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A Guide to Commonly Used National and International Records Management Standards and Best Practices

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TABLE OF CONTENTS

Introduction

This guide is a compilation of key National and International Records Management Standards and Best Practices available for use in records and information management. It is not all-inclusive. Standards and best practices for specific industry groups, such as legal profession, real estate, or banking, are not included. The standards, guidelines, and best practices that have been included were selected for their universal usefulness for most or all RIM programs. Each standard or guideline includes a brief description, usually the published Scope or Purpose, when available.

Standards can be a standard set of requirements (*de jure*) or a best practice or procedure *(de facto)*. Most guidelines are informative and technical reports cover the informative technical aspects of an issue. RIM professionals use standards as an integral part of active, inactive and vital records management programs. National and international standards exist that aid in determining the best methods, rationale, environment, and housing for managing and protecting records.

Standards provide a measurable benchmark for evaluating RIM practices based on proven best practices from a variety of sources. They can create measurable methods of accomplishing work processes and tasks and allow interoperability and compatibility of equipment and products. Standards are not required unless adopted by an organization or government entity as a requirement. Adopting and using standards provides consistency of products and services.

There are a myriad of national and international standards, guidelines, best practices and technical reports available for purchase or free download. Wading through the voluminous list in order find those that are useful in establishing and maintaining good records and information management can be time-consuming. Many standards must be purchased before full understanding of their scope and coverage can be reached.

Standard	Scope	Purpose
RIM General		
ISO 15489-1:2001 *Information and Documentation-Records Management-Part 1: General*	Part 1 ISO 15489 provides guidance on managing records of originating organizations, public or private, for internal and external clients. All the elements outlined in Part 1 are recommended to ensure that adequate records are created, captured and managed. Procedures that help to ensure the management of records according to the principles and elements outlined in this part of ISO 15489 are provided in ISO/TR 15489-2 (Guidelines). This part of ISO 15489 • applies to the management of records, in all formats or media, created or received by any public or private organization in the conduct of its activities, or any individual with a duty to create	**Introduction** The standardization of records management policies and procedures ensures that appropriate attention and protection is given to all records, and that the evidence and information they contain can be retrieved more efficiently and effectively, using standard practices and procedures. This part of ISO 15489 was developed in response to consensus among participating ISO member countries to standardize international best practice in records management using the Australian Standards AS 4390, *Records management* as its starting point.

	and maintain records, • provides guidance on determining the responsibilities of organizations for records and records policies, procedures, systems and processes, • provides guidance on records management in support of a quality process framework to comply with ISO 9001 and ISO 14001, • provides guidance on the design and implementation of a records system, but does not include the management of archival records within archival institutions. This part of ISO 15489 is intended for use by • managers of organizations, • records, information and technology management professionals, • all other personnel in organizations, and • other individuals with a duty to create and maintain records.	This International Standard is accompanied by a Technical Report (ISO/TR 15489-2) that is recommended for use with it. ISO/TR 15489-2 provides further explanation and implementation options for achieving the outcomes of this International Standard. It also includes a bibliography.
ISO/TR 15489-2:2001 *Information and Documentation-Records Management-Part 2: Guidelines*	This part of ISO 15489 is an implementation guide to ISO 15489-1 for use by record management professionals and those charged with managing records in their organizations. It provides one methodology that will facilitate the implementation of ISO 15489-1 in all organizations that have a need to manage their records. It gives an overview of the processes and factors to consider in organizations wishing to comply with ISO 15489-1.	**Introduction** This part of ISO 15489 provides guidelines that are supplementary to ISO 15489-1. Both ISO 15489-1 and this part of ISO 15489 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 part of ISO 15489, unless otherwise noted, systems may be interpreted as paper/manual or electronic, and a document may be either paper, microform or electronic. ISO 15489-1 specifies the elements of records management and defines the necessary results or outcomes to be achieved. This part of ISO 15489 provides one methodology for implementation. However, it should be noted that national standards and legislation and regulation may dictate other factors and requirements for legal compliance. In addition to using this part of ISO 15489, those seeking to implement the standard should consult requirements and guidance of national standards and legislation and regulation 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.

ISO/TR 26122:2008 *Information and documentation — Work process analysis for records*	This Technical Report provides guidance on work process analysis from the perspective of the creation, capture and control of records. It identifies two types of analyses, namely a) functional analysis (decomposition of functions into processes), and b) sequential analysis (investigation of the flow of transactions). Each analysis entails a preliminary review of context (i.e. mandate and regulatory environment) appropriate for the analysis. The components of the analysis can be undertaken in various combinations and in a different order from that described here, depending on the nature of the task, the scale of the project, and the purpose of the analysis. Guidance provided in the form of lists of questions/matters to be considered under each element of the analysis is also included. This Technical Report describes a practical application of the theory outlined in ISO 15489. As such, it is independent of technology (i.e. can be applied regardless of the technological environment), although it can be used to assess the adequacy of technical tools that support an organization's work processes. This Technical Report focuses on existing work processes rather than on facilitating "workflow" (i.e. the automation of a business process in whole or part, during which documents, information or tasks are passed from one participant to another for action, according to a set of procedural rules as outlined in Reference [1] of the Bibliography).	Work process analysis for records is undertaken to determine the requirements for records creation, capture and control. It describes and analyses what happens in a function in a specific business context. It cannot take place in the abstract but is dependent on accurate information gathering and a well-grounded understanding of the organization's context and mission. This Technical Report is intended for: • records professionals (or persons assigned within an organization for managing records) responsible for creating and managing records in either a business system or dedicated records application software; • system/business analysts responsible for designing business processes and/or systems that will create or manage records.
ARMA International Guideline 2007 *Glossary of Records and Information Management Terms: 3rd Edition*	**Purpose and Scope** This glossary is intended for anyone whose work includes records and information management. Terms were included from numerous disciplines that have an impact on the profession, including records management, information technologies, legal, business, and archives. Terms that have no particular records connotation were generally excluded. In addition, terms that have very specific and narrow usage and that are not common to records management, such as technical terms for archival or library science concepts and for specific technologies, were excluded.	

ANSI/ARMA 8-2005 *Retention Management for Records and Information*	This standard covers general principles in structuring an information retention and disposition program, including authority and responsibility, identifying and classifying records for retention purposes, and principles for determining retention periods for all records. The principles enumerated apply to records on all media and in all formats, including but not limited to paper, microform, magnetic tape, personal computer hard disks, diskettes, and CDs. Organizations must apply these principles in compliance with the legal and policy requirements of the institutional context within which they operate.	This standard provides guidance for establishing and operating an information retention and disposition program as a component of a complete records and information management (RIM) program. When implemented, the information retention and disposition program will define periods of time for which records are to be maintained, appropriate methods for disposition of records, and measures to be taken when disposition must be suspended. Such a program will help ensure compliance with operational, legal/regulatory, fiscal, archival, and other requirements.
ANSI/ARMA 12-2005 *Establishing Alphabetic, Numeric and Subject Filing Systems*	This standard contains requirements for subject, alphabetic, and numeric filing systems. The alphabetic guidelines can be used for arrangement of indices or within subject and alphanumeric filing systems. Alphabetic filing is a method for arranging data within a filing system or index, as well as a filing system. Although this standard is intended to be used with all media, some exceptions, such as leading zeroes, may occur with electronic systems.	The standardization of filing systems ensures that all records, regardless of media, are properly and consistently housed, identified, and maintained so that they may be efficiently and effectively retrieved using standard equipment, practices, and procedures. This standard is recommended as a reference for filing, storing, and retrieving active records.
ARMA International Guideline 2008 *Controlled Language in Records and Information Management*	**Foreword** The purpose of this guideline is to provide records and information management professionals, and those responsible for administrative and financial decisions about records management, with an understanding of what controlled language is, and why using controlled language can provide benefits to the organization. Controlled language (CL) is an umbrella term that indicates an agreed upon use of language in a predetermined or predictable way for the description of organizational information resources, regardless of the format of the resource (media neutral). Use of controlled language tools (often called controlled vocabularies) has the following advantages: • Reduced search time • Increased reliability of search results • Improvement in organizational communication • Avoidance of duplication • Reduced corporate risk exposure in legal and other discovery processes This guideline describes the benefits of using controlled language, methods for deriving terms for controlled language tools and various	In many parts of the world, the use of controlled language (CL) is already an essential component of best practices for records and information management (RIM). A March 2006 survey conducted by ARMA International indicated that a third of records managers already make use of CL to improve information retrieval. The purpose of this guideline is to provide RIM professionals, as well as those responsible for administrative and financial decisions, with an understanding of CL, and why using CL can provide benefits to the organization. This guideline provides: • Terms and definitions • An explanation of CL • Benefits of using CL • The process for creating CL tools • Management of a CL implementation • Case study of a CL implementation • Related industry and international standards • References and links to useful resources

	tools in use today, information on managing the creation and maintenance of controlled language tools, and some current industry standards for records management and controlled language tools. It also provides a sample case study and resources for further information. Finally, the guideline shows how collaboration between business functional management, records and information managers, and IT (information technology) professionals will increase the success of controlled vocabulary implementations and records management efforts as a whole.	
ANSI/ARMA TR01-2011 *Records Center Operations*	This publication, which revises and updates the second edition of the technical report, *Records Center Operations,* ARMA TR 01-2002, covers the establishment and operation of a records center either under direct control of an organization or through the use of a commercial records center. For this new version of this technical report, safety issues have been incorporated into the content of the publication. Although this publication may be useful to archivists, it is not inclusive of the specific needs of an archival records center. Establishing and operating an archival records center requires a more stringent look at temperature/humidity controls, storage supplies, and equipment needed for longterm storage of records and/or objects. For the proper methods for storage of archival information, refer to the *Standard for Record Repositories* from the U.K. National Archives for additional guidance. Electronic records in an organization must also be properly managed and sometimes the records center may be responsible for the management of those records. This technical report does not detail the management or storage of electronic records, which are covered in the ARMA International publication *Guideline for Outsourcing Electronic Records Storage and Disposition.* Governmental records have certain guidelines that must be met for both on-site and offsite storage. *Facility Standards for Records,* Part 1234 of the *Code of Federal Regulations* developed by the National Archives and Records Administration (NARA), should be consulted on how to handle and store governmental records. Because each government entity may have additional rules and guidelines, consult the respective entity for additional requirements.	The purpose of this technical report is to provide revised and updated advice for establishing and operating a records center. A records center is "a low-cost centralized area for housing and servicing inactive or semi-active records whose reference rate does not warrant their retention in a prime office space. A records center may occupy an independent building or a portion of a building, depending on the need of the organization. The need to store information to meet its administrative, operational, legal, and historical values, regardless of media, is an essential part of any well-organized records management program. The advantages of a records center are becoming more meaningful, given that the costs of prime commercial real estate are considerable and the need for physical storage environments remains a growing concern. Although paper and microfilm have been the major information storage media in the past, today's records centers must be able to accommodate electronic information storage as well. Records center operations should be a part of an overall records management program and storage requirements should be based on records analysis and appraisal. A records manager's responsibility is to decide which records need to be maintained and to determine the most cost-effective methods to house and manage them. Maintenance of a records center provides organizations with the following benefits: • Economy — Less costly storage space is used for inactive and semi-

		active records, allowing prime office space to be reallocated for more productive purposes. — Less costly storage equipment, such as steel shelving and standard-size boxes, can be used instead of expensive filing cabinets. — New construction for inactive file storage space in architecturally more expensive office space can be avoided. • Accessibility/Accountability — Organization and individual identification can enhance control. — A well-organized records center can provide more accurate and efficient retrieval of records. • Security — Confidentiality is enhanced by controlling and monitoring access. — Legal, secure, and timely disposal of records can be provided, once destruction is authorized.
ARMA International Guideline 2007 *Guideline for Evaluating Offsite Records Storage Facilities*	This ARMA International guideline provides guidance in the evaluation of and negotiation with commercial storage facilities for the storage of business records in physical form (e.g.., paper, microfilm, backup tapes, and media), as well as related information services. This guideline does not include issues related to offsite storage of electronic records and information such as data warehousing or electronic systems established for business continuity purposes. This guideline does not specifically address compliance with industry standards or legislative requirements such as NFPA, NARA, or any local inspection codes for protection and storage in commercial facilities. However, users are encouraged to become familiar with specific requirements for applicable local, national, and international standards. Additionally, communication with prospective storage providers may help determine the level to which they are in compliance with such guidelines and what types of facilities are generally available within their geographic area. Different countries may have national or regional storage guidelines and archival standards. Some of them have been published by each country's national archives or state or provincial government agencies. Other records storage standards have been promulgated by	This guideline is designed as a practical tool for individuals and organizations seeking to evaluate current business practices and determine whether to outsource inactive records. It identifies components critical to making an offsite storage decision based on a range of factors including records security and protection, service levels, and contract terms in addition to cost comparisons.

	standards organizations and professional associations. Although not all will apply to any given situation, the publications may serve as valuable reference points during the evaluation process.	
ARMA International Guideline 2009 *Contracted Destruction for Records and Information Media*	Records are captured, processed, and stored on a wide variety of media. The proper destruction of these records at the end of the lifecycle is a primary concern of records management. Timely and effective destruction of records is cost effective, ensures compliance with policies and regulations, and restricts unauthorized access to sensitive information. This guideline is not meant to be all-inclusive for issues related to contracted destruction, and it does not provide legal advice or counsel.	The purpose of this publication is to provide assistance in the establishment of an organization's destruction policy and the selection of an appropriate third-party vendor for contracted destruction. It provides records and information management professionals with the most current advice, and it offers best practices guidance to alert an organization about potential pitfalls and inefficiencies. In addition, the appendices contain sample forms and examples of certificates and policies for the reader's review and use.
ISO 9000-2005 *Quality management systems – Fundamentals and vocabulary*	This International Standard describes fundamentals of quality management systems, which form the subject of the ISO 9000 family, and defines related terms. This International Standard is applicable to the following: a. Organizations seeking advantage through the implementation of a quality management system b. Organizations seeking confidence from their suppliers that their product requirements will be satisfied c. Users of the products d. Those concerned with a mutual understanding of the terminology used in quality management (e.g. suppliers, customers, regulators) e. Those internal or external to the organization who assess the quality management system or audit it for conformity with the requirements of ISO 9001 (e.g. auditors, regulators, certification/registration bodies) f. Those internal or external to the organization who give advice or training on the quality management system appropriate to that organization g. Developers of related standards	**Introduction** General: The ISO 9000 family of standards has been developed to assist organizations, of all types and sizes, to implement and operate effective quality management systems. ISO 9000 describes fundamentals of quality management systems and specifies the terminology for quality management systems. Quality management principles: To lead and operate an organization successfully, it is necessary to direct and control it in a systematic and transparent manner. Success can result from implementing and maintaining a management system that is designed to continually improve performance while addressing the needs of all interested parties. Managing an organization encompasses quality management amongst other management disciplines.
ISO 9001:2008 *Quality management systems – Requirements*	This International Standard specifies requirements for a quality management system where an organization a. needs to demonstrate its ability to consistently provide	**Introduction** The adoption of a quality management system should be a strategic decision of an organization. The design and

	product that meets customer and applicable statutory and regulatory requirements, and b. aims to enhance customer satisfaction through the effective application of the system, including processes for continual improvement of the system and the assurance of conformity to customer and applicable statutory and regulatory requirements Notes: In this International Standard, the term "product" applies only to the product intended for, or required by, a customer; or any intended output resulting from the product realization process. Statutory and regulatory requirements can be expressed as legal requirements.	implementation of an organization's quality management system is influenced by its organizational environment, changes in that environment, and the risks associated with that environment; its varying needs; its particular objectives; the products it provides; the processes it employs; and its size and organizational structure. It is not the intent of this International Standard to imply uniformity in the structure of quality management systems or uniformity of documentation. The quality management system requirements specified in this International Standard are complementary to requirements for products. Information marked "NOTE" is for guidance in understanding or clarifying the associated requirements. This International Standard can be used by internal and external parties, including certification bodies, to assess the organization's ability to meet customer, statutory and regulatory requirements applicable to the product, and the organization's own requirements. The quality management principles stated in ISO 9000 and ISO 9004 have been taken into consideration during the development of this International Standard.
ISO 9004-2009 *Managing for the sustained success of an organization—A quality management approach*	This International Standard provides guidance to support the achievement of sustained success by a quality management approach. It is applicable to any organization, regardless of size, type and activity. This International Standard is not intended for certification, regulatory or contractual use.	**Introduction** This International Standard provides guidance to support the achievement of sustained success for any organization in a complex, demanding, and ever-changing environment, by a quality management approach. The sustained success of an organization is achieved by its ability to meet the needs and expectations of its customers and other interested parties, over the long term and in a balanced way. Sustained success can be achieved by the effective management of the organization, through awareness of the organization's environment, by learning, and by the appropriate application of either improvements, innovations, or both. This International Standard promotes self-assessment as an important tool for the review of the maturity level of the organization, covering its leadership, strategy, management system, resources and processes, to identify areas of strength and weakness and opportunities for either improvements, or innovations, or both.

		This International Standard provides a wider focus on quality management than 9001; it addresses the needs and expectations of all relevant interested parties and provides guidance for the systematic and continual improvement of the organization's overall performance.
ISO 14001-2004 *Environmental management systems – Requirements with guidance for use*	This International Standard specifies requirements for an environmental management system to enable an organization to develop and implement a policy and objectives which take into account legal requirements and other requirements to which the organization subscribes, and information about significant environmental aspects. It applies to those environmental aspects that the organization identifies as those which it can control and those which it can influence. It does not itself state specific environmental performance criteria. This International Standard is applicable to any organization that wishes to a. Establish, implement, maintain and improve an environmental management system b. Assure itself of conformity with its stated environmental policy c. Demonstrate conformity with this International Standard by 1. making a self-determination and self-declaration, or 2. seeking confirmation of its conformance by parties having an interest in the organization, such as customers, or 3. seeking confirmation of its self-declaration by a party external to the organization, or 4. seeking certification/registration of its environmental management system by an external organization. All the requirements in this International Standards are intended to be incorporated into any environmental management system. The extent of the application depends on factors such as the environmental policy of the organization, the nature of its activities, products and services and the location where and the conditions in which it functions. This International Standard also provides, in Annex A, informative guidance on its use.	**Introduction** This International Standard specifies requirements for an environmental management system to enable an organization to develop and implement a policy and objectives which take into account legal requirements and information about significant environmental aspects. It is intended to apply to all types and sizes of organization and to accommodate diverse geographical, cultural and social conditions. The success of the system depends on commitment from all levels and functions of the organization, and especially from top management. A system of this kind enables an organization to develop and environmental policy, establish objectives and processes to achieve the policy commitments, take action as needed to improve its performance and demonstrate the conformity of the system to the requirements of this International Standard. The overall aim of this International Standard is to support environmental protection and prevention of pollution in balance with socio-economic needs. It should be noted that many of the requirements can be addressed concurrently or revisited as any time.

ISO 30300:2011 *Information and documentation -- Management systems for records -- Fundamentals and vocabulary*	This International Standard defines terms and definitions applicable to the standards on MSR prepared by ISO/TC 46/SC 11. It also establishes the objectives for using a MSR, provides principles for a MSR, describes a process approach and specifies roles for top management. This International Standard is applicable to any type of organization that wishes to: a) establish, implement, maintain and improve a MSR to support its business; b) assure itself of conformity with its stated records policy; c) demonstrate conformity with this International Standard by 1) undertaking a self-assessment and self-declaration, or 2) seeking confirmation of its self-declaration by a party external to the organization, or 3) seeking certification of its MSR by an external party.	**Introduction** Organizational success largely depends upon implementing and maintaining a management system that is designed to continually improve performance while addressing the needs of all stakeholders. Management systems offer methodologies to make decisions and manage resources to achieve the organization's goals. Creation and management of records are integral to any organization's activities, processes and systems. Records enable business efficiency, accountability, risk management and business continuity. They also enable organizations to capitalize on the value of their information resources as business, commercial and knowledge assets, and to contribute to the preservation of collective memory, in response to the challenges of the global and digital environment. Management System Standards (MSS) provide tools for top management to implement a systematic and verifiable approach to organizational control in an environment that encourages good business practices. The standards on management systems for records prepared by ISO/TC 46/SC 11 are designed to assist organizations of all types and sizes, or groups of organizations with shared business activities, to implement, operate and improve an effective management system for records (hereafter referred to as a MSR). The MSR directs and controls an organization for the purposes of establishing a policy and objectives with regard to records and achieving those objectives. This is done through the use of: a) defined roles and responsibilities; b) systematic processes; c) measurement and evaluation; d) review and improvement. Implementation of a records policy and objectives soundly based on the organization's requirements will ensure that authoritative and reliable information about, and evidence of, business activities is created, managed and made accessible to those who need it for as long as required. Successful implementation of good records policy and objectives results in records and records systems adequate for all of an organization's purposes.

		Implementing a MSR in an organization also helps to ensure the transparency and traceability of decisions made by responsible management and the recognition of accountability.
ISO 30301:2011 *Information and documentation -- Management systems for records -- Requirements*	This International Standard specifies requirements to be met by a MSR in order to support an organization in the achievement of its mandate, mission, strategy and goals. It addresses the development and implementation of a records policy and objectives and gives information on measuring and monitoring performance. A MSR can be established by an organization or across organizations that share business activities. Throughout this International Standard, the term "organization" is not limited to one organization but also includes other organizational structures. This International Standard is applicable to any organization that wishes to: a) establish, implement, maintain and improve a MSR to support its business; b) assure itself of conformity with its stated records policy; c) demonstrate conformity with this International Standard by 1) undertaking a self-assessment and self-declaration, or 2) seeking confirmation of its self-declaration by a party external to the organization, or 3) seeking certification of its MSR by an external party. This International Standard can be implemented with other Management System Standards (MSS). It is especially useful to demonstrate compliance with the documentation and records requirements of other MSS.	*See above introduction to ISO 30300*
Protection		
ARMA International Guideline 2009 *Evaluating and Mitigating Records and Information Risks*	Records management is the field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use, and disposition of records, including processes for capturing and maintaining evidence of and information about business activities and transactions. [ISO 15489-1] Records management applies to all records regardless of media format, whether electronic records or paper documents or microforms. Organizations create and maintain information in order to operate effectively. To deliver information with value, that information must be recorded and managed to ensure its:	The purpose of this document is to provide a framework for establishing systems that evaluate the risk management issues that affect public and private sector organizations across industry domains (e.g., government, financial, banking, healthcare) regardless of location. This publication describes a structured process for framing a risk management system. The process is implemented through a **Risk Management Quadrant** concept, as illustrated … and detailed in Sections 3 - 6 and assessed through the completion of the **RIM Risk Assessment Tool** in Appendix A. An Excel version of the tool

	• Authenticity – The record is proven to be what it claims to be. • Reliability – Contents can be confirmed as dependable, full, accurate representations of the transactions to which they relate. • Integrity – It is a complete, unaltered record. • Usability – The record can be located, accessed, understood, and utilized. In *Managing Risks for Records and Information*, author Victoria L. Lemieux states that "risk management is a systematic undertaking that involves assessing and addressing various risks to organizational activities." [Lemieux, p. 7] The risk areas [shown in Figure 1] are [Administrative Risks, Records Control Risks, Legal/Regulatory Risks, Technology Risks].	is available for download by those who purchased the guideline.
ANSI/ARMA 5-2010 *Vital Records: Identifying, Managing, and Recovering Business-Critical Records*	This American National Standards Institute (ANSI) standard sets the requirement for establishment of a Vital Records Program. It includes clarification of what a Vital Records Program encompasses and the requirements for identifying and protecting vital records, assessing and analyzing their vulnerability, and determining the impact of their loss on the organization. This standard does not apply to records that have migrated from vital status to another functional value.	This standard was prepared for the use and guidance of those charged with planning, surveying, classifying, retaining, and protecting vital records. It provides direction for identifying those organizational records and information that are deemed vital and provides guidance for methods of protecting them. It also presents techniques for determining the impact that the loss of vital records and information may have on the organization. The protection of these records is critical to an organization and the records are to be protected both inside and outside the geographic area of the organization or governmental agency. Section 3, Normative References, provides additional standards regarding the protection of records and information. Nothing in this standard is intended to preclude the application of new methods, technologies, or techniques for the protection of information assets.
NFPA 75 (2009) *Standard for the Protection of Information Technology Equipment*	This standard covers the requirements for the protection of information technology equipment and information technology equipment areas.	The purpose of this standard is to set forth the minimum requirements for the protection of information technology equipment and information technology equipment areas from damage by fire or its associated effects — namely, smoke, corrosion, heat, and water.

NFPA 232 *Standard for the Protection of Records 2012 Edition*	This standard provides minimum requirements for the protection of records, records protection equipment and facilities, and the types of records specified within this standard from the hazards of fire. This standard provides requirements for the following categories of records storage environments in ascending order of increasing risk tolerance and descending protection requirements: 1. Vaults 2. Archives 3. File rooms 4. Compartmented records centers 5. Noncompartmented records centers This standard also provides the requirements for the protection of cellulose nitrate film records. NFPA 40 shall be followed for protection requirements for cellulose nitrate film. This standard does not provide any requirements for the storage and handling of useful records. The responsible party, typically the owner of the records and not the authority having jurisdiction, shall determine classification of records in accordance with this standard and which records justify the application of this standard.	This standard is prepared for the use and guidance of those charged with purchasing, planning, surveying, classifying, retaining, designing, constructing, installing, inspecting, approving, listing, operating, or otherwise handling of records, or maintaining equipment and facilities that protect the types of records covered by this standard against the hazards of fire and its associated effects.
ISO/IEC 27002:2005 (ISO 17799: 2005) *Information Technology – Security techniques – Code of Practice for Information Security Management*	This international standard establishes guidelines and general principles for initiating, implementing, maintaining, and improving information security management in an organization. It outlines objectives that provide general guidance on the commonly accepted goals of information security management. Control objectives and controls of the standard are intended to be implemented to meet requirements identified by a risk assessment. The standard may serve as a practical guideline for developing organizational security standards and effective security management practices to help build confidence in inter-organizational activities.	This international standard is written as a code of best practices for developing organization specific policies, procedures and guidelines to establish and manage the organization's security requirements. While IT oriented, the best practices discussed in the standard can assist RIM practitioners in their responsibilities for records and information privacy, vital records protection, and records access
NIST Special Publication 500-252 (2003) *Care and Handling of CDs and DVDs — A Guide for Librarians and Archivists*	**Scope of This Guide** This document describes methods for the care and handling of optical discs and is intended for use by librarians and archivists in government, academia, and industry. It draws on accumulated industry knowledge and the results of specific studies by the National Institute of Standards and Technology (NIST). The document provides guidance on how to maximize the lifetime and usefulness of optical discs, specifically CD and DVD	

	media, by minimizing chances of information loss caused by environmental influences or physical handling. Discrete topic areas include prevention of premature degradation, prevention of information loss, CD and DVD structure, disc life expectancy, and conditions that affect optical discs. Other issues relevant to the management or maintenance of optical systems are beyond the scope of this document. Excluded, for example, are such topics as care and maintenance of the disc drive device and associated hardware and software; digital rights and related legal questions; and methods of making, sending, and receiving digital copies, including analog-digital conversion procedures. This document is intended neither to represent nor imply a standard. It is merely a consensus of several reliable sources on the prudent care of CDs and DVDs.	
NIST Special Publication 800-34 Rev. 1 (2010) *Contingency Planning Guide for Federal Information Systems*	This publication assists organizations in understanding the purpose, process, and format of ISCP [Information System Continuity Plan] development through practical, real-world guidelines. While the principles establish a baseline to meet most organizational needs, it is recognized that each organization may have additional requirements specific to its own operating environment. This guidance document provides background information on interrelationships between information system contingency planning and other types of security and emergency management-related contingency plans, organizational resiliency, and the system development life cycle (SDLC). The document provides guidance to help personnel evaluate information systems and operations to determine contingency planning requirements and priorities. Requirements from FIPS 199*, Standards for Security Categorization of Federal Information and Information Systems,* security impact levels, and NIST Special Publication 800-53, *Recommended Security Controls for Federal Information Systems and Organizations* contingency planning controls are integrated throughout the guideline. Considerations for impact levels and associated security controls for contingency planning are presented to assist planners in developing the appropriate contingency planning strategy. Although the information presented in this document is largely independent of particular hardware platforms, operating systems, and applications, technical considerations specific to common information system platforms are addressed.	This document is published by NIST as recommended guidelines for federal organizations. To assist personnel responsible for developing contingency plans, this document discusses common technologies that may be used to support contingency capabilities. Given the broad range of information system designs and configurations, as well as the rapid development and obsolescence of products and capabilities, the scope of the discussion is not intended to be comprehensive. Rather, the document describes technology practices to enhance an organization's information system contingency planning capabilities. These guidelines present contingency planning principles for the following common platform types: Client/server systems; Telecommunications systems; and Mainframe systems. The document outlines planning principles for a wide variety of incidents that can affect information system operations. These range from minor incidents causing short-term disruptions to disasters that affect normal operations for an extended period. Because information systems vary in design and purpose, specific incident types and associated contingency measures are not addressed in this guide. Instead, a defined process is provided for identifying planning requirements needed to develop an effective contingency plan for any information system.

		This document does not address facility-level information system planning (commonly referred to as a disaster recovery plan) or organizational mission continuity (commonly referred to as a continuity of operations [COOP] plan) except where it is required to restore information systems and their processing capabilities. Nor does this document address continuity of mission/business functions. Although information systems typically support mission/business functions, the functions also depend on a variety of other resources and capabilities not associated with information systems. Recovery of mission-essential functions is addressed by COOP plans or business continuity plans. These plans are part of a suite of security and emergency management-related plans further described in Section 2.2. The ISCP may be prepared in coordination with disaster recovery planning, COOP planning, or business continuity planning to the degree that a particular system is necessary to provide a capability that is required during any of these events/efforts. Information in this guide is consistent with guidelines provided in other NIST documents, including NIST SP 800-53 and FIPS 199. The guidelines proposed are also consistent with federal mandates affecting contingency, continuity of operations, and disaster recovery planning.
Technology		
AIIM Recommended Practice (ARP1-2007) *Analysis, Selection, and Implementation Guidelines Associated with Electronic Document Management Systems (EDMS)*	The scope of this AIIM Recommended Practice is to present a set of procedures and activities, which should be considered and/or performed during the analysis, selection, and implementation project phases associated with Electronic Document Management Systems technologies. This document will provide user level information outlining specific recommended activities to be completed throughout the various project phases typically performed when implementing these technologies. These steps and activities, along with compliance with relevant industry standards and guidelines should be examined and "certified" to ensure relevant technologies have been analyzed, designed, implemented, and managed, ensuring document/record validity when used in a business or government environment. The term electronic document management used throughout this	The purpose of this document is to educate and raise awareness related to planning, implementation, and management of web-based document management systems. It is intended to be from a vendor-neutral perspective and includes input from various state and county agencies responsible for mandating statewide or countywide procedures. As many public and private organizations throughout the United States are already in the process of planning or implementing these technologies, an industry standard guideline incorporating methodologies, approaches, and considerations from a wide range of governmental agencies and private industry can benefit all users.

	document is intended as an "all encompassing" term referring to inputting technologies (scanning, indexing, Optical Character Recognition (OCR), forms, digital creation, etc.), management technologies (document services, workflow, and other work management tools), and storage technologies (primarily optical/magnetic). Additionally, this document will provide information to users related to what technical reports, guidelines, and standards have been developed for technologies commonly available in document management systems. This document is not intended to be an all-inclusive paper on electronic document or content management and does not attempt to influence any single technology or provide legal guidance or legal opinions. While there are storage technologies other than optical/magnetic currently available (e.g., microfilm, microfiche, and hybrid storage systems) that are not included in this report, those technologies should be reviewed if determined to be appropriate by the end user organization.	
NIST Special Publication 800-88 (2006) *Guidelines for Media Sanitization – Recommendations of the National Institute of Standards and Technology*	This document will assist organizations in implementing a media sanitization program with proper and applicable techniques and controls for sanitization and disposal decisions, considering the security categorization of the associated system's confidentiality. The objective of this special publication is to assist with decision making when media require disposal, reuse, or will be leaving the effective control of an organization. Organizations should develop and use local policies and procedures in conjunction with this guide to make effective, risk-based decisions on the ultimate sanitization and/or disposition of media and information. The information in this guide is best applied in the context of current technology and applications. It also provides guidance for information disposition sanitization and control decisions to be made throughout the system life cycle. Forms of media exist that are not addressed by this guide, and media are yet to be developed and deployed that are not covered by this guide. In those cases, the intent of this guide outlined in the procedures section applies to all forms of media based on the evaluated security categorization of the system's confidentiality according to FIPS 199, *Standards for Security Categorization of Federal Information and Information Systems*.	This guide will assist organizations and system owners in making practical sanitization decisions based on the level of confidentiality of their information. It does not, and cannot, specifically address all known types of media; however, the described sanitization decision process can be applied universally. The information security concern regarding information disposal and media sanitization resides not in the media but in the recorded information. The issue of media disposal and sanitization is driven by the information placed intentionally or unintentionally on the media. With the advanced features of today's operating systems, electronic media used on a system should be assumed to contain information commensurate with the security categorization of the system's confidentiality. If not handled properly, release of these media could lead to an occurrence of unauthorized disclosure of information. Categorization of an information technology (IT) system in accordance with Federal Information Processing Standard (FIPS) 199, *Standards for Security Categorization of Federal Information and Information Systems*, is the critical first step in understanding and managing system information and media.

	Before any media are sanitized, system owners are strongly advised to consult with designated officials with privacy responsibilities (e.g., Privacy Officers), Freedom of Information Act (FOIA) officers, and the local records retention office. This consultation is to ensure compliance with record retention regulations and requirements in the Federal Records Act. In addition, organizational management should also be consulted to ensure that historical information is captured and maintained where required by business needs. This should be ongoing, as controls may have to be adjusted as the system and its environment changes.	Based on the results of categorization, the system owner should refer to NIST Special Publication (SP) 800-53, *Recommended Security Controls for Federal Information Systems*, which specifies that, "the organization sanitizes information system digital media using approved equipment, techniques, and procedures. The organization tracks, documents, and verifies media sanitization and destruction actions and periodically tests sanitization equipment/procedures to ensure correct performance. The organization sanitizes or destroys information system digital media before its disposal or release for reuse outside the organization, to prevent unauthorized individuals from gaining access to and using the information contained on the media."
ANSI/AIIM/ARMA TR48-2006 *Revised Framework for Integration of Electronic Document Management Systems and Electronic Records Management Systems*	The scope of this report is a framework for the integration of Electronic Document Management Systems (EDMS) and Electronic Records Management Systems (ERMS). The report deals with what is required for EDMS and ERMS to integrate and interoperate. The report describes the integration framework in three key areas: • Metadata Management – Unique and Common • Functionality – Unique and Common • Typical Implementation Approaches EDMS and ERMS are key components in an enterprise's Information Management solution. At the time of printing, the term Enterprise Content Management (ECM) describes the full range of systems used to manage content regardless of application, electronic media, purpose, or audience. Key components of an ECM solution include: • Electronic Document Management (EDMS) • Electronic Records Management (ERMS) • Imaging • Workflow • Collaboration • Web Publishing • Digital Asset Management (DAM) • Electronic Forms Management (E-Forms) Ideally, all components of an ECM solution will be integrated with the ERMS component as illustrated in Figure 1. The committee decided to confine the scope of this Technical Report only to the integration of EDMS and ERMS plus workflow because	The purpose of this technical report is to present a framework for integrating EDMS and ERMS. The primary audience for this report is the policy and decision makers within an organization who deploy document-based information systems to meet *both* productivity *and* regulatory requirements. In typical organizations these may be Chief Information Officers, Chief Technology Officers, Chief Financial Officers, System Architects, and Business Analysts. A secondary audience of Contracting Officers, System Developers, Systems Producers (e.g., software vendors), Industry Analysts, Records Managers, and End Users will also find this report useful.

	EDMS are the most common and mature of all ECM components. In practical terms, this also limited the scope of work for the committee and thereby shortened the time to deliver this report. **Out of Scope** This Technical Report does not provide functional requirements for systems development. Any agency/organization developing an integrated EDMS/ERMS will need to address the regulatory environment in which it operates. It is also important to understand other matters that are out of scope in this report. The following topics are *not* within the scope of this report. • Specific integration requirements between ERMS and other non-EDMS components of the ECM environment. • Specific integration requirements between one ERMS and another ERMS. • Recommended specific technical standards. • Recommended policy, procedure, or best practice. • Any new technical standards. • Specific technical architectures (example: client/server or N-tier). • Archival management of records. The report reaches only to the point of transfer of records to archives. In summary, the implementation approaches are general, high-level, and independent of technical implementation.	
ANSI/ARMA 16-2007 *The Digital Records Conversion Process: Program Planning, Requirements, Procedures*	This document outlines the minimum program components, planning issues, recordkeeping requirements, and procedures for the conversion of digital records so as to preserve the integrity of such records as evidence of business transactions. In setting out a minimum recommended standard, these procedures do not preclude the insertion of additional steps where appropriate to the context of a particular conversion exercise. These procedures are intended only for use in the conversion of data that are to be preserved as digital records. They do not, therefore, cover certain types of current data migrations in the production environment or backup-tape migrations, as they are considered too onerous for such use cases. This document generally focuses on the transformation method documented in the international standard ISO 14721:2003, *Space data and information systems—Open Archival Information System—Reference Model,* although all four types of migrations (see appendix A) may well be carried out in conversions	This standard provides guidance in understanding recordkeeping requirements, the organizational and business framework for conducting the conversion process, technology planning issues, and monitoring/controls for the process. It identifies the steps, components, and particular methodologies for the conversion of records from one recordkeeping system to another—covering such topics as workflow, testing, version control, and validation.

	aimed at preserving digital records, as transformation-type conversions have the potential to have great impact upon the accessibility and integrity of digital records. Finally, this document does not address procedures for the digitization of records held in paper form.	
ANSI/ARMA 9-2004 *Requirements for Managing Electronic Messages as Records*	This standard sets the requirements for managing electronic messages as records and extends to any type of text-based electronic message or communication such as e-mail or instant messaging. It does not include voice mail.	This standard is prepared for the direction and use of individuals charged with establishing guidelines for creating a standard records management policy for the life cycle management of electronic messages. It provides instruction on how to formulate an electronic messaging policy representative of an organization's unique environment. This standard addresses records management concerns typically confronted during the implementation of electronic messaging systems.
ANSI/ARMA TR-02-2007 *Procedures and Issues for Managing Electronic Messages as Records*	This Technical Report addresses concerns typically confronted during the implementation and management of any text-based electronic messaging system or communication, such as e-mail or instant messaging. It does not include voice mail.	The purpose of this document is to establish records and information management procedures for managing electronic messages that are considered records.
ANSI/ARMA 19-2012 *Policy Design for Managing Electronic Messages*	**Scope and Purpose** This standard sets forth the requirements for a policy guiding the management of electronic messages as records. The policy extends to text-based electronic messages or communications, including e-mail (and related attachments/metadata), instant messaging (IM), and text messaging (SMS). This publication will not include requirements for: video messaging, voicemail/audio-based messaging applications, and other electronic messaging platforms within the context of social media. This standard is designed to aid in the formulation of records management policy for the life cycle management of electronic messages. It is for use by records and information management practitioners and educators, and it may be of interest to archivists, consultants, IT professionals, and individuals employed in a legal setting. Nothing in this publication is intended to preclude the application of new methods, technologies, or techniques for managing electronic messages.	

ANSI/AIIM MS23-2004 *Standard Recommended Practice - Production, Inspection, and Quality Assurance of First-Generation, Silver Microforms of Documents*	This document identifies and discusses the qualitative characteristics of first-generation silver gelatin microforms and the methods to attain, maintain, and measure levels of quality. The scope of this document excludes COM, updateable, color, and thermally processed	
ANSI/ARMA 18-2011 *Implications of Web-Based, Collaborative Technologies in Records Management*	This document defines requirements and recommendations for records and information management professionals when using web-based, collaborative technologies. General examples of web-based, collaborative technologies covered by this standard include, but are not limited to, social media such as wikis, blogs, mashups, and classification (tagging) sites. Topics covered include policies, procedures, and processes related to records and information management (RIM) best practices in the use of web-based, collaborative technologies. This publication does not provide records management requirements and recommendations for ecommerce, e-mail, instant messaging (IM), or workflow solutions; although it is recognized that the aforementioned activities may, under certain circumstances, be conducted within a web-based, collaborative technology setting. Nothing in this standard is intended to preclude the application of new methods, technologies, or techniques for web-based, collaborative technologies within RIM.	This American National Standard provides guidance for records and information management professionals for applying records management practices to the use of internally-facing or externally directed (public or private), web-based, collaborative technologies by an organization or by its individual members. Adherence to Generally Accepted Recordkeeping Principles® (GARP®) is also supported and encouraged by advice contained within this publication. Although primarily designed for use by records management practitioners and individuals employed in information technology, other professionals within the organization may also find it useful.
ANSI/AIIM TR41-2006 *Technical Report for Information and Image Management – Optical Disk Storage Technology, Management, and Standards*	**Abstract** This technical report provides information on the various technologies, management, implementation strategies, and industry standards for optical based subsystems. This information and the corresponding techniques described have been provided to enable optical disk system users, as well as other imaging system users, to become knowledgeable in the various techniques currently in use throughout the imaging industry. (	*Note: This information was provided by techstreet.com's ANSI Standards Catalog and has not been verified.*

ISO 23081-1: 2006 *Information and documentation — Records management processes — Metadata for records — Part 1: Principles*	This part of ISO 23081 covers the principles that underpin and govern records management metadata. These principles apply through time to: • records and their metadata; • all processes that affect them; • any system in which they reside; • any organization that is responsible for their management.	**Introduction** ISO 23081 sets a framework for creating, managing and using records management metadata and explains the principles that govern them. This International Standard is a guide to understanding, implementing and using metadata within the framework of ISO 15489. It addresses the relevance of records management metadata in business processes and the different roles and types of metadata that support business and records management processes1). It also sets a framework for managing those metadata. It does not define a mandatory set of records management metadata to be implemented, since these metadata will differ in detail according to organizational or specific requirements for jurisdiction. However, it assesses the main existing metadata sets in line with the requirements of ISO 15489. This part of ISO 23081 sets a framework for creating, managing and using records management metadata and explains the principles that govern them. The proposed Parts 2 and 3 will be more explanatory and provide practical guidance on implementation issues and how to assess records management metadata sets against the principles in this part of ISO 23081. These future parts will be Technical Reports that should be considered as more time-bound documents that will need regular updates.
ISO 23081-2:2009 *Information and documentation -- Managing metadata for records -- Part 2: Conceptual and implementation issues*	This part of ISO 23081 establishes a framework for defining metadata elements consistent with the principles and implementation considerations outlined in ISO 23081-1. The purpose of this framework is to a) enable standardized description of records and critical contextual entities for records, b) provide common understanding of fixed points of aggregation to enable interoperability of records and information relevant to records between organizational systems, and c) enable reuse and standardization of metadata for managing records over time, space and across applications. It further identifies some of the critical decision points that need to be addressed and documented to enable implementation of metadata for managing records. It aims to – identify the issues that need to be addressed in implementing	**Introduction** The ISO 23081 series describes metadata for records. This part of ISO 23081 focuses on the framework for defining metadata elements for managing records and provides a generic statement of metadata elements, whether these are physical, analogue or digital, consistent with the principles of ISO 23081-1. It provides an extended rationale for metadata for managing records in organizations, conceptual models for metadata and a high-level element set of generic metadata types suitable for any records environment encompassing, for example, current document or records management implementations or archival implementations. It defines the generic metadata types both for records entities as well as other entities that need to be managed in order to document and understand the context of

	metadata for managing records, – identify and explain the various options for addressing the issues, and – identify various paths for making decisions and choosing options in implementing metadata for managing records.	records. This part of ISO 23081 also identifies, for key entities, a minimum number of fixed aggregation layers that are required for interoperability purposes. The models and generic metadata types outlined in this part of ISO 23081 are primarily focused on the "records" entity. However, they are also relevant to the other entities. This part of ISO 23081 does not prescribe a specific set of metadata elements. Rather, it identifies generic types of metadata that are required to fulfill the requirements for managing records. This approach provides organizations with the flexibility to select specific metadata to meet their business requirements for managing their records for as long as they are required. It provides diagrams for determining the metadata elements that may be defined in a particular implementation and the metadata that could apply to each aggregation of the entities defined. It acknowledges that these entities can exist at different layers of aggregation. It defines generic metadata types that are expected to apply at all layers of aggregation, while alerting implementers to specific metadata elements that may only apply at particular layers of aggregation. Implementing metadata for managing records in organizational and system settings involves a number of choices, which are determined by the circumstances of the organization, the systems in place and the requirements for managing records. Building upon the principles of ISO 23081-1, this part of ISO 23081 provides further explanation on the underlying concepts of metadata schemas for managing records, offers practical guidance for developing and constructing those schemas from an organizational point of view and finally goes into issues relating to the implementation and management of metadata over time. This part of ISO 23081 is intended for – records professionals (or persons assigned within an organization for managing records in any environment) responsible for defining metadata for managing records at any layer of aggregation in either a business system or dedicated records application software, – systems/business analysts responsible for identifying metadata to manage records in business systems, – records professionals or systems analysts addressing system

		interoperability requirements involving records, and – vendors, as suppliers of software applications that support and enable the creation, capture and management of metadata over time.
ISO 23081-3:2011 *Information and documentation -- Managing metadata for records -- Part 3: Self-assessment method*	**Abstract** ISO/TR 23081-3:2011 provides guidance on conducting a self-assessment on records metadata in relation to the creation, capture and control of records. The self-assessment helps to: 1. identify the current state of metadata capture and management in or across organizations; 2. identify priorities of what to work on and when; 3. identify key requirements from ISO 23081-1:2006 and ISO 23081-2:2009; 4. evaluate progress in the development of a metadata framework for the implementation of specific systems and projects; evaluate system and project readiness (move to the next phase in a system or project) when including records metadata functionality in a system. A records metadata readiness evaluation is provided for key steps from project inception through to the implementation/maintenance phase.	*Note: This information was provided by the International Organization for Standardization (ISO) and has not been verified.*
ISO 16175-1:2010 *Information and documentation -- Principles and functional requirements for records in electronic office environments -- Part 1: Overview and statement of principles*	**Scope and Purpose** The aim of the Principles and Functional Requirements for Records in Digital Office Environments project is to produce globally harmonised principles and functional requirements for software used to create and manage digital records in office environments. There currently exist a number of jurisdiction-specific functional requirements and software specifications. The project's objective is to synthesise this existing work into requirements and guidelines to meet the needs of the international archives, records and information management community and to enable that community to liaise, in a consolidated manner, with the global software industry. The objectives of the project are to: • enable better management of records in organisations; • support theå business needs of an organisation by enabling greater effectiveness and efficiency of the operations; • provide, through wider deployment of automated records functionality, enhanced abilities to support auditing activities; • improve capabilities to comply with statutory mandates specified	

	in various information-related legislation (for example, data protection and privacy); • ensure good governance (for example, accountability, transparency and enhanced service delivery) through good management of records; • increase general awareness of automated records management capabilities via the dissemination of key principles; and • maximise cross-jurisdictional consistency regarding the articulation of functional requirements for managing records and to enable the global archives, records and information management community to speak with one voice to the software vendor community. The primary focus of this suite of guidelines and requirements is the creation and management of digital records. While the modules support the long-term preservation of digital records, processes to achieve this are beyond the scope of the project. It is anticipated that the application of the requirements will be global in nature. Therefore, it is impossible, given the wide juridical range of potential applications, to include detailed implementation guidelines. In addition, as the ultimate testing environment for the basis of these modules is yet to be determined, inclusion of specific software test cases or scripts was deemed beyond the scope of the modules.	
ISO 16175-2:2011 *Information and documentation -- Principles and functional requirements for records in electronic office environments -- Part 2: Guidelines and functional requirements for digital records management systems*	The scope of this part is limited to products that are often termed 'electronic records management systems' or 'enterprise content management systems'. This part will use the term digital records management systems for those software applications whose primary function is records management. It does not seek to set requirements for records still in use and held within business systems. Digital objects created by email, word processing, spreadsheet and imaging applications (such as text documents, and still or moving images), where they are identified to be of business value, should be managed within digital records management systems which meet the functional requirements set out in this part. Records managed by a digital records management system may be stored on a variety of different media formats, and may be managed in hybrid record aggregations that include both digital and non-digital elements. This part does not attempt to include requirements that are not specific to, or necessary for, records management, for example, general system management and design requirements. Nor does it include requirements common to all software applications, such as	Effective management of records and information is fundamental to a well-functioning organisation as it supports business activity and provides a basis for efficient service delivery. It also provides the mechanism whereby organisations can account for their decisions and actions and retain corporate memory. Moreover, good records management is simply good business practice. Digital records management systems facilitate: a) efficiency, by making information readily available when needed for decision-making and operational activities; b) sound use of financial resources, by allowing timely disposition of non-current records; c) accountability, by enabling the creation of a complete and authoritative record of activities; d) compliance, by demonstrating that legal requirements have been met; and e) risk mitigation, by managing the risks associated with illegal loss or destruction of records, and from inappropriate or unauthorized access to records.

	performance, scalability and usability. Given the target audience of this document, it also assumes a level of knowledge about developing design specifications, procurement and evaluation processes, and therefore these issues are not covered in this part. Although not included in this part's requirements, the importance of non-records management functional requirements for records management systems is recognised through their inclusion in the high-level model outlined in Section 4.2: Overview of functional requirements. Specifications for the long-term preservation of digital records are also beyond the scope of this part; this issue should be addressed separately within a dedicated framework for digital preservation or 'digital archiving' at a strategic level. These digital preservation considerations transcend the life of systems and are system independent; they should be assessed in a specific migration and conversion plan at the tactical level. However, recognition of the need to maintain records for as long as they are required shall be addressed, and potential format obsolescence issues should also be considered when applying the functional requirements. This part articulates a set of functional requirements for digital records management systems. These requirements apply to records irrespective of the media in which they were created and/or stored. The requirements are intended to: a) set out the processes and requirements for identifying and managing records in digital records management systems; b) set out the records management functionality to be included in a design specification when building, upgrading or purchasing digital records management systems software; c) inform records management functional requirements in the selection of commercially available digital records management systems; and d) review the records management functionality of, or assess the compliance of, an existing digital records management system.	A fundamental underlying principle for this document, is the distinction between business systems (or business information systems) and digital (or electronic) records management systems. Business systems contain data that is commonly subject to constant updates (dynamic), able to be transformed (manipulable) and contain data in current business use (non-redundant). By contrast, digital records management systems contain data that is not dynamically linked to business activity (fixed), unable to be altered (inviolable), and may be noncurrent (redundant). Therefore business systems are beyond the scope of this part (see *ISO1617-3: 2010).* The records within a digital records management system are, however, still dynamic in the sense that they can be (re)used in new business activity/contexts, so new metadata will be added through the ongoing use of the record content. Digital records management systems provide the technological component of a framework for the systematic and structured management of records; they link digital and non-digital records to business activities, retain records of past actions, and fix the content and structure of records over time. The primary audience for this document is staff responsible for designing, reviewing and/or implementing digital records management systems in organisations – whether those systems are commercial off-the-shelf digital records management software applications, or custom-built applications. This part primarily addresses the requirements of organisational records/information managers or system procurement project leaders, but will be relevant for jurisdictional standard-setters and the wider records management community. Another key audience is software vendors and developers who market and/or develop digital records management system products. This part is intended to inform their decision-making when designing records management functionality within digital records management products.

ISO 16175-3:2010 *Information and documentation -- Principles and functional requirements for records in electronic office environments -- Part 3: Guidelines and functional requirements for records in business systems*	**Abstract** ISO 16175-3:2010 specifies general requirements and guidelines for records management and gives guidelines for the appropriate identification and management of evidence (records) of business activities transacted through business systems. It gives guidelines • to understand processes and requirements for identifying and managing records in business systems; • to develop requirements for functionality for records to be included in a design specification when building, upgrading or purchasing business system software; • to evaluate the records management capability of proposed customized or commercial off-the-shelf business system software; • to review the functionality for records or assess compliance of existing business systems. ISO 16175-3:2010 specifies requirements for export supports preservation by allowing the export of records to a system that is capable of long-term preservation activities, or for the ongoing migration of records into new systems. It does not specify requirements for the long-term preservation of digital records. ISO 16175-3:2010 is not applicable to records management in highly integrated software environments based on service-oriented architectures. ISO 16175-3:2010 does not specify a general system management, nor the design requirements such as usability, reporting, searching, system administration and performance. It also does not specify developing design specifications, procurement and evaluation processes in any detail.	*Note: This information was provided by the International Organization for Standardization (ISO) and has not been verified.*
ARMA International Guideline 2009 *Website Records Management*	Web-based records contain information that can be accessed via a Web browser over a network such as the Internet, extranet, or intranet and coded in a browser-supported language such as HTML, XHTML, Java, and JavaScript. Managing Web-based records should be an integral component of any organization's records and information management program. Records and information	Organizations now create and publish information on websites. Web-based records, i.e. records that exist on an organization's Internet, extranet, or intranet site, may appear to be distinct records series. Organizations may be tempted to manage these records differently than those in more traditional media, such as paper or electronic formats. However, while the technology

	management strategy should address the creation, capture, management, retention, and disposition of all records throughout the organization, regardless of format. The organization's management of Web-based records should be aligned with its wider records and information management policies. The recommendations in this document presume that the organization already has a formal records management program in place following the guidelines expressed in ISO15489.	and work processes that produce Web-based records present additional challenges to their management, fundamentally, they must be viewed in the same management framework as other records. With any record, the value of its information is based on the record's content and context, and not the format in which it exists. The same core records management principles that are applied to records in traditional formats apply equally to Web-based records. The records are produced by, and as a result of, business functions that co-exist with other related records in other locations, systems, and formats. The considerations arising from the legal, fiscal, operational, audit, or historical significance of the information contained in the records continue to apply to Web records. In addition to the Web-based records themselves, organizations must ensure all Web technologies involved in the creation, presentation, receipt, maintenance, storage, distribution, disposition, security (including access and privacy), preservation, and monitoring (or audit) are well documented and included as part of the collection of Information Technology records. The records documenting the information architecture and design, business requirements and rules, system specifications, interoperability with other systems, system implementation plan, and training should also be maintained. These records are necessary to prove the accuracy, integrity, and reliability of the website recordkeeping systems as they operate in support of day-to-day business activities.
ARMA International Guideline 2007 *Working Collaboratively in an Electronic World*	One of the products of human collaboration is the ability of individuals to work together in a collective endeavor. In the past, such collaboration involved either in-person or face-to-face contact, telephones, or a series of back-and-forth activities involving a postal mail system. Today, electronic communications like e-mail, video conferencing, and web-based tools have nearly supplanted earlier methods of collaboration. Collaborative work groups often exist in less formal environments, which allow more free-flowing information and activity exchange. For this guideline, a specific definition of collaboration is used. Rules and procedures are necessary to manage effectively and control both the electronic collaborative process and the steps to	This guideline will examine the issues involved with establishing and managing the environment necessary to attain effective collaboration along with the sharing of ideas, concepts, and information. The steps, as well as the responsibilities needed to achieve this goal, in a secure environment, will be described.

	achieve a goal or product. These aspects of collaboration cannot be effectively applied in the same manner as in a "physical information-sharing" environment. There are inherent security and protection aspects, data capture and destruction issues, and other challenges within the electronic collaboration arena that affect the role of records managers. The conduct of business is anchored to the infrastructure within which employees can successfully collaborate. The infrastructure may be physical or virtual, aided by technology or not. Regardless of the venue, information created or exchanged within a collaborative environment should adhere to the same practices as are applied to similar types of information. In this guideline, traditional collaborative work environments will be examined along with file and document sharing, and the issues surrounding privacy and security. The goal is to educate users how records from collaborative efforts fit into an organization's records program. Issues regarding collaboration technologies are out of the scope of this guideline.	
ARMA International Guideline 2008 *Guideline for Outsourcing Electronic Records Storage and Disposition*	This ARMA International guideline provides information for the contract management of electronic records storage using a third-party service provider. The secure transmission of data, as well as protection and security of e-records, is included. A monitoring and assessment program, to include the physical facilities, is recommended. A combined narrative and checklist approach is used to provide the guidelines. The checklists provide some very specific items to use in evaluating and selecting a service provider. Not all items in a checklist may be relevant for a particular customer. Individual needs, requirements, and willingness to pay should be considered in selecting which checklist items to use. An editable Word version of the checklists is available as a free download for purchasers of this guideline at www.arma.org/bookstore/materials/electronicrecordsstorage. Purchasers may adapt, fill out, and distribute the checklists as part of their organizations' RFP or RFQ process. The storage of physical electronic media/material is not addressed in this guideline, but is covered in the ARMA publication, *Guideline for Evaluating Offsite Records Storage Facilities.*	The records and information management professional can use this document to determine contract requirements as well as desirable features for the outsourcing of e-records storage. Third-party service providers can use these guidelines to understand requirements for managing the organization's e-records storage. The organization's Records Management department should collaborate with the Information Technology (IT) department, if one exists, to develop best practices for outsourcing storage and retrieval as well as retention and disposition of e-records.

ARMA International Guideline 2010 *Guideline for Outsourcing Records Storage to the Cloud*	This guideline discusses cloud-based solutions for records and information management (RIM). These include software as a service (SaaS) and hosted applications. After providing a brief explanation of the cloud in general, this guideline investigates RIM and legal issues when using cloud technology. Checklists and questionnaires are provided in the Appendix to aid in decision making when an organization is considering the outsourcing of records storage to cloud service providers. This guideline does not address the outsourcing of long-term storage of electronic records.	The purpose of this guideline is two-fold: 1. to offer guidance for professionals in records management, information technology, and legal settings regarding outsourcing information and records storage and access to the cloud, and 2. to provide assistance with decision making (via checklists) so that outsourcing information to the cloud will move forward more efficiently and effectively while minimizing risks to the organization.
ARMA International Guideline 2009 *Metadata: A Basic Tutorial for Records Managers*	**Rationale** This Technical Report provides a tutorial for the application of basic metadata elements necessary to support Records and Information Management (RIM) activities. This document focuses on current international standards and best practices guidance, namely ISO 15489, *Information and documentation – Records management*, and ISO 23081, *Information and documentation – Records management processes – Metadata for records*, and is organized according to the Metadata Conceptual Model set forth in ISO 23081. This Technical Report details how the information contained in these ISO publications—the international view—melds with the traditional records management lifecycle known to RIM professionals in North America—the North American view. This Technical Report does not include information about managing metadata elements as part of information technology system management.	This technical report will encourage greater understanding and more widespread use of metadata elements. The records lifecycle is used as a tool to assist in this educational discussion of metadata. Although this publication is geared to a North American audience of Records and Information Management (RIM) professionals, it may be useful to readers in other geographic areas as well. Through the use of an elementary, field-based example, this technical report illustrates metadata elements and their implementation in a records management setting where a computer-based tool is in place to allow electronic data management. It provides useful information for practitioners regarding metadata's relationship to RIM policy and procedure.
ARMA International Guideline 2009 *Records and Information Management for Information Technology Professionals*	As a result of a variety of business drivers, including electronic commerce, emerging technologies, legislative initiatives, the need for increased efficiencies, and privacy and security requirements, it is increasingly important that Records and Information Management (RIM) and Information Technology (IT) professionals work together in a collaborative environment. Currently, these groups are finding themselves working together more often to build all-inclusive information architectures. RIM professionals may wish to extend their knowledge of IT-related tools as they increase their exposure within the IT domain. IT professionals find they need a greater understanding of records retention and archiving requirements and methodologies. This document can be used by both groups to gain a better awareness of RIM and IT roles and responsibilities, as viewed from the RIM perspective. It is intended to focus on key records processes that are relevant in managing information through the use of information technologies.	This guideline is written by RIM professionals. However, it focuses on the point of integration between RIM and IT systems, offering information to demonstrate how RIM and IT professionals can partner in a more effective relationship. RIM professionals will benefit from increased knowledge of IT's capabilities and perspectives. And, certainly, IT professionals will also benefit from a reciprocal sharing of expertise.

ARMA International Guideline 2009 *Using DoD 5015.02-STD Outside the Federal Government Sector*		The importance of electronic recordkeeping systems to information governance has greatly increased as businesses (both public and private) and government agencies have moved their records and communications from traditional paper-based systems to electronic systems. Electronic information systems were not designed as recordkeeping systems. Therefore, many organizations have been hard-pressed to provide trustworthy electronic records in a timely fashion in response to litigation, to track decision making, or to provide sufficient accountability to their constituencies. The U.S. Department of Defense (DoD) certification process is designed to test, evaluate, and certify that an electronic records management (ERM) system meets the rigorous requirements of DoD 5015.02-STD, *Electronic Records Management Software Applications Design Criteria Standard.* Achieving certification is like achieving the "Good Housekeeping Seal of Approval" and signals that the vendor product provides the tools necessary to manage electronic (as well as paper-based) information in an effective manner. This technical report is designed to assist non-federal government agencies, for-profit companies, and non-profit groups (henceforth collectively called "organizations") to achieve the outcomes of DoD 5015.02-STD by: • Providing implementation-related information on the management of electronic records • Detailing which requirements are considered to be relevant or non-relevant to organizations • Describing how to take advantage of the features provided in a records management application • Identifying gaps in the standard's requirements, where records management functions such as bar coding, folder and box labels, physical records tracking systems, integration with offsite storage facilities, and development of (mandatory) destruction certificates are not addressed

Legality		
ARMA International Guideline 2007 *Records Management Responsibility in Litigation Support*	This guideline is written from the perspective of the records manager, and it includes the records managers' responsibilities in a litigation proceeding, including those of the law firm records manager and the client/corporate records manager involved in a standard litigation. It is limited to discussions regarding standard litigation practices. It does not cover governmental investigations or internal/external audits. The information provided is based on the United States' judicial system, but broad concepts are defined, and differences in the laws from other countries are included.	The purpose of this guideline is to assist records managers in identifying the steps of a typical litigation and to define their roles in the process. As the keeper of the information assets of the company, the records manager is the key resource for attorneys during the litigation process. The ability to locate and provide documents that relate to the litigation, as well as the certification of the existing RIM program, will provide the attorneys with the support they need. From a law firm perspective, the management of the client's records is of key importance to the attorneys assigned to the case, as well as to the client. Ensuring that every document is accounted for, summarized, and available for use will make the process consistent and reliable. At the end of litigation, the return of the records to the client in an organized and timely fashion may be necessary.
ANSI/AIIM TR 31-2004 *Legal Acceptance of Records Produced by Information Technology Systems*	This guideline addresses laws that affect personal or business recordkeeping practices. In particular, it addresses laws containing recordkeeping provisions that require records to be kept available for government audit, require records to be submitted to the government, or establish the form of records. Laws often require that organizations submit information to a government agency, maintain records to confirm compliance or, otherwise, assist government agencies to fulfill their regulatory responsibilities. Organizations that fail to comply with these laws are subject to fines, penalties, and loss of rights. Some laws address the creation, maintenance, retention, form, availability, standards, or other issues affecting an organization's records and information. Others merely state that certain information must be created, maintained, or reported without specifying the form of the record – paper, microfilm, computer, optical disk, or other media. Only a few, limited laws explicitly require maintenance of paper records. Other laws permit the records to be maintained in computer or microfilm form provided that stated requirements have been followed. Every organization should be cognizant of state and federal laws that affect its recordkeeping practices. In particular, an organization should be aware of how to avoid problems whenever its records happen to be scrutinized in litigation or in an administrative action	This report provides a systematic approach for implementing recommended recordkeeping practices that meet legal acceptance criteria set forth in Parts I and II of the *Performance Guideline*. Adherence to the guideline facilitates legal acceptance of records produced by information technology systems. The self-assessment process will help an organization determine if it has established and is following recordkeeping practices that will minimize problems with legal acceptance requirements. For purposes of the *Performance Guideline*, an information technology system is any process or system that employs mechanical, photo-optical, magnetic, electronic, or other technological devices for producing or reproducing records. Widespread use of these systems for recordkeeping "in the ordinary course of business" has resulted in rules and regulations that specify particular requirements for acceptance by government agencies, or admission into evidence by courts, of records produced by technological devices.

	by a government agency. Part III of this report presents a method for organizations to conduct a self-assessment of their recordkeeping practices, applying the recommendations in the *Performance Guideline*.	
Longevity		
ISO 18901:2010 *Processed Silver-Gelatin Type Black-and-White Film – Specifications for Stability*	This International Standard establishes the specifications for photographic films intended for the storage of records. It is applicable specifically to films with a base of safety cellulose ester or polyester having silver-gelatin emulsions, processed to produce a black-and-white silver image by negative or full-reversal processing. It applies to film processed by a monobath, which includes thiosulfate as the fixing agent, followed by a conventional wash. It also is applicable to silver films given a stabilizing treatment by partial or full conversion to silver sulfide, silver selenide or gold. This International Standard is applicable to films having ultrasonic or dielectric (induction heated) splices. It does not cover films with splices made by means of adhesive tape or solvent-type splices. NOTE Solvent-type splices are suspect since they may retain traces of residual solvents containing peroxide which can pose some risk of oxidative attack on the silver image. This International Standard is not applicable to films with chromogenic black-and-white images, color images of any type, nor to films with a magnetic recording track. It does not apply to films with silver images produced by dry or thermal processing or by diffusion-reversal processing, nor to films that have been processed by a monobath using a means other than a thiosulfate-type fixing solution. It is not applicable to films where the silver salts are removed by means other than thiosulfate solutions (see [10] in the bibliography). This International Standard is not applicable to films to which lacquers have been applied.	**Introduction** This International Standard provides image stability predictions for three classes of black and white films in terms of LE (life expectancy) ratings. These three classes are radiographic films, microfilms and all other films. Two or three LE ratings are given for each of these film classes, depending on their residual thiosulfate concentrations. Studies on the stability of silver-gelatin-type films have investigated the effect of residual hypo on the image permanence of radiographic films, microfilms and aerial films (see [7], [8], [9] respectively in the bibliography). This work suggested modifications to the residual hypo limits and a more quantitative image-stability test was included in the first edition of ISO 10602. Residual hypo limits and image-stability tests are now included for all film categories. This International Standard identifies certain hazards to permanence attributable to the chemical or physical characteristics of processed film and gives methods of evaluating them. Some of these are inherent film characteristics, some are related to the chemical processing procedure and some are influenced by both factors. However, storage conditions also can have a pronounced influence on film permanence. The essential requirements for longevity are proper storage temperature and humidity as well as protection from the hazards of fire, water, fungus, and atmospheric pollutants. Proper storage conditions are specified in ISO 18902 and ISO 18911.

ISO 18902: 2007 *Imaging materials -- Processed imaging materials -- Albums, framing and storage materials*	ISO 18902:2007 specifies the principal physical and chemical requirements for filing enclosures, containers, albums and frames, particularly designed for storing wet or dry processed films, plates and papers. It covers requirements for paper and board, plastic, metal, adhesives (except spray adhesives), writing, labelling and printing materials. It is applicable to photographs made with hardcopy materials. Included are photographs made with traditional chromogenic ("silver-halide") and silver dye bleach photographic materials, dye- and pigment-based inkjet, dye diffusion thermal transfer ("dye sublimation"), liquid- and dry-toner electrophotography, and other analogue and digital print processes. ISO 18902:2007 applies to storage copies and does not include work copies. It applies to visual records for extended-term preservation and to visual records for preservation for moderate periods of time. The requirements are limited to the characteristics that may affect the enclosed item chemically or physically when it is stored under recommended conditions.	*Note: This information was provided by the International Organization for Standardization (ISO) and has not been verified.*
ISO 18905:2002 *Imaging materials -- Ammonia-processed diazo photographic film -- Specifications for stability*	**Abstract** ISO 18905:2002 establishes specifications for the stability of polyester-base safety film which has an ammonia-processed diazo photographic image. It is applicable only to diazo photographic films intended for and used as LE-10 and LE-100 storage copies, which shall be stored in accordance with ISO 18902 and ISO 18911. ISO 18905:2002 is applicable to photographic film in which the image layer is a discrete layer attached to a transparent support, and it applies to roll film and sheet film. ISO 18905:2002 is not applicable to diazo film records intended and used as work copies.	
ISO 18906:2000 *Imaging materials -- Photographic films – Specifications for safety film*	ISO 18906 describes provides specifications and test procedures for establishing the safety of photographic films with respect to hazards from fire. The specifications apply to both processed and unprocessed films on any type of currently know plastic support. The specifications cover silver films (both gelatin and non-gelatin types), color films, diazo films, vesicular films, and striped or full-width magnetic films. Magnetic tapes and video recording tapes are excluded.	

ISO 18909:2006 *Stability of Color Photographic Images – Methods for Measuring*	**Abstract** ISO 18909:2006 describes test methods for determining the long-term dark storage stability of color photographic images and the color stability of such images when subjected to certain illuminants at specified temperatures and relative humidities. ISO 18909:2006 is applicable to color photographic images made with traditional, continuous-tone photographic materials with images formed with dyes. These images are generated with chromogenic, silver dye-bleach, dye transfer, and dye-diffusion-transfer instant systems. The tests have not been verified for evaluating the stability of color images produced with dry- and liquid-toner electrophotography, thermal dye transfer (sometimes called dye sublimation), ink jet, pigment-gelatin systems, offset lithography, gravure and related color imaging systems.	
ISO 18911:2010 *Imaging materials – Processed safety photographic films – Storage practices*	This International Standard provides recommendations concerning the storage conditions, storage facilities, handling and inspection for all processed safety photographic films (hereafter referred to as photographic film) in roll, strip, aperture-card or sheet format, regardless of size. This International Standard is applicable to extended-term and medium-term storage of photographic film as defined in clause 3. It is applicable to photographic film records intended as storage copies, which should not be in frequent use. It does not apply to "work" or "use" copies (see annex B). This International Standard, while intended for materials that are properly processed, should also be of considerable value in prolonging the useful life of photographic film whose processing conditions are unknown, or that have been toned, retouched, or have markings with materials of uncertain or unknown stability. This International Standard is applicable only to safety photographic film (see ISO 18906). Nitrate-base films are hazardous (see [8] in the bibliography) and are not covered by this International Standard. They require special storage considerations (see [4] in the bibliography), but the environmental conditions specified in this International Standard are applicable. The storage of photographic prints and photographic plates requires different considerations. They are not covered in this International	**Introduction** This International Standard is not designed to provide protection against natural or man-made catastrophes, with the exception of fire and associated hazards which are sufficiently common to warrant inclusion of protection measures. In addition to the recommendations in this International Standard, good storage practices must consider the filing enclosure. These are covered in ISO 18902.

	Standard, but are described respectively in ISO 18920 and ISO 18918.	
ISO 18912:2002 *Imaging materials -- Processed vesicular photographic film -- Specifications for stability*	**Abstract** ISO 18912:2002 establishes specifications for the stability of polyester-base safety film which has a heat-processed vesicular photographic image formed by nitrogen bubbles. It is applicable only to vesicular photographic film intended and used as LE-10 and LE-100 storage copies, which shall be stored in accordance with ISO 18902 and ISO 18911. ISO 18912:2002 is applicable to photographic film in which the image layer is a discrete layer attached to a transparent support, and it applies to roll film and sheet film. ISO 18912:2002 is not applicable to vesicular film records intended and used as work copies.	
ISO 18913:2003 *Imaging materials — Permanence — Vocabulary*	This International Standard establishes a vocabulary of terms and definitions used in respect of the permanence of imaging materials and in standards related to permanence. These terms and definitions are generic and are applicable to the entire imaging industry. For terms and definitions specific to particular applications, refer to industry standards.	**Introduction** This International Standard is one of a series dealing with the physical properties and stability of imaging materials. In order to facilitate identification of these International Standards, they are to be assigned new numbers within the block from 18900 to 18999 (see Annex A).
ISO 18915:2000 *Imaging materials – Methods for the evaluation of the effectiveness of chemical conversion of silver images against oxidation.*	This International Standard describes methods for evaluating the effectiveness of chemical conversion treatments intended to increase the resistance of wet-processed silver images to oxidation. The treatment may be applied as part of the original processing, or it may be a post-processing treatment. This International Standard does not recommend general or specific treatments for silver images. Likewise, treatment temperature, times and replenishment rates are outside the scope of this International Standard. Factors to be considered in a stabilizing treatment are discussed in informative annex B. Two test methods are described: the "dichromate bleach test" and the "hydrogen peroxide incubation test" (see [7] in the bibliography). The significance of each is discussed in informative annex C. This International Standard is applicable to silver-gelatin images	**Introduction** Silver-gelatin photographs have been used extensively for recording and preserving information of lasting value in all fields of human activity. The long-term stability of these records has become of increasing concern in recent years, because image and support degradation have been found with accelerating frequency in photographic collections and archives. … However, in practical situations it is not always possible to control the storage conditions, particularly with respect to contaminants. Atmospheric pollutants such as peroxides, sulfur dioxide, ozone and nitrogen dioxide are very detrimental to silver images (see [1] in the bibliography). Such environmental pollutants are of increasing concern in our

	coated on supports of either plastic, paper or glass.	industrial society. They can cause oxidation of the silver with consequent silver migration. This results in image fading, silver mirroring and redox blemishes (see [2] and [3] in the bibliography). Oxidizing agents that diffuse out of enclosure materials cause similar defects. Recent studies have shown that silver images can be made resistant to oxidizing pollutants by chemically treating the silver to form silver sulfide (see [4] in the bibliography) or silver selenide (see [5] in the bibliography), or by substitution of the silver by gold (see [6] in the bibliography). Such treatments are recommended when it is not possible to ensure the absence of contaminants, or when the importance of the image justifies the added expense. This International Standard is an adjunct to the processing requirements and describes methods for evaluating the effectiveness of various treatments which impart greater stability to silver images.
ISO 18917:1999 *Photography – Determination of residual thiosulfate and other related chemicals in processed photographic materials – Methods using iodine*	This International Standard specifies test methods for the determination of residual thiosulfate and other related chemicals in processed photographic materials. This International Standard applies to silver halide/gelatin products that have been processed with a final thiosulfate fixing bath and a water wash. This International Standard does not apply to stabilized black-and-white products, thermally processed films, or instant-type products. The procedures given in this International Standard measure residual thiosulfate, and the silver densitometric method measures residual related polythionate materials as well. Measurements carried out by the procedures in this International Standard may, within the limitations stated in annexes A and B, correlate with the image stabilities of processed photographs. **1.3** Film or plates with photographic-sensitive layers on both sides, or with a photographic sensitive layer on one side and a gelatin backing layer on the reverse side, may contain approximately twice as much thiosulfate after processing as samples having a coating on one side only. This situation will be true for materials for which residual thiosulfate is determined by the iodine-amylose or methylene blue procedures. NOTE For the method of reporting such results, see figure 1, example 2. **1.4** The iodine-amylose can be used with fiber-based paper, resin-	**Introduction** This International Standard is one of a series of specifications on photographic processing. Individuals without a working knowledge of analytical chemistry may occasionally use this International Standard. Hazard warnings have therefore been given using a system of symbols with letter codes designating the nature of the hazard. More detailed information regarding hazards, handling and use of these chemicals may also be available from the manufacturer. Determination of residual thiosulfate and its decomposition products is of use in appraising the adequacy of washing and therefore the permanence of the silver image on photographic films, plates and papers. Inadequate washing can cause a loss in image density and the formation of stain in low-density areas. These deleterious effects are accelerated by improper storage conditions. Determination of residual thiosulfate and related compounds, by itself, is not sufficient to insure the permanence of photographic records. Long term or archival storage requires proper attention to enclosure materials, storage environment, and the like. These considerations are specified in ISO 3897, ISO 5466, ISO 6051 and ISO 10602.

	coated paper, films and plates. It is the method to be used with films and papers containing incorporated developing agents. **1.5** The methylene blue method can be used with fiber-based paper, resin-coated paper, films and plates but not with films and paper containing incorporated developing agents. **1.6** The silver sulfide densitometric method measures thiosulfates, polythionates and all other residual chemicals in a processed product that react with silver ion to form a silver "stain" under the conditions of the test. **1.7** A tabulated summary of methods, scope, etc. is given in annex B.	
ISO 18923:2000 *Imaging materials – Polyester Base Magnetic Tape – Storage Practices*	ISO 18923 provides recommendations concerning the storage conditions, storage facilities, enclosures, and inspection for recorded polyester base magnetic tapes in roll form. It covers analog and digital tape and includes tape made for audio, video, instrumentation, and computer use. ISO 18923 applies to medium-term and extended-term storage of magnetic tape as defined within the standard. ISO 18923 applies to magnetic tape records intended as master tapes, which should not be in frequent use. The standard does not apply to "work" or "use" copies.	
ISO 18924:2000 *Imaging materials -- Test method for Arrhenius-type predictions*	This International Standard specifies a test method for the prediction of certain physical or chemical property changes of imaging materials. This International Standard is applicable to the Arrhenius test portion of ISO 8225, ISO 9718, ISO 10602, ISO 10977 and ISO 18919. This International Standard is applicable to the prediction of the optical-density (*D*) loss or gain of imaging materials. Photographic dye images may be produced by chromogenic processing, by formation of diazo dyes, or by non-chromogenic methods such as dye diffusion and silver dye-bleaching processing. This standard also covers density changes caused by • residual coupler changes in dye images, • excess residual processing chemicals in silver black-and-white materials, • temperature effects on thermally processed silver images.	**Background** In the 1890s, Svante Arrhenius discovered that the rate of some chemical reactions is proportional to the reciprocal of the absolute temperature. This relationship has been used with phenomena related to a chemical change, such as the loss of a particular physical property or the change in the optical density of film. If a linear relationship exists between the logarithm of the time for a change of a particular property and the reciprocal of the temperature, then this plot can be extrapolated to lower temperatures than those used in laboratory studies. This allows the prediction of the time required for the change to happen at room temperature or lower. This relationship was first used for the rates of chemical reactions [2] and was later applied to paper materials [3,4]. This theory became the basis for TAPPI Standard 453 [5]. The approach was also applied to textiles [6] and to physical

	This International Standard is applicable to the prediction of support degradation. One such example is the generation of acetic acid by degradation of cellulose acetate film support. Another example is the change in tensile energy absorption of black-and-white paper support.	properties of photographic film supports [7,8]. More recently, it has been used to predict the fading of both chromogenic and non-chromogenic photographic dyes [9,10,11]. … Confidence in the Arrhenius methodology is obtained when predictions for phenomena with reasonably short lifetimes correspond to the real-time results. Such data do exist for the fading of photographic dyes [12,13] and the stability of cellulose ester film supports [8,14].
ISO 18925:2008 *Imaging materials - Optical Disc Media – Storage Practices*	ISO 18925 is for extended-term storage conditions for optical discs as defined within the standard and proves recommendations concerning the storage condition, storage facilities, enclosure, and inspection for optical discs. It applies to discs made for audio, video, instrumentation, and computer use.	
ISO 18934:2011 *Imaging materials -- Multiple media archives -- Storage environment*	**Abstract** ISO 18934 provides suggested guidelines for four temperature and humidity macro-environments for archives that contain a variety of recording media, based on the corresponding ISO storage standards for those media. Whenever possible, ISO 18934 recommends that users follow the storage environments in the ISO storage standards. ISO 18934 does not replace those ISO storage standards. In addition to environment recommendations, those standards also include other vital information pertinent to the long-term keeping of recording materials, such as inspection, housing, and handling guidelines. Although microenvironments within a storage enclosure can be dependent upon the macro-environment, they are not the focus of ISO 18934. The storage of traditional paper collections is not within the scope of ISO 18934. Nitrate□base photographic films are also included in ISO 18934, since they are often stored together with other materials. ISO 18934 does not address the various strategies to upgrade substandard environments that deviate from those recommended by ISO standards.	*Note: The information on this standard was provided by the International Organization for Standardization (ISO) and has not been verified.*
ISO 11108:1996 *Information and documentation -- Archival*	**Abstract** Contains requirements for unprinted archival paper intended for documents and publications required for permanent retention and frequent use. For these purposes paper of high performance and high	

paper -- Requirements for permanence and durability	durability is required.	
ANSI/AIIM MS45-1990 *Recommended Practice for Inspection of Stored Silver-Gelatin Microforms for Evidence of Deterioration*	This recommended practice applies to all forms of silver-gelatin microfilm, whether in roll, aperture card, jacket, or microfiche format. It describes the equipment and procedures necessary to observe and identify the various types of deterioration known to the industry. This information serves to identify the extent and nature of the problem and will ultimately provide a sound basis for any remedial action that may be indicated. This recommended practice does not apply to nitrate film.	

A list of ARMA standards and best practices publications can be found at
http://www.arma.org/standards/index.cfm?View=Publications

A complete list of AIIM standards can be found starting on
http://www.techstreet.com/cgi-bin/browsePublisher?publisher_id=18&subgroup_id=2006

NIST Standards beginning with "800" can be downloaded for free at
http://csrc.nist.gov/publications/PubsSPs.html

International RIM standards are set by a number of ISO Technical Committees and Sub Committees. The two primary groups are ISO TC46 SC11 Information and Documentation – Archives/Records Management and ISO TC171 Document Management Applications.

A list of the complete body of work for TC46 SC11 can be found at
http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_tc_browse.htm?commid=48856

A list of the complete body of work for TC171 can be found by accessing
http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_tc_browse.htm?commid=53650
(click on each SC for the work items and standards)

About the Authors

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Ms. Jones is a member of several AIIM standards committees and is a past member of the AIIM International Standards Board. She is also a member of the U.S. delegation (TAG) to ISO TC 171 the international standards development committee for document management applications, and is currently the convener of SC3, WG1 (vocabulary). She has been a project leader for several standards/technical report revisions. She was project leader of the ARMA International task force developing the new ANSI standard Vital Records: Identifying, Managing, and Recovering Business-Critical Records.

Ms. Jones is the author of Handbook of Microfilm Technology & Procedures (QP Publishing), co-author of Emergency Management for Records and Information Programs (ARMA International), and a co-author of The Information Manager's Toolkit (ARMA International). She has contributed numerous articles on records and information management and micrographics concerns to national trade publications. She is an active member of AIIM International (Old Dominion Chapter) and ARMA International (Tidewater Chapter), and has presented several papers at the national conferences for both associations. She has completed several research projects for the ARMA International Educational Foundation.

Ms. Jones is a Fellow of ARMA International and a Fellow of AIIM International. She is a member of the Institute of Certified Records Managers® and has recently been elected to the position of Treasurer for the ICRM® Board of Regents.

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The ARMA International Educational Foundation is the non-profit, (501(c)3, affiliate of ARMA International, the primary professional association for the records and information profession in the world.

Mission
The ARMA International Educational Foundation supports education and research initiatives that promote the advancement of both information managers and the information management profession. Recorded information is the lifeblood of the modern organization, but rarely is it treated as a critical asset, primarily because there is little quality research to create the comprehensive body of knowledge required to support information management as a profession. The AIEF purpose is to answer that need by soliciting funds for this research and then providing a vehicle through which conclusions can be tested, documented and communicated to the information management community.

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