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

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September 2010

The Honorarium for this author-donated Research Project provided by:
The ARMA International Educational Foundation

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TABLE OF CONTENTS

Introduction ................................................................................................................. 3
RIM General ................................................................................................................. 3
Protection ................................................................................................................... 14
Technology ................................................................................................................. 20
Legality ...................................................................................................................... 29
Longevity ................................................................................................................... 31
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.

<table>
<thead>
<tr>
<th>Standard</th>
<th>Scope</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RIM General</strong></td>
<td></td>
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<tr>
<td><strong>ISO 15489-1</strong></td>
<td>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</td>
<td><strong>Introduction</strong>&lt;br&gt;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</td>
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</table>
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 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 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.

ISO/TR 15489-2

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 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.

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.
| **Records Management-Part 2: Guidelines** | 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. | 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 | 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 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 |
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).

**ARMA International Guideline**

*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.

- system/business analysts responsible for designing business processes and/or systems that will create or manage records;
- managing records) responsible for creating and managing records in either a business system or dedicated records application software;
**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.

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**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.

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**ARMA International Guideline**
*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 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
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 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.

<table>
<thead>
<tr>
<th>ANSI/ARMA TR01-2002</th>
<th>This document 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. Recommendations include facility selection, shelving and equipment, protection and</th>
</tr>
</thead>
<tbody>
<tr>
<td>Records Center Operations</td>
<td>The purpose of this technical report is to provide recommended guidelines 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</td>
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</table>

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
security requirements, operational methodologies, and budget considerations. These recommendations need to be taken into consideration along with the organization’s provincial, governmental, or municipal permit requirements to ensure that all regional issues are covered.

This document focuses primarily on paper storage. However, specialized vault storage, which includes some requirements for special media, is also discussed. The sections on records center operations, commercial records centers, and records management budgetary considerations may also be used as guidelines for establishing specialized media control centers.

This document also does not directly address the 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 for permanent storage of records and/or objects.

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. Records center operations should be a part of an overall records management program, and storage requirements should be based on records analysis and appraisal. 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. The advantages of a records center are becoming more meaningful with prime office space decreasing in availability, and the space costs increasing.

A records manager’s responsibility is to decide which records need to be maintained and 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, are used instead of expensive filing cabinets

- **Accessibility/Accountability**
  - Organization and identification required to
| ARMA International Guideline | 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 standards organizations and | 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. |

- A well-organized records center provides accurate and efficient retrieval
- Security
  - Confidentiality is enhanced by controlled monitoring and access

transfer records enhance control
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

**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.

### ANSI/ISO/ASQ Q9000-2000

**Qualify 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)

**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
<table>
<thead>
<tr>
<th>ANSI/ISO/ASQ Q9001-2000</th>
<th>This International Standard specifies requirements for a quality management system where an organization</th>
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<tbody>
<tr>
<td>Quality management systems – Requirements</td>
<td>a. Needs to demonstrate its ability to consistently provide product that meets customer and applicable regulatory requirements, and</td>
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<td></td>
<td>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 regulatory requirements</td>
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<tr>
<td></td>
<td>Note: In this International Standard, the term “product” applies only to the product intended for, or required by, a customer.</td>
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</table>

**Introduction**

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, regulatory 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.

<table>
<thead>
<tr>
<th>ISO 9004 – 2000</th>
<th>Abstract</th>
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<tr>
<td>Quality management systems -- Guidelines for performance</td>
<td>This International Standard provides guidelines beyond the requirements given in ISO 9001 in order to consider both the effectiveness and efficiency of a</td>
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| **improvements** | quality management system, and consequently the potential for improvement of the performance of an organization. When compared to ISO 9001, the objectives of customer satisfaction and product quality are extended to include the satisfaction of interested parties and the performance of the organization. This International Standard is applicable to the processes of the organization and consequently the quality management principles on which it is based can be deployed throughout the organization. The focus of this International Standard is the achievement of ongoing improvement, measured through the satisfaction of customers and other interested parties. This International Standard consists of guidance and recommendations and is not intended for certification, regulatory or contractual use, nor as a guide to the implementation of ISO 9001. |
| **ISO 14001-2004** | 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 |
<p>| <strong>Introduction</strong> | 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 |</p>
<table>
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<tr>
<th>Protection</th>
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<tbody>
<tr>
<td><strong>ARMA International Guideline</strong></td>
<td><strong>Evaluating and Mitigating Records and Information Risks</strong></td>
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<tr>
<td>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</td>
<td>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</td>
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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:

- **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].

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**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**  
| This standard covers the requirements for the protection of electronic computer/data processing equipment and computer areas. |
| The purpose of this standard is to set forth the minimum requirements for the protection of electronic computer/data processing equipment and computer areas from damage by fire or its associated effects — namely, smoke, corrosion, heat, and water. |

| **NFPA 232**  
| *Standard for the Protection of Records 2000 Edition* |
| This standard provides requirements for records protection equipment and facilities and records-handling techniques that provide protection from the hazards of fire.  
This standard does not consider forcible entry.  
This standard covers the following four categories of records storage environments and corresponding levels of risk tolerance:  
(1) Records vaults, which provide the highest level of protection  
(2) File rooms, which provide an intermediate level of protection for active and semi-active records  
(3) Archival storage, which provides a high level of |
| This standard is prepared for the use and guidance of those charged with purchasing, designing, constructing, installing, inspecting, approving, listing, operating, or maintaining equipment and facilities that protect records against fire and its associated effects.  
This standard also is intended for the use and guidance of those charged with planning, surveying, classifying, retaining, disposing, and otherwise handling records. |
| ISO/IEC 27002:2005 (ISO 17799: 2005) | 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. |
| NIST Special Publication 500-252 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 |
| 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 |
| 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 |
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.

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.

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<th>Technology</th>
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AIIM Recommended Practice (**ARP1-2007**)


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 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, 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.
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.

<table>
<thead>
<tr>
<th><strong>NIST Special Publication 800-88</strong></th>
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<tr>
<td><em>Guidelines for Media Sanitization – Recommendations of the National Institute of Standards and Technology</em></td>
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</table>

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 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
### ANSI/AIIM/ARMA TR48-2006


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

### 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.

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.”

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

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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 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.
| **ANSI/ARMA 16-2007** | 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—*

<p>| <strong>The Digital Records Conversion Process: Program Planning, Requirements, Procedures</strong> | 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. |</p>
<table>
<thead>
<tr>
<th><strong>Open Archival Information System—Reference Model</strong>, although all four types of migrations (see appendix A) may well be carried out in conversions 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.</th>
</tr>
</thead>
</table>
| **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/AIIM MS23-2004**  
*Standard Recommended Practice*  
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. |

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

<table>
<thead>
<tr>
<th>Production, Inspection, and Quality Assurance of First-Generation, Silver Microforms of Documents</th>
<th>The scope of this document excludes COM, updateable, color, and thermally processed.</th>
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### ISO 23081-1: 2006

**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 processes. 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.
ARMA International Guideline

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 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.

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 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
### ARMA International Guideline

**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 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 document 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. |

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.
**Collaboration Environment**

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.

<table>
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<tr>
<th><strong>Legality</strong></th>
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<tr>
<td><strong>ARMA International Guideline</strong></td>
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**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
| ANSI/AIIM TR 31-2004 | 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 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*.

| | 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.
# Longevity

<table>
<thead>
<tr>
<th>ISO 18901</th>
<th>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.</th>
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<tbody>
<tr>
<td>Introduction</td>
<td>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</td>
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<tr>
<td>ISO 18902</td>
<td>This International Standard specifies the principal physical and chemical requirements for filing enclosures, albums, and containers particularly designed for storing processed photographic films, plates and papers. The photographic image may be silver-gelatin type, color (dye-gelatin), diazo or vesicular. This International Standard applies to storage copies and does not include work copies as defined in informative annex B. The requirements are limited to the characteristics that may affect the enclosed item chemically or physically when it is stored under recommended conditions. (For methods of proper storage, see ISO 18911, ISO 18918 and ISO 18920, see [12, 14, 16] in the bibliography.)</td>
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<tr>
<td><strong>Introduction</strong></td>
<td>This International Standard is an auxiliary document and deals specifically with the enclosure materials used in storage. It pertains to the materials used in filing enclosures, containers and albums, as well as to construction details used in folders, sleeves, jackets, envelopes, pocket pages, and slide mounts. In addition, ISO 14523 describes the test method used to evaluate filing enclosure materials for photo-reactivity, referred to in this International Standard. The term &quot;archival&quot; is no longer used in International Standards for defining optimum storage conditions and enclosures, because the meaning of &quot;archival&quot; has become too ambiguous. In common usage, &quot;archival&quot; has been used to mean that documents can be preserved &quot;forever&quot;. The new terms, when applied to the storage standards mentioned above are &quot;extended-term&quot; and &quot;medium-term&quot;. Likewise, enclosure materials should not be referred to as &quot;archival&quot;, but rather as meeting the specifications of this International Standard and ISO 14523. When filing processed films, plates or papers, it is customary and good practice to enclose these photographic materials in envelopes, sleeves, folders, or other forms of enclosure in order to exclude dirt, protect them against mechanical damage, and facilitate identification and handling. Storage conditions for photographic records can be designed for extended-term preservation or for moderate periods of time. The storage protection required in each case will differ in degree according to the cost of providing storage</td>
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facilities, the desired record life, and the frequency of record use. Storage conditions shall be chosen within specified limits in order to obtain a satisfactory compromise between the degree of protection required and the practical consideration of immediate availability.

Specifying the chemical and physical characteristics of the photographic and enclosure materials does not, by itself, ensure satisfactory storage behavior. It is essential also to provide proper storage temperature and humidity, as well as protection from the hazards of fire, water, and fungal growth; from contact with certain chemicals in solid, liquid or gaseous form (e.g., atmospheric pollutants); and from physical damage. Furthermore, different types of photographic materials may respond uniquely to varying storage conditions. Since solid particles abrade prints and negatives when being slid in and out of filing enclosures or when stacked items are sorted, and because such particles can sometimes be chemically destructive to images and base materials, clean, dust-free storage areas are essential. Atmospheric conditions, natural and man-made, shall be controlled since paper and plastic enclosures are permeable and they do not protect the photographic image from environmental effects. Such effects include non-recommended relative humidities, or atmospheric pollutants such as hydrogen sulfide, sulfur dioxide, nitrogen oxides, and peroxides.

ISO 18905

Imaging materials -- Ammonia-processed

Abstract

ISO 18905:2002 establishes specifications for the stability of polyester-base safety film which has an ammonia-processed diazo photographic image. It is
| **diazo photographic film -- Specifications for stability** | 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**  
**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 known 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**  
**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 |
<table>
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<tr>
<th>ISO 18911</th>
<th>Imaging materials – Processed safety photographic films – Storage practices</th>
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<tr>
<td>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 Standard, but are</td>
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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.

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.
<table>
<thead>
<tr>
<th>ISO 18912</th>
<th>Imaging materials -- Processed vesicular photographic film -- Specifications for stability</th>
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<tbody>
<tr>
<td>Abstract</td>
<td>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.</td>
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<tr>
<th>ISO 18913</th>
<th>Imaging materials — Permanence — Vocabulary</th>
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<tr>
<td>Introduction</td>
<td>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.</td>
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<tr>
<th>ISO 18915</th>
<th>Imaging materials – Methods for the evaluation of the effectiveness of chemical conversion treatments</th>
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<tr>
<td>Introduction</td>
<td>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</td>
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</table>
effectiveness of chemical conversion of silver images against oxidation.

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 coated on supports of either plastic, paper or glass.

ISO 18917
Photography –

This International Standard specifies test methods for the determination of residual thiosulfate and other related chemicals in processed photographic

Introduction
This International Standard is one of a series of specifications on photographic processing.
Determination of residual thiosulfate and other related chemicals in processed photographic materials – Methods using iodine 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-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.
<table>
<thead>
<tr>
<th><strong>ISO 18923</strong></th>
<th><strong>Imaging materials – Polyester Base Magnetic Tape – Storage Practices</strong></th>
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<tbody>
<tr>
<td><strong>Description</strong></td>
<td>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.</td>
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<tr>
<th><strong>ISO 18924</strong></th>
<th><strong>Imaging materials -- Test method for Arrhenius-type predictions</strong></th>
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<tr>
<td><strong>Description</strong></td>
<td>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,</td>
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**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.
| ISO 18925 | 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 1108:1996 | 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 durability is required. |
| ANSI/AIIM MS45 | This recommended practice applies to all forms of |
Recommended Practice for Inspection of Stored Silver-Gelatin Microforms for Evidence of Deterioration

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

A free download of AIIM ARP-1 can be obtained at http://www.aiim.org/standards.asp?ID=28639

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 Author

Virginia A Jones, CRM (Certified Records Manager®), FAI (Fellow of ARMA International, is currently the Records Manager for Newport News Dept. of Public Utilities. Her background includes hands-on operations, management, consulting, writing, teaching and training experience for 40 years in the records and information management field. For the past 25 years, she has also been principal of VAJones Associates, a records and information management consulting and training firm.

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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