system. It should also have objective information to demonstrate that it is creating and managing appropriate records of its business. The post-implementation review will minimize the organization's exposure to risk through system failure, and, over time, will anticipate significant changes in the requirements for records and organizational needs that necessitate a new developmental cycle.

At the end of Step H, an organization will have:

- a) developed and applied a methodology to objectively assess its records system;
- b) documented the performance of the system and the developmental process; and
- c) submitted a report to management documenting findings and recommendations.

4 RECORDS PROCESSES AND CONTROLS

4.1 Introduction

ISO 15489 formulates requirements for records management operations. The operations are described in a linear sequence. In practice, records management operations do not take place in such a sequence. Several specific operations may take place simultaneously. Certain operations depend on the existence of instruments created by processes described later in the sequence.

A linear sequence has traditionally been used to describe records management processes affecting paper records because the processes can be – and often are – separated in time with varying intervals between them. In electronic records systems, the decisions about capture and classification, access and disposition status are usually made at the point of creation of the record, so the processes are both more explicit and usually simultaneous.

Paper-based systems contain metadata about the records that are often implicit and can be deduced by anyone using the records. In paper-based systems, the structure of the record does not need to be specified, as it is immediately apparent to a user. The content of the record may need to be highlighted through additional indexing. The context of the record is defined through a number of complex factors, including the implementation of system controls, but it is also implicit through physical location and placement with other documents. Electronic systems do not have the same implicit metadata and methods for capturing records need to make this metadata explicit.

Electronic systems supporting records capture need to be configured to prompt the completion of required metadata fields, or may be configured to generate such metadata automatically. The extent of the metadata attributed to electronic records is greater than that required for paper records as there is very little that can be implied in electronic systems and all the metadata implicit in paper-based records are made explicit. This depends on the prior existence of rules identifying the records that should be captured and classification systems for both identification and access status.

Rather than follow the Standard's order of operations, this clause seeks to guide implementation by identifying:

- a) the instruments needed for a number of different records management operations, and their development;
- b) a number of factors that will affect, or determine the nature of, records management operations in various organizations and jurisdictions; and
- c) the processes that use the instruments.

4.2 *Instruments*

4.2.1 **Instruments**

The principal instruments used in records management operations are:

- a) a classification scheme that is based on business activities;
- b) a records disposition authority; and
- c) a security and access classification scheme.

Many organizations may also employ additional records management-specific tools, such as:

- a) a thesaurus of preferred terms; and
- b) a glossary of terms or other vocabulary controls.

In addition, there are other tools that are not specific to records management but that may be referred to in records management operations:

- a) a regulatory framework analysis;
- b) a business risk analysis;
- c) an organizational delegations authority; and
- d) a register of employees and system user permissions.

Development of the last set of instruments is outside the scope of this document.

4.2.2 **Business activity classification**

A classification system that is related to business functions may provide a systematic framework for records management. Analysis for the purpose of developing the business activity classification identifies all of an organization's activities and locates them in the framework of its stated or mandated mission or purpose.

In fully developed form, the classification produces a representation of the organization's business functions, activities and transactions. That representation can be used to develop a records classification scheme and thesaurus, titling and indexing rules, identification of records disposition classes and access classifications.

Classification systems provide an organization with a tool to:

- a) organize, describe and link its records;
- b) link and share interdisciplinary records, either internally or externally to the organization; and

- c) provide improved access, retrieval, use and dissemination of its records as appropriate.

Supported by instruments such as vocabulary controls, classification systems promote consistency of titling and description to facilitate retrieval and use. Classification systems can be used to support a variety of records management processes in addition to facilitating access and use, for example, storage and protection, and retention and disposition.

Classification systems may reflect the simplicity or complexity of the organization from which they derive. Organizations need to determine the degree of classification control they require for their business purposes, based on the organizational structures, nature of their business, accountabilities and technology deployed.

4.2.2.1 *Development of business activity classification*

The business activity classification can be developed from work using the methodology outlined in Clauses 3.2.1 – 2.

The development of a business activity analysis involves identifying and analysing:

- a) the goals and strategies of the organization;
- b) the functions of the organization that support the pursuit of these goals and strategies;
- c) the activities of the organization that constitute the functions;
- d) the work processes performed to carry out specific activities and transactions;
- e) all constituent steps that make up the activity;
- f) all the transactions that make up each constituent step;
- g) the groups of recurring transactions within each activity, and
- h) existing records of the organization.

The findings from the analysis can be represented as a hierarchy of the business activities, supplemented as required by sequential representations of business processes.

Classification systems may be derived from analysis of business processes to ensure that the records and their metadata descriptions accurately represent the business processes that created them.

The structure of a classification system is usually hierarchical and reflects the analytical process as follows:

- a) The first level usually reflects the business function.
- b) The second level is based on the activities constituting the function.

- c) The third and subsequent levels are further refinements of the activities or groups of transactions that take place within each activity.

The degree of refinement of a classification system is at the discretion of the organization and reflects the complexity of the function undertaken within the organization. For example, the hierarchy for personnel might be set out as follows:

- 1. Personnel
 - 1.1 Allowances
 - 1.2 Employment conditions
 - 1.2.1 Appointments
 - 1.2.2 Apprenticeships
 - 1.2.3 Childcare
 - 1.2.4 Flexible work arrangements
 - 1.3 Leave
 - 1.3.1 Accrual
 - 1.3.2 Entitlements
 - 1.3.3 Holidays
 - 1.4 Recruitment
 - 1.5 Salaries
 - 1.5.1 Deductions
 - 1.5.2 Overtime
 - 1.5.3 Remuneration
 - 1.5.4 Superannuation

Classification systems provide an articulation of the functions and activities of the organization. They cannot always specify every known variable, but they can indicate appropriate groupings. For example prompts such as [Specify by Time Period] or [Specify by Client] can be used within classification guidelines to require users to be more specific. Further instruments (for example, indexes) are necessary to list each individual variable used by the organization.

Developers of classification systems may ensure the following points are observed.

- a) The systems derive their terminology from the business functions and activities, not from names of organizational units.
- b) They are specific to each organization and provide a consistent and standard way of communicating across organizational units sharing the same information for interrelated functions.
- c) They are hierarchical, moving from the most general to the most specific concept, that is, from high-level function to specific transaction, for example, Finance – Audit – External.
- d) They consist of unambiguous terms reflecting organizational usage.

- e) They consist of sufficient groupings and sub-groupings to include all of the business functions and activities being documented.
- f) They consist of discrete groupings.
- g) They are devised in consultation with the records creators.
- h) They are maintained to reflect changing business needs and to ensure that the scheme is up-to-date and reflects changes in the functions and activities of the organization.

4.2.3 Vocabulary

4.2.3.1 *Vocabulary controls – list of authorized headings*

A list of authorized subject headings is a simple listing of terms derived from terms in the classification scheme. The meaning of a term is not prescribed and relationships between terms are not shown. The list allows control of the terminology used to name records by establishing the terms acceptable to the organization and used in its natural language, controlling the use of synonyms, homonyms, abbreviations and acronyms.

4.2.3.2 *Thesaurus*

A thesaurus is constructed using the conventions and procedures documented in ISO 2788.

A thesaurus is a controlled list of terms linked together by semantic, hierarchical, associative or equivalence relationships. Such a tool acts as a guide to allocating classification terms to individual records.

In a thesaurus, the meaning of the term is specified and hierarchical relationships to other terms shown. A thesaurus provides sufficient entry points to allow users to navigate from terms that are not to be used to the preferred terminology adopted by the organization. Additionally, a thesaurus can be linked to other records management instruments, such as disposition authorisations or access classification schemes, to enable the automation of other records management processes.

4.2.4 Records disposition authority

Determining what records should be captured and how long they should be kept is most effectively undertaken in a systematic way and according to laws and regulations (which may be country-specific, specific to different types of organisations or industries or related to certain products). Instruments to standardize the decision-making may range from guidelines identifying what documents should be destroyed or captured into records systems to a formally approved schedule of classes of records, retention periods and appropriate disposition actions that is submitted for approval by an external authority (records disposition authorities). In some countries, the disposition authorities may prescribe permanent preservation, either within the organization or in a separate archives institution. In electronic

records systems, the determinations about capture and retention should be considered in system design at the outset.

4.2.4.1 *Determining documents to be captured into a records system*

Determining which records should be captured into a records system and how long they should be kept requires first an analysis of the organization's internal and external environment, its relationship(s) to that environment, and identification of the business functions and activities it performs as described in Clause 3.3 (Steps A and B).

Secondly, the results of this business analysis are considered against the external and internal requirements to maintain accountability for business activities. Drawing on the business activity analysis and analysis of requirements, records managers may:

- a) identify the broad level of records that needs to be created to administer and manage each activity;
- b) identify the parts of the organization in which the records of the activity are captured;
- c) analyse the business activity to identify all constituent steps that make up the activity;
- d) identify all transactions that comprise each step in the business activity;
- e) identify the data required to process the transaction;
- f) determine the need to capture evidence of each transaction; and
- g) determine the appropriate point at which the record is to be captured.

Decisions on records capture as part of a system design process are best undertaken in conjunction with the business unit responsible for the activity and systems.

A decision not to require formal records capture is usually based on the assessment of the risk arising from having incomplete records of the business activity. Risk management decisions will be a result of analysis of the regulatory and compliance environment, as well as perceived business risks, depending on the sector and nature of business undertaken. The decisions will involve considerations of direct and opportunity costs, other resource allocation, potential for litigation, public relations profile, ethics and space utilisation (physical or computer network).

For example, if the documentation of pharmaceutical products has a greater risk associated with it than managing stationery supplies, then records of pharmaceutical production would be managed to a greater level of detail, and kept for longer periods than stationery orders. Similarly, records required for business continuity are captured into records systems as part of a risk management strategy.

Any records created or captured need to have a retention period assigned so it is clear how long they should be maintained.

4.2.4.2 *Determining how long to retain records*

To determine how long records are maintained, the following five-stage analysis can be undertaken.

- a) Determine the legal or administrative requirements for maintaining records within the system.

Legal or administrative requirements can demand minimum retention periods in different jurisdictions or sectors.

- b) Determine the uses of the record within the system.

Records of some transactions within a system are repeatedly used to perform further transactions. A distinction needs to be made between the core records, which are those used repeatedly, and records of multiple individual transactions, which refer to the core records and which may be removed from the system shortly after the transaction is completed. For example, leave records in personnel systems are only maintained for a limited period, while the leave history will be maintained as long as the employee is employed. The relationship between core business records and other transactional records will determine how long each are needed within the system. This is also dependent on the nature of the business activity being documented. For example, transaction records relating to a person's medical history may need to be retained longer than the accounts payable transaction records subsidiary to a general ledger.

- c) Determine links to other systems.

Records from one system can support or be referred to by other systems. For example, aggregated details of individual purchasing transactions are transferred to the general ledger system. Records in a Geographical Information System may be referred or copied to planning, property or other line-of-business systems.

- d) Consider the broad range of uses of the record.

Steps in this process include:

1. identifying other stakeholders, for example archives or other external users, with enforceable or legitimate interests in preserving the record longer than the internal users of the organization;
2. assessing the risks associated with destroying the record once routine, internal, use of the record has finished;
3. considering what records and actions to preserve them would be required by the organization to ensure business continuity in the event of loss or damage to the records;
4. assessing financial, political, social or other positive gains from maintaining the record after organizational use has been completed; and.

5. analysing the balance between the costs and non-financial gains of records retention, to decide how long records are maintained after organizational needs have been met.
- e) Allocate retention periods to the records on the basis of the total system evaluation.

Similar retention periods and disposition action are determined for groups of records performing or recording similar activities within the system. All records within a records system should be covered by some form of disposition authority, from records of the smallest transactions to the documentation of the system's policies and procedures. Retention periods should be stated clearly and disposition triggers clearly identified. For example: 'destroy x years after audit' or, 'transfer to the archives x years after last transaction completed'.

4.2.5 Security and access classification scheme

A formal instrument that identifies the rights of access and the regime of restrictions applicable to records is a necessary tool to manage records in organizations of all sizes and jurisdictions. The more complex the organization and the more complex its business and regulatory environment, the greater the need for standardisation of procedures to apply access and security categories to records.

4.2.5.1 *Development of security and access classification*

Development of appropriate categories of access rights and restrictions is based on the organization's regulatory framework analysis, business activity analysis and risk assessment. Reasonable security and access will depend on both the nature and size of the organization, as well as the content and value of the information requiring security. Reasonable security can be described as the level of security that a reasonable person on the street would believe is needed to protect the information from any unauthorized access, collection, use, disclosure, deletion, alteration and/or destruction. Thus, 'reasonable' for one organization may be a locked filing room, while for another it may be a locked, guarded, limited-access filing room with video cameras.

Access to records may be restricted to protect:

- a) personal information and privacy;
- b) intellectual property rights and commercial confidentiality;
- c) security of property (physical, financial);
- d) state security; and
- e) legal and other professional privilege.

Equally important, there are legally enforceable rights of access embodied in corporate governance, freedom of information, privacy protection, archival and legal process law. Effective development of security and access classification schemes would take these rights of access into account.

To develop an access classification scheme, the organization's regulatory framework analysis, business activity analysis and risk assessment may be drawn on to:

- a) identify the legally-enforceable rights of, and restrictions on, access to records and organizational information;
- b) identify the areas of risk of breach of privacy, and of personal, professional or commercial confidentiality;
- c) identify the security issues of the organization;
- d) rank the areas of risk of breach to security according to assessment of damage and likelihood of occurrence;
- e) map the identified areas of risk and security issues to the business activities of the organization;
- f) identify the appropriate levels of restriction for the areas of highest risk to the lowest;
- g) allocate levels of restriction to the respective classes of records of the business activities according to the ranking of risk; and
- h) link restrictions to instruments such as activity classification systems or thesauri that are used to describe records. In this way, caveats or restrictions can be automatically invoked when records are captured and registered in the records system.

The way that levels of restriction are expressed should reflect organizational usage. Relevant business areas would need to be consulted in the development of the categories of access restriction.

Access classifications also apply to people, both those who are responsible for managing the access-classified records and others with rights of access. As a next step, responsibilities have to be identified clearly. Those persons who have access to particular groups of access-classified records can be defined and captured in the records system. Records categorized as restricted can only be accessed by employees who have been nominated. This process can be backed by a checking or vetting process that is not part of the records management function. This aspect of access classification for users is related to the task of managing user permissions to the records system.

A records system has to manage user permissions specific to itself. It may draw on the organization's register of employees and user permissions for all systems, but where there is no general user permissions registration procedure, it has to devise its own. The user permissions register distinguishes user permissions issued to employees to authorize, access, alter or delete records maintained in a records system from employees with permission for read-only access. A user can be the authorized employee responsible for the creation, alteration and deletion of records in one functional area of responsibility, while only having the ability to access but not alter records in other

functional areas. Similarly, it may not be appropriate to share access to records of certain business activities outside the particular functional group, so the user permissions available to employees outside that work group are restricted accordingly.

The monitoring and mapping of user permissions and functional job responsibilities is a continuing role that occurs in all records systems regardless of format. Many electronic records systems, particularly those accessible across geographically distributed systems, may inherit identification protocols from other applications. With the potential to permit networked access across much wider distances, the allocation and monitoring of user permissions will be a significant responsibility, often vested in information systems or data administration personnel.

4.3 Records management processes

The processes described below are necessarily described as if in a sequence, but it should be understood that in many records systems, particularly electronic records systems, they may take place simultaneously or in a different order from that described. All the processes generate metadata (detailed descriptive information) that are linked to the record. The amount of metadata about the records and the records management processes depends on the elaboration of the records system, which in turn is determined by the business and accountability requirements of the organization. The processes are:

- a) Capture
- b) Registration
- c) Classification
- d) Access and security classification
- e) Identification of disposition status
- f) Storage
- g) Use and tracking
- h) Implementation of disposition

4.3.1 Capture

Capture is the process of determining that a record should be made and kept. This includes both records created and received by the organization. It involves deciding which documents are captured, which in turn implies decisions about who may have access to those documents and generally how long they are to be retained.

Decisions about which documents should be captured and which discarded are based on an analysis of the organization's business and accountabilities. The organization may use a formal instrument such as a records disposition schedule (see 4.2.4) or guidelines that identify documents that do not need to be retained.

Examples of documents that may not require formal capture as records are those that do not:

- a) commit an organization or individual to an action;
- b) document any obligation or responsibility; or
- c) comprise information connected to the accountable business of the organization.

In paper records systems, capture can be effected by physically placing a document into a chronological sequence within a file or folder that contains a title. This grouping connects the individual document to other documents on a particular matter and enables contextual information about the document to be inferred by anyone coming to retrieve the information. It is implicitly linked to other records by time, by physical proximity, by the owner of the file or folder, and by the title of the file or folder.

A formal paper-based records system will impose controls over which files are created and what they are called. Adding papers to a file (capturing the record) becomes a conscious process of determining which classification best suits the particular document, and deliberately placing it in a pre-defined and known sequence of documents. Papers added progressively to files may be dated or numbered sequentially to provide additional security in defining the sequence of action. Additional indexing points may be added subsequently to the file to ensure that the specific document can be located and retrieved. Disposition and access conditions may be applied by adding notes on the file or in control systems.

Incorporating a document into a pre-determined set of actions or workflow also acts as a form of records capture. This process locates the document within the context of the action that needs to take place following its creation or receipt and acts as an acknowledgement that it is taking part in business transactions.

Electronic records systems capture documents in a more deliberate process that to all intents and purposes is the same as registration.

Systems that capture records also need to capture metadata associated with the record in a way that:

- a) describes the record both for what it contains and the context of the business taking place;
- b) enables that record to be a fixed representation of action; and
- c) enables the record to be retrieved and rendered meaningful.

These aspects are often referred to as context, content and structure.

Information about the people involved in the transaction, the business being done and the records generated may be recorded at varying levels of detail. The level of detail required depends upon business need and the range of use of the record. For example:

- a) Records that are only relevant to one person may be managed in simple systems by using minimal information oriented to retrieval, such as personal reference files with copies of guidelines and laws.
- b) Records that are never used beyond the scope of one business unit need only record details that are relevant and understood within that business unit.
- c) Records that are available or accessible beyond a particular business unit need to provide more information, identifying the business unit in relation to a larger entity and the people involved in the transactions connected to a bigger context.
- d) Records created in the public domain, such as the World Wide Web, require a broad range of contextual information, as it cannot be assumed that everyone will approach the record with the same shared understanding of the transactions taking place. ISO 690-2 gives guidance on how to refer to electronic records.

4.3.2 Registration

In those systems where registration is used, its purpose is to provide evidence that a record has been created or captured in a records system. It involves recording brief descriptive information about the record in a register, and assigning the record a unique identifier.

Registration is a way of formalizing the capture of the record into the records system. Records can be registered at more than one level of aggregation within a records system, for example, in correspondence file systems, at the file level and at the 'document' or 'folio' level, depending on the assessment of the evidence requirements.

In manual, paper-based control systems, a register is normally a separate record. In computerized systems, a register can comprise a combination of data elements. In electronic records systems, the registration process may include classification and determination of disposition and access status. Electronic records systems can be designed to register records through automatic processes, transparent to the user of the business system from which it is captured and without the intervention of a records management practitioner. Even where registration is not totally automated, elements of the registration process (specifically some of the metadata that are required for registration) can be automatically derived from the computing and business environment from which the record originates.

Whatever form it takes, as a general rule the register is unalterable. If, however, changes are required, there has to be an audit trail.

Registration specifies the following metadata as a minimum¹:

- a) a unique identifier assigned from the system;
- b) the date and time of registration;

¹ Note that some of these elements are similar to those in ISAD (G).

- c) a title or abbreviated description; and
- d) the author (person or corporate body), sender or recipient.

More detailed registration links the record to descriptive information about the context, content and structure of the record and to other related records. Each record or group of records should contain information about the context and content of the record and other related records. Specific jurisdictions may have mandated metadata requirements for full and accurate records. Some of these metadata requirements may be met through the initial registration of a record and its relationships.

Depending on the nature of the business recorded, the organization's evidence requirements and technology deployed, the information attached to the record's unique identifier can include, in addition to the minimum metadata specified above:

- a) document name or title;
- b) text description or abstract;
- c) date of creation;
- d) date and time of communication and receipt;
- e) incoming, outgoing or internal;
- f) author (with his/her affiliation);
- g) sender (with his/her affiliation);
- h) recipient (with his/her affiliation);
- i) physical form;
- j) classification according to the classification scheme;
- k) links to related records documenting the same sequence of business activity;
- l) business system from which the record was captured;
- m) application software and version under which the record was created or in which it was captured;
- e) standard with which the records structure complies (for example, Standard Generalized Markup Language – SGML);
- n) details of embedded document links, including applications software and version under which linked record was created;
- o) templates required to interpret document structure;
- p) access;
- q) retention period; and
- r) other structural and contextual information useful for management purposes.

If a classification scheme is used, the file/record is best classified at the same time as it is registered. The type and complexity of classification depends on the type of company or organization.

4.3.3 Classification

Classification is the process of identifying the category or categories of business activity and the records they generate and of grouping them, if applicable, into files to facilitate description, control, links and determination of disposition and access status.

Using business activity-based classification systems (see 4.2.2), the process consists of the following steps:

- a) identify the transaction or business activity that the record documents;
- b) locate the transaction or activity in the organization's classification system;
- c) examine the higher-level classes to which the transaction or activity is linked to ensure the identification of the classification is appropriate;
- d) check the activity classification against the organization's structure to ensure it is appropriate to the business unit to which the record belongs; and
- e) allocate the identified classification to the record to the levels appropriate to the organization's requirements.

The number of levels of classification and entry point of the classification process (whether at transaction level or above) depends on the following factors:

- a) the accountabilities of the organization;
- b) the nature of the business;
- c) the size of the organization;
- d) the complexity of the structure of the organization;
- e) the risk assessment of criticality for speed and accuracy in control and retrieval of records; and
- f) the technology deployed.

4.3.3.1 Vocabulary controls

Further descriptive and control detail can be attached to the record by using vocabulary controls such as a list of authorized headings or a thesaurus (see 4.2.3.1 and 4.2.3.2). The requirement for control of titling and description depends on the size and complexity of the organization and the specific records system. The higher the level of accountability and/or public scrutiny, the greater the need for accuracy and speed in locating individual records. The greater the risks in the business activity, for example public safety concerning hazardous chemicals, the greater the need for precision and control in retrieval.

4.3.3.2 Indexing

Appropriate allocation of index terms allows retrieval of records across classifications, categories and media. Indexing can be done manually or be automatically generated for electronic profiles or the text of electronic documents.

Once primarily a manual task, indexing today is generally computerized. Free text retrieval systems locate records based on searching their content. Other retrieval tools provide searching based on user profiles, document and subject profiles, document content and the use of intelligent agents. Sophisticated indexing tools are suited to particular types of records, the nature of the activity and the resources required in their implementation and operation.

The allocation of indexing terms may be restricted to the terminology established in the classification scheme or other vocabulary controls. Indexing terms are commonly derived from:

- a) the format or nature of the record;
- b) the title or main heading of the record;
- c) the subject content of the record, usually in accord with the business activity;
- d) the abstract of a record;
- e) dates associated with transactions recorded in the record;
- f) names of clients or organizations;
- g) particular handling or processing requirements; or
- h) attached documentation not otherwise identified.

4.3.4 Access and security classification

Assigning rights or restrictions to access involves similar steps to activity classification. Referring to the Security and Access Classification Scheme (see 4.2.5):

- a) identify the transaction or business activity that the record documents;
- b) identify the business unit to which the records belong;
- c) check the access and security classifications to establish whether the activity and the business area are identified as areas of risk, or have security considerations and/or legally required restrictions;
- d) allocate the appropriate level of access or restriction to the record and specify appropriate control mechanisms for handling; and
- e) record the access or security status of the record in the records system to signal the need for additional control measures.

Access to records is restricted only where specifically required by business need or by law. The access and security classifications may be assigned in consultation with the business unit to which the records belong. Restrictions may be imposed for a stated period to ensure that the additional monitoring and control mechanisms required for these records are not enforced for longer than required.

4.3.5 Identification of disposition status

Many records systems, particularly electronic records systems, identify the disposition status and retention period of the record at the point of capture and registration. The process can be linked to activity-based classification and automated as part of system design.

The process requires reference to a disposition authority (see 4.2.4) of a more or less formal nature depending on the size and nature of the organization and its accountabilities. It involves the following steps:

- a) identifying the transaction or business activity documented by the record;
- b) locating the transaction and records in the appropriate records class in the disposition authority;
- c) allocating the relevant retention period and identifying the anticipated disposition action;
- d) recording the retention period and future disposition action in the records system; and
- e) determining the extent to which it is necessary to retain metadata about records that have been transferred to an external storage service provider or to an archives or that have been destroyed.

4.3.6 Storage

4.3.6.1 *Record storage decisions*

The decision to capture a record implies an intention to store it. Appropriate storage conditions ensure records are protected, accessible and managed in a cost-effective manner. The purpose served by the record, its physical form and its use and value will dictate the nature of the storage facility and services required to manage the record for as long as it is needed.

It is important to determine efficient and effective means of maintaining, handling and storing records before the records are created and then to reassess storage arrangements as the records' requirements change. It is also important that storage choices be integrated with the overall records management programme.

Organizations may do this by conducting a risk analysis to choose the physical storage and handling options that are appropriate and feasible for their records. The selection of storage options should take into account access and security requirements and limitations in addition to physical storage conditions. Records that are particularly critical for business continuity may require additional methods of protection and duplication to ensure accessibility in the event of a disaster.

Risk management also involves development of a disaster recovery plan that defines an organized and prioritized response to the disaster, planning for the continuance of

regular business operations during the disaster and making appropriate plans for recovery after the disaster.

Factors that are important in selecting storage and handling options include:

- a) *Volume and growth rate of records.* Projected growth rates may eliminate some storage facilities from consideration if their growth capacity is not sufficient. Similarly, digital storage media for electronic records should be assessed as to storage capacity. The choice of media should be matched to the presumed volume and growth rates of the records.
- b) *Use of records.* The various uses of the record will determine the necessary levels of protection against loss or damage. For electronic records, use of reliable systems and media that have greater and more robust life spans will be indicated. In addition, the ease with which backups can be rotated and protected is a key consideration in selection of storage options.
- c) *Records security and sensitivity needs.* Some records require limitations on access to them for reasons of confidentiality, proprietary nature of the information or due to legal protections.
- d) *Physical characteristics.* These factors will influence records storage: weight, floor space required, need for temperature and humidity controls, and the particular physical preservation requirements of the record media (for example, paper, digital storage, microform). Records in electronic form may need to be converted or migrated. Digital storage media may need to be refreshed. Records will need to be protected from fire, flood and other risks according to local circumstances.
- e) *Records use as reflected in retrieval requirements.* Retrievability of records is a major consideration. Records that are accessed more frequently will require easier access to the storage facility. Electronic records may be stored in a variety of ways that make their retrieval easier or faster.
- f) *Relative cost of record storage options.* Cost considerations may affect decisions about outsourcing of physical and/or electronic storage and the media selected for storage of electronic records.
- g) *Access needs.* A cost-benefit analysis of on-site storage vs. off-site storage may indicate that multiple storage facilities, system, and/or equipment may be necessary to fully support the organization's needs.

4.3.6.2 Facility considerations

To ensure records are adequately stored and protected, the facility needs to be assessed against the following factors:

- a) The *location* should be easily accessed and should not be in areas of known external risk.
- b) The *building structure* should provide the suitable range and stability of temperature and humidity levels, fire protection, protection against water damage,

protection from contaminants (such as radioactive isotopes, toxins, and active growth mold), safety measures, controlled access to storage areas, detection systems for unauthorized entry, and appropriate protection against damage caused by insects or vermin.

- c) *Equipment* – it is important that shelving be suited to the format of the records and that it be strong enough to bear potential loads. Containers and packaging ought to withstand the handling and pressure exerted by the contents, and ought not to damage the records during storage. The use of records may justify special protective packaging to provide additional protection from deterioration.

Organizations may choose to use a contractor to store records and to provide access to either hard copy or electronic information. In these cases, it is important that service level agreements state the rights and responsibilities of the record owners and the storage service provider(s).

4.3.6.3 *Digital storage media*

The storage of records in electronic form necessitates the use of additional storage plans and strategies to prevent their loss:

- a) Backup systems are a method of copying electronic records to prevent loss of records through system failures. Such systems ought to include a regular backup schedule, multiple copies on a variety of media, dispersed storage locations for the backup copies, and revisions for both routine and urgent access to backup copies.
- b) Maintenance processes may be needed to prevent physical damage to the media. Magnetic tapes require retensioning or rewinding at regular intervals. Records may need to be copied to newer versions of the same media to prevent data erosion.

4.3.7 *Use and tracking*

Use of the record is a records management transaction that may need to be captured by the system to form part of the metadata. Use of the record may affect its access and disposition status.

Managing the use of records encompasses:

- a) identifying the records system user permissions associated with individuals and their positions within the organization;
- b) identifying the access and security status of records;
- c) identifying the access rights for people external to the organization;
- d) ensuring only individuals with the appropriate user classification or security rights have access to records with restricted status;

- e) tracking the movement of the record to identify those who have or have had custody of it;
- f) ensuring all use of the records is recorded to an appropriate level of detail; and
- g) reviewing the access classifications of records to ensure they are current and still applicable.

The tracking of records usage within records systems is a security measure for organizations. It ensures that only those users with appropriate permissions are performing records tasks for which they have been authorized. The degree of control of access and recording of use depends on the nature of the business and the records they generate. For example, mandatory privacy protection measures in many jurisdictions require that the use of records holding personal information is recorded.

The patterns of records usage are useful for establishing the currency of the information contained in the record and provide a measure for determining when disposition action should be taken.

Systems for monitoring use and/or movement of records range from physical card-based movement-recording systems to bar-coding technology, to electronic records systems where viewing a record is automatically captured as a system transaction. Tracking systems have to meet the test of locating any record within an appropriate time period and ensuring all movements are traceable.

4.3.8 Implementation of disposition

Records with similar disposition dates and triggering actions should be readily identifiable from the records system. For convenience, paper-based records with the same disposition dates and triggering actions can be stored physically together. In computer systems, they could be written to the same backup media and the backup media re-use cycles coordinated with the disposition authorities.

The use history of records due for disposition action needs to be reviewed to confirm or amend the disposition status. Other important activities are:

- a) checking triggers for disposition action;
- b) confirming as completed action in which the record may be involved; and
- c) maintaining an auditable record of disposition action.

4.3.8.1 *Continuing retention*

Records removed from current systems have to be accessible and retrievable for the entire period of their retention. The characteristics of records as set out in ISO 15489, Clause 7.2, should be maintained. Where records are removed from the immediate physical environment of the business unit into other physical areas controlled by the

organization, the continuing responsibility for authorising the destruction or further disposition action is retained by that business unit.

Records identified for continuing retention need to be stored in environments conducive to their long-term preservation.

Preservation strategies for records, especially electronic records, may be selected on basis of their ability to maintain the accessibility, integrity and authenticity of the record over time, as well for their cost effectiveness.

Preservation strategies can include copying, conversion and migration of records.

- a) 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).
- b) Conversion involves a change of the format of the record but ensures that the record retains the identical primary information (content). Examples include microfilming of paper records, imaging, change of character sets.
- c) Migration involves a set of organized 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 clients 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.

Other methods may be used to retain electronic records for long periods as new technologies become available.

Strategies for retaining electronic records and associated metadata removed from systems have to be formulated and integrated into all systems design processes to ensure that the records and associated metadata will remain accessible and useable for the entire period of their retention.

Records being stored pending destruction at a later date may be documented in such a way as to prompt regular destruction of records where the retention period has expired (for example, annually).

Where records are transferred to an external storage provider or an external archives authority, whether as a result of implementing disposition action or for other reasons, documentation outlining continuing obligations to maintain the records and manage them appropriately, safeguarding their retention or disposition and accessibility, are formally established by agreement between the custodian(s) and the transferring party.

4.3.8.2 *Physical destruction*

Physical destruction of records is carried out by methods appropriate to their level of confidentiality. The organization may maintain an auditable trail documenting all destruction of records. Consent of responsible authorities may also be required. Destruction can be undertaken by third parties contracted for the task. Certificates of destruction are recommended for all destruction undertaken by third parties.

Records in electronic form can also be destroyed by reformatting or rewriting if it can be guaranteed that the reformatting cannot be reversed. Delete-instructions are not sufficient to ensure that all systems pointers to the data incorporated in the system software have also been destroyed. Backups containing generations of system data also need to be reformatted or rewritten before effective destruction of information in electronic form is complete. Physical destruction of storage media is an appropriate alternative, especially if deletion, reformatting or rewriting are either not applicable or are unsafe methods for destroying digital information (for instance, information stored on WORM [Write Once Read Multiple] media).

4.3.8.3 *Transfer of custody or ownership of records*

In certain circumstances, records are transferred out of the custody or ownership of the organization or business unit that created them. Such circumstances arise, for example, from the restructuring of organizations, where organizations cease to exist or where business activities are outsourced. Where this occurs, the records requiring transfer are identified, removed from existing records systems and physically transferred.

Such a transfer of ownership or custody of records to another organization may include:

- a) transfer to other organizations with responsibilities for the records;
- b) transfer to outsourced or contractor organizations;
- c) transfer to a storage facility; or
- d) transfer to an archive.

A key element in dealing with the transfer of ownership of records is determining accountability for records. Examples of questions in this context include:

- a) Have the operational and administrative needs for transfer of the records been authoritatively established?
- b) Have the issues of authority and accountability for records been addressed?
- c) Has the impact on the transferring institution's records been taken into account?
- d) Have the ongoing legislative, policy and regulatory obligations been fulfilled?

If electronic records are transferred, such issues as the following need to be considered:

- a) hardware and software compatibility;
- b) metadata (control and contextual information);
- c) data documentation (technical information on data processing and data structure);
- d) licensing agreements; and
- e) standards.

In such cases where records are being removed from the control or ownership of the organization (for example, through privatization of government agencies), consent of the responsible archival authority may be required. When government records containing personal information are to be transferred by the government to other jurisdictions or entities, a number of factors have to be considered (especially in jurisdictions where freedom of information and privacy legislation are applicable). Examples include requirements pertaining to records retention, protection of personal information and consistent provision of access.

5 MONITORING AND AUDITING

5.1 General

There are three reasons for monitoring and auditing records systems:

- a) to ensure compliance with the organization's established standards;
- b) to ensure that records will be accepted as evidence in a court of law should this be required; and
- c) to improve an organization's performance.

The details of the ordinary business activity of an organization are recorded and stored in its records system – regularly and in the course of its normal business activity.

Monitoring helps to ensure continued legal accountability of the records system. The monitoring processes are documented to provide evidence of compliance with policies, procedures and standards the organization has adopted.

Systematic monitoring programs, developed and designed in accordance with existing rules and regulations, can best meet the requirements for such corporate accountability.

An appropriately qualified person can best oversee compliance, reporting independently to senior management. Compliance is most appropriately conducted by whoever designed or implemented the monitoring programs, or by the person responsible for managing the records.

Monitoring should take place regularly at intervals agreed and set down in the organization's records management policy.

5.2 Compliance auditing

The proper design of any records system needs to have readily available evidence of an organization's:

- a) understanding of the nature of its records;
- b) care and security arrangements for the records; and
- c) business processes and technologies; and their proper implementation.

Further, records managers require evidence to demonstrate the organization's continued compliance with legislation, policies, principles, processes and procedures over time, especially for periods beyond the current staff's employment.

The principles of good practice in record keeping are of value even if the need to produce electronic records in court never arises. The effort and resource required to comply quickly bring business benefits, whether the organization is in court or not.

5.3 *Evidential weight*

Records managers employing electronic information storage systems need to be aware of the potential for legal challenge if documents from such a system are presented in evidence to a court of law. If the integrity or authenticity of an electronic record is called into doubt in court by suggestions of tampering, incompetence, improper system functionality or malfunction, the evidential weight or value put on the document by the court may be lost or, at least, reduced, to the detriment of the case.

The records managers need to have readily available evidence to demonstrate and prove the organization's compliance with legislation, policies and procedures throughout the life of the system. It should also be possible to show that the system was operating as intended in accordance with the organization's normal business practices. This evidence would be available from records of the monitoring and auditing of system processes.

5.4 *Performance monitoring*

Performance monitoring requires organizations to establish agreed expected and/or required performance levels in such matters as procedural responsibilities, work quantity and quality, and system and process security and integrity.

Operation of the resulting system has then to be regularly and routinely measured against these benchmarked expectations or requirements.

6 TRAINING

6.1 Introduction

ISO 15489 explains the need for an organization to implement a training programme for all personnel who create records or use a records system. This Technical Report notes some of the requirements for a training programme; the personnel to be trained; training for technical specialists; methods of training; and evaluation and review of training programmes.

A training programme should ensure that the functions and benefits of managing records are widely understood in an organization. It should explain policies and place procedures and processes in a context that gives staff an appreciation of why they are required. It will be most effective when it is tailored to the needs of particular groups of staff or, in some cases, individual staff members.

6.2 Training programme requirements

It is important for an organization to assign responsibility for implementing and managing its records management training programme to a manager at a suitable level and to resource the programme adequately.

An organization may choose to use a third party supplier to provide some or all of its records management training.

A formal training programme will only be effective if staff can see that management is committed to implementing the policies and procedures covered in the program.

6.3 Personnel to be trained

It is important that appropriate training be provided for all personnel with any kind of responsibility for records. This includes:

- a) managers
- b) employees
- c) contractors
- d) volunteers
- e) any other personnel who have a responsibility to create or use records

Organizations need to ensure that all staff identified through the processes set out at Clause 2.3.2 are trained so that they can fulfil those responsibilities.

Training for records management specialists is covered at paragraph 6.4

6.4 Training for records management professionals

Many organizations need to employ personnel who have professional qualifications in records management or archives to manage their records programme and to undertake highly technical processes such as classification, preparing disposition authorities and system design. Relevant technical skills may also include an understanding of the operation of electronic systems. An understanding of the organization's business, objectives and processes is also required.

Organizations may choose to use already-trained staff to facilitate attendance by other staff at suitable external training programmes, or they may choose to engage trained and experienced contractors or consultants.

6.4.1 Methods of training

Methods of records management training can include the following:

- a) incorporation in the organization's employee orientation programmes and documentation;
- b) classroom training for employees new to particular responsibilities or at times of system change;
- c) on-the-job training and coaching provided as part of a formal programme or informally by knowledgeable supervisors or peers;
- d) briefing sessions and seminars on specific record issues or initiatives;
- e) leaflets and booklets providing short 'how-to' guides describing aspects of the organization's record policies or practices;
- f) computer-based presentations, which may be interactive, available on the corporate network or distributed on diskette;
- g) help text provided within a computer-based system; and
- h) training courses provided by educational institutions or professional organizations that may be part of the general offerings of these institutions or may be developed on request to meet an organization's particular needs.

6.5 Evaluation and review of training

Evaluation of the training programme is based on subsequent successful operation of the records system by the employee. This may require measurement against the level of training undergone, and operational audits of the records system in the organizational

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unit. The programme may also monitor and record staff skill levels against the requirements set out in the training programme.

The effectiveness and efficiency of the records training programme will be enhanced if it is regularly reviewed and reports provided to management through the organization's usual channels.

The level of trainee satisfaction with courses and other activities provided should also be assessed.

It is important that evaluation and review of training programmes are followed by any necessary adjustments to the programme, and that updates are provided to those already trained.

It is useful to assess any accountability breakdowns to see whether records management issues were a factor.

BIBLIOGRAPHY

International Council on Archives, *ISAD(G): General International Standard Archival Description*, 2nd edition, Ottawa, 2000.

ISO 690-2 Information and documentation – Part 2: Electronic documents or parts thereof.

ISO 2788 Documentation – Guidelines for the development of monolingual thesauri.

ISO 15489 – Information and documentation – Records management.

**APPENDIX A: REFERENCE TABLES TO COMPARE ISO 15489
AND ITS ACCOMPANYING TECHNICAL REPORT**

These tables compare ISO 15489 and this accompanying Technical Report at clause level. They provide a link between the two documents so that users can readily establish:

- a) where the Technical Report provides additional guidance on matters covered in the standard; and
- b) the particular clause in the main standard to which each clause of the Technical Report refers.

The Technical Report does not provide additional guidance on every clause of ISO 15489.

STANDARD – ISO 15489		TECHNICAL REPORT (TR)	
Clause no.	Description	Clause no.	Description
1	<i>Scope</i> For ISO 15489	1	<i>Scope</i> For Technical Report (TR)
2	<i>Normative references</i> Lists standards forming part of ISO 15489	7	<i>Bibliography</i> Lists publications referenced in the text
3	<i>Terms and definitions</i>		No additional terms or definitions
4	<i>Benefits of records management</i>		No additional guidance
5	<i>Regulatory environment</i>		No additional guidance
6	<i>Policy and responsibilities</i>	2	<i>Policies and responsibilities</i>
6.1	<i>General</i> Establishes need for records management policy	2.1	<i>Introduction</i> Notes that TR will expand on types of responsibilities to be defined and assigned
6.2	<i>Policy</i> Covers objectives and relationships to activities and regulatory environment	2.2	<i>Records management policy statements</i> Covers function, relation to other documents and support

Table continues/...

6.3	<i>Responsibilities</i> Covers defining and allocating responsibility for policy	2.3 2.3.1 2.3.2	<i>Responsibilities</i> <i>The objectives of defining responsibilities and authorities</i> Covers object and scope of business rules required to define responsibilities for managing records <i>Authorities and responsibilities within the organization</i> Covers responsibilities of categories of staff for managing records
7	<i>Records management requirements</i>		No additional guidance
8	<i>Design and implementation of a records system</i>		No equivalent heading
8.1 8.2 8.3	<i>General</i> <i>Records system characteristics</i> <i>Designing and implementing records systems</i>		No additional guidance
8.4	<i>Design and implementation methodology</i>	3 3.1 3.2	<i>Strategies, design and implementation</i> <i>Introduction</i> Indicates Clause 3 amplifies Clause 8.4 only <i>Design and implementation of a records system</i> Notes correspondence between paragraph numbers in 8.4 and step names in 3.2
8.4 (a)	<i>Preliminary investigation</i>	3.2.1 – Step A	<i>Preliminary investigation</i> Amplifies purpose of step and relates to other steps
8.4 (b)	<i>Analysis of business activity</i>	3.2.2 – Step B	<i>Analysis of Business Activity</i> Amplifies purpose of step and lists possible documentation
8.4 (c)	<i>Identification of requirements for records</i>	3.2.3 – Step C	<i>Identification of requirements for records</i> Amplifies purpose of step and lists possible documentation

Table continues/...

8.4 (d)	<i>Assessment of existing systems</i>	3.2.4 – Step D	<i>Assessment of existing systems</i> Amplifies purpose of step and lists possible documentation
8.4 (e)	<i>Identification of strategies for satisfying records requirements</i>	3.2.5 – Step E	<i>Identification strategies for satisfying records requirements</i> Lists factors affecting strategies, possible strategies and possible documentation
8.4 (f)	<i>Design of a records system</i>	3.2.6 – Step F	<i>Design of a records system</i> Explains relationship between Step F and other steps and lists possible documentation
8.5 (g)	<i>Implementation of a records system</i>	3.2.7-Step G	<i>Implementation of a records system</i> Amplifies purpose of step and lists possible documentation
8.4 (h)	<i>Post-implementation review</i>	3.2.8-Step H	<i>Post-implementation review</i> Lists activities undertaken and describes benefits
8.5	<i>Discontinuing records systems</i>		No additional guidance
9	<i>Records management processes and controls</i> Heading only	4 4.1 4.2 4.2.1 4.3	<i>Records processes and controls</i> <i>Introduction</i> Explains the sequence of records processes, the differences between metadata in paper and electronic systems and the arrangement of Clause 4 in TR <i>Instruments</i> <i>Instruments</i> Lists tools used in records management and selection to be covered in the Technical Report (business activity classification, records disposition authority, security and access classification scheme, thesaurus and glossary of terms) <i>Records management processes</i> Introduction to and list of processes

Table continues/...

<p>9.1</p>	<p><i>Determining documents to be captured into a records system</i> Risk analysis for capture, dynamic nature of records and need for metadata</p>	<p>4.2.4 4.2.4.1 4.3.5</p>	<p><i>Records disposition authority</i> Explains that records capture should be systematic</p> <p><i>Development of disposition authorities</i> Covers how determining capture requires identification of functions and activities</p> <p>Lists processes to identify need for capture</p> <p>Notes use of risk analysis to decide records to be captured</p> <p><i>Disposition status</i> Lists processes for identifying disposition status at the point of capture, especially in an electronic environment</p>
<p>9.2</p>	<p><i>Determining how long to retain records</i> Describes factors affecting retention, reasons for retention and types of records likely to require continuing retention</p>	<p>4.2 4.2.1 4.2.2 4.2.4 4.2.4.1</p>	<p><i>Instruments</i></p> <p><i>Instruments</i> Mentions disposition authority</p> <p><i>Business activity classification scheme</i> Notes development of disposition authority from business activity classification scheme</p> <p><i>Records disposition authority</i> Describes disposition authority</p> <p><i>Development of disposition authorities</i> Explains that determining how long records should be kept requires identification of functions and activities</p> <p>Notes need for clear retention period</p>

Table continues/...

		4.2.4.2	<i>Maintenance, retention and disposition</i> Describes analysis required to determine how long records must be kept, with examples. Provides description of retention periods
		4.3.5	<i>Disposition status</i> Lists processes for linking activity based classification to disposition status, especially in an electronic environment
		4.3.8	<i>Implementation of disposition</i> Explains how to implement disposition authorities
9.3	<i>Records capture</i> Lists purposes and techniques	4.3.1	See also 4.2.4.1 <i>Determining documents to be captured into a records system</i> <i>Capture</i> Describes capture process, including examples of documents that do not need to be captured as records, methods of capture in paper and electronic systems and metadata required
9.4	<i>Registration</i> Defines registration process and explains purpose	4.3.2	<i>Registration</i> Amplifies process, lists metadata and specifies minimum metadata
9.5	<i>Classification</i>	3.2.1	<i>Step A – Preliminary investigation</i> Covers precursor to development of business activity classification scheme
9.5.1	<i>Classification of business activities</i> Explains uses of business classification scheme	3.2.2	<i>Step B – Analysis of business activity</i> Explains the purpose of business analysis in records system design; relates business classification scheme to other documentation of business processes and lists tools that may be developed from a business classification scheme
9.5.2	<i>Classification systems</i> Notes relationship to business activities		

Table continues/...

		4.2.1	<i>Instruments</i> Mentioned as a principal instrument
		4.2.2	<i>Business activity classification</i> Explains nature and purpose of business activity classification scheme
		4.2.2.1	<i>Development of business activity classification</i> Explains analysis required and hierarchical structure of the scheme Provides list of points for guidance in developing a business activity classification scheme
9.5.3	<i>Vocabulary controls</i> Notes as support to classification and indexing schemes	4.2.3	<i>Vocabulary</i>
		4.2.3.1	<i>Vocabulary controls – lists of authorized headings</i> Describes list of authorized headings
		4.2.3.2	<i>Thesaurus</i> Describes thesaurus
		4.3.3.1	<i>Vocabulary controls</i> Discusses levels of vocabulary control required in different situations
9.5.4	<i>Indexing</i> Notes possibility of manual or automatic indexing and refers to ISO standard	4.3.3.2	<i>Indexing</i> Covers purpose and means of indexing. Lists sources of indexing terms
9.5.5	<i>Allocation of numbers and codes</i> Describes value of codes for identification		No additional guidance
9.6	<i>Storage and handling</i> Describes framework for maintaining records in a useable condition	4.3.6	<i>Storage</i>
		4.3.6.1	<i>Record storage decisions</i> Explains rationale for storage decisions and use of risk analysis Lists factors to consider in selecting storage and handling options

Table continues/...

		4.3.6.2	<i>Facility considerations</i> Lists factors to assess when selecting storage facilities
		4.3.6.3	<i>Digital storage media</i> Lists additional factors to be considered for digital storage
9.7	<i>Access</i> Relates access to regulatory framework and explains need for access regulation. Lists requirements for controlling access.	4.2.5 4.2.5.1 4.3.4 4.3.7	<i>Security and access classification scheme</i> Defines security and access scheme <i>Development of security and access classification</i> Lists reasons for restricting access Lists sources of information about security and access requirements for records Explains need for framework identifying employees levels of access to records and implementing security and access controls <i>Security and access classification</i> Lists steps required to implement security and access classification scheme and notes need for continuous monitoring of controls <i>Use and tracking</i> Explains the need to track use and the relationship of use history to security
9.8 9.8.1 9.8.2 9.8.3	<i>Tracking</i> <i>General</i> Provides reasons for tracking <i>Action tracking</i> Explains rationale for action tracking <i>Location tracking</i> Explains rationale for location tracking	4.3.7	<i>Use and tracking</i> Provides a framework for managing use through tracking Explains how tracking can contribute to security of records and indicate usage patterns Notes the need for tracking systems to locate records and trace their use

Table continues/...

<p>9.9</p>	<p><i>Implementing disposition</i> Covers implementation of disposition decisions through destruction or transfer to different storage or custody</p> <p>Lists principles to be observed when destroying records</p>	<p>4.3.8</p> <p>4.3.8.1</p> <p>4.3.8.2</p> <p>4.3.8.3</p>	<p><i>Implementation of disposition</i> Describes processes for disposition</p> <p><i>Continuing retention</i> Responsibilities and strategies for continuing retention</p> <p><i>Physical destruction</i> Describes processes for physical destruction</p> <p><i>Transfer of custody or ownership of records</i> Explains circumstances where transfer of custody and ownership may occur</p> <p>Lists accountability and control issues to be considered</p>
<p>9.10</p>	<p><i>Documenting records processes</i> Requires documentation and authority for all records processes</p>	<p>4.2.4</p> <p>4.2.4.2</p> <p>4.3.1</p>	<p><i>Records disposition authority</i> Notes need for formal disposition authority</p> <p><i>Determining how long to retain records</i> Mentions disposition authority and disposal triggers</p> <p><i>Capture</i> Mentions formal disposition authority</p>
<p>10</p>	<p><i>Monitoring and auditing</i> Notes requirement</p>	<p>5</p> <p>5.1</p> <p>5.2</p> <p>5.3</p> <p>5.4</p>	<p><i>Monitoring and auditing</i></p> <p><i>General</i> Gives reasons for, benefits of and responsibilities for monitoring programmes</p> <p><i>Compliance auditing</i> Underlines need to show that the records system is functioning properly</p> <p><i>Evidential weight</i> Describes need to ensure that records will be accepted by courts</p> <p><i>Performance monitoring</i> Mentions need to establish performance levels in assessing system performance</p>

Table continues/...

11	<i>Training</i> Notes requirement	6	<i>Training</i>
		6.1	<i>Introduction</i> Outlines purpose of a training programme
		6.2	<i>Training programme requirements</i> Describes means of managing a training programme
		6.3	<i>Personnel to be trained</i> Lists personnel
		6.4	<i>Training for records management professionals</i> Outlines attributes of professionally trained staff
		6.5	<i>Methods of training</i> Lists methods
		6.6	<i>Evaluation and review of training</i> Methods and benefits

Table ends/

APPENDIX B: ISO 15489 TECHNICAL REPORT AND ISO 15489 COMPARISON TABLE

This appendix lists the clauses of the Technical Report and indicates the related clause in ISO 15489.

Clauses of ISO 15489 that have no additional guidance in the Technical Report are shown at the end of this table.

TECHNICAL REPORT (TR)		STANDARD – ISO 15489	
1	<i>Scope</i> For Technical Report	1	<i>Scope</i> For Standard
2	<i>Policies and responsibilities</i>	6	<i>Policy and responsibilities</i>
2.1	<i>Introduction</i> Notes that TR will expand on types of responsibilities to be defined and assigned	6.1	<i>General</i> Establishes need for records management policy
2.2	<i>Records management policy statements</i> Covers function, relation to other documents and support	6.2	<i>Policy</i> Covers objectives and relationships to activities and regulatory environment
2.3	<i>Responsibilities</i>	6.3	<i>Responsibilities</i> Covers defining and allocating responsibility for policy
2.3.1	<i>The objectives of defining responsibilities and authorities</i> Covers object and scope of business rules required to define responsibilities for managing records		
2.3.2	<i>Authorities and responsibilities within the organization</i> Covers responsibilities of categories of staff for managing records		
3	<i>Strategies, design and implementation</i>	8.4	<i>Design and implementation methodology</i>
3.1	<i>Introduction</i> Indicates Clause 3 amplifies Clause 8.4 only		
3.2	<i>Design and implementation of a records system</i> Notes correspondence between paragraph numbers in 8.4 and step names in 3.2		

Table continues/...

3.2.1 – Step A	<i>Preliminary investigation</i> Amplifies purpose of step and relates to other steps	8.4 (a)	<i>Preliminary investigation</i>
3.2.2 – Step B	<i>Analysis of business activity</i> Amplifies purpose of step and lists possible documentation	8.4 (b)	<i>Analysis of business activity</i>
3.2.3 – Step C	<i>Identification of requirements for records</i> Amplifies purpose of step and lists possible documentation	8.4 (c)	<i>Identification of requirements for records</i>
3.2.4 – Step D	<i>Assessment of existing systems</i> Amplifies purpose of step and lists possible documentation	8.4 (d)	<i>Assessment of existing systems</i>
3.2.5 – Step E	<i>Identification strategies for satisfying records requirements</i> Lists factors affecting strategies, possible strategies and possible documentation	8.4 (e)	<i>Identification of strategies for satisfying records requirements</i>
3.2.6 – Step F	<i>Design of a records system</i> Explains relationship between Step F and other steps and lists possible documentation	8.4 (f)	<i>Design of a records system</i>
3.2.7 – Step G	<i>Implementation of a records system</i> Amplifies purpose of step and lists possible documentation	8.5 (g)	<i>Implementation of a records system</i>
3.2.8 – Step H	<i>Post-implementation review</i> Lists activities undertaken and describes benefits	8.4 (h)	<i>Post-implementation review</i>
4	<i>Records processes and controls</i>	9	<i>Records processes and controls</i>
4.1	<i>Introduction</i> Structure of records processes and Technical Report	9.10	No equivalent See also <i>Documenting records processes</i> Notes requirement to document
4.2	<i>Instruments</i>		
4.2.1	<i>Instruments</i> Lists tools used in records management and selection to be covered in the Technical Report (business activity classification, records disposition authority, security and access classification scheme, thesaurus and glossary of terms)		

Table continues/...

4.2.2	<i>Business activity classification</i> Covers analysis of functions, activities and transactions to describe, manage and retrieve records and support storage and disposition	9.5	<i>Classification</i>
		9.5.1	<i>Classification of business activities</i> Lists benefits of business classification
4.2.2.1	<i>Development of business activity classification</i> Covers analysis to support business classification and methods of developing a scheme See also 8.2 <i>Design and implementation of a records system</i>	9.5.2	<i>Classification systems</i> Notes basis and level of classification required
4.2.3	<i>Vocabulary</i>	9.5.3	<i>Vocabulary controls</i> Notes purpose of vocabulary controls
4.2.3.1	<i>Vocabulary controls-list of authorized headings</i> Describes list of authorized headings		
4.2.3.2	<i>Thesaurus</i> Describes thesaurus		Implied at 9.5.3 <i>Vocabulary controls</i>
4.2.4	<i>Records disposition authority</i> Describes requirement for formal instruments	9.2	<i>Determining how long to retain records</i> Explains basis for retention and continuing retention
4.2.4.1	<i>Determining documents to be captured into a records system</i> Covers analysis and risk analysis requirements	9.10	<i>Documenting records processes and controls</i> Describes disposition authority
4.2.4.2	<i>Determining how long to retain records</i> covers deciding on retention periods in terms of internal and external requirements, use and links to other systems and specification of retention periods		
4.2.5	<i>Security and access classification scheme</i> Describes requirement and level of complexity needed	9.7	<i>Access</i> Describes regulatory framework and processes to be supported
4.2.5.1	<i>Development of security and access classification</i> Covers analysis and risk analysis to develop a scheme and implementation issues		

Table continues/...

4.3	<i>Records management processes</i> Lists processes (capture, registration, classification, identification of disposition status, access classification, storage, use and location, implementation of disposition)		No equivalent
4.3.1	<i>Capture</i> Describes factors influencing capture, methods and level of detail	9.1	<i>Determining documents to be captured into a records system</i> Gives analysis and rationale for capture
		9.3	<i>Records capture</i> Lists purpose and techniques
4.3.2	<i>Registration</i> Describes methods and metadata requirements	9.4	<i>Registration</i> Explains purpose
4.3.3	<i>Classification</i> Covers definition, process steps and factors affecting level of classification	9.5	<i>Classification</i>
		9.5.1	<i>Classification of business activities</i> Describes benefits of business classification
		9.5.2	<i>Classification systems</i> Notes basis and level of classification required
4.3.3.1	<i>Vocabulary controls</i> Notes factors affecting level of control	9.5.3	<i>Vocabulary controls</i> Notes purpose of vocabulary controls
4.3.3.2	<i>Indexing</i> Covers purpose and means of indexing. Lists sources of indexing terms	9.5.4	<i>Indexing</i> Notes possibility of manual or automatic indexing and refers to ISO standard
4.3.4	<i>Access and security classification</i> Analyses for assigning access rights and responsibility for restriction	9.7	<i>Access</i> Describes regulatory framework and processes to be supported
4.3.5	<i>Disposition status</i> Explains processes for identification	9.9	<i>Implementing disposition</i> Lists types of disposition actions and principles for physical destruction

Table continues/...

<p>4.3.6</p> <p>4.3.6.1</p> <p>4.3.6.2</p> <p>4.3.6.3</p>	<p><i>Storage</i></p> <p><i>Record storage decisions</i> Covers risk analysis to decide on storage options and aspects of records to be considered</p> <p><i>Facility considerations</i> Covers assessment of building factors and note re contracted storage</p> <p><i>Digital storage media</i> Lists additional strategies for digital storage</p>	<p>9.6</p>	<p><i>Storage and handling</i> Gives overview of requirements</p>
<p>4.3.7</p>	<p><i>Use and tracking</i> Deals with processes required to manage use and control</p>	<p>9.8</p> <p>9.8.1</p> <p>9.8.2</p> <p>9.8.3</p>	<p><i>Tracking</i></p> <p><i>General</i> Lists purposes of recording movement and use</p> <p><i>Action tracking</i> Lists benefits of controlling records' movement through work processes</p> <p><i>Location tracking</i> Describes benefits and requirements for recording physical location of records</p>
<p>4.3.8</p> <p>4.3.8.1</p> <p>4.3.8.2</p> <p>4.3.8.3</p>	<p><i>Implementation of disposition</i> Describes processes for disposition</p> <p><i>Continuing retention</i> Describes responsibilities and strategies for continuing retention</p> <p><i>Physical destruction</i> Describes processes for physical destruction</p> <p><i>Transfer of custody or ownership of records</i> Explains circumstances where transfer of custody and ownership may occur</p> <p>Lists accountability and control issues to be considered</p>	<p>9.9</p>	<p><i>Implementing disposition</i> Covers implementation of disposition decisions through destruction or transfer to different storage or custody</p> <p>Lists principles to be observed when destroying records</p>

Table continues/...

5	<i>Monitoring and auditing</i>	10	<i>Monitoring and auditing</i> Notes requirement
5.1	<i>General</i> Gives reasons for monitoring programmes		
5.2	<i>Compliance auditing</i> Explains need to show that the records system is functioning properly		
5.3	<i>Evidential weight</i> Explains that records will be accepted by courts		
5.4	<i>Performance monitoring</i> Notes need for assessing system performance		
6	<i>Training</i>	11	<i>Training</i> Notes requirement
6.1	<i>Introduction</i> Notes purpose of a training programme		
6.2	<i>Training programme requirements</i> Notes means of managing a training programme		
6.3	<i>Personnel to be trained</i> Lists personnel		
6.4	<i>Training for records management professionals</i> Notes tasks and skills needed by professionally trained staff		
6.5	<i>Methods of training</i> Lists methods		
6.6	<i>Evaluation and review of training</i> Notes methods and benefits		
7	<i>Bibliography</i> Lists publications referred to in the text	2	<i>Normative references</i> Lists standards forming part of ISO 15489

Table continues/...

<p>*</p>	<p>Note that the following clauses that have text in the standard do not have corresponding clauses in the Technical Report</p>	<p>3 4 5 7 8 8.1 8.2 8.3 8.5 9.5.5</p>	<p><i>Terms and definitions</i> <i>Benefits of records management</i> <i>Regulatory environment</i> <i>Records management requirements</i> <i>Design and implementation of a records system</i> <i>General</i> <i>Records system characteristics</i> <i>Designing and implementing records systems</i> <i>Discontinuing records systems</i> <i>Allocation of numbers and codes</i></p>
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