

McGILL UNIVERSITY – SCANNING STANDARDS FOR ADMINISTRATIVE RECORDS

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Summary

The purpose of this standard is to ensure that McGill University employees and their respective offices comply with a uniform method of scanning administrative records. This standard alerts staff to the range of technical, business-process, and record-keeping requirements necessary to guarantee the reliability, integrity, accessibility, intelligibility and readability of scanned records.

Consultation of this standard does not in itself authorize employees and their respective offices to embark on scanning operations and/or to destroy the original paper records. This standard applies to all McGill University offices. Offices considering scanning must consult with campus information technology and record-keeping authorities prior to beginning a scanning project. This consultation is critical to ensure the University's compliance with its own regulation, the *McGill University Records Retention Schedule (MURRS)*, governing the management of McGill University records.

This standard will evolve in conjunction with related technical and regulatory recommendations, including changes to Quebec-specific requirements for imaging and retention of public records. The nature and content of this document will also evolve to reflect the University's provision of services related to scanning projects.

Version 1.0
February 2005

Introduction

Increasingly McGill University offices are turning to reformatting technologies, specifically scanning of paper records, as a means of improving their workflow and management of information locally. Despite the immediate advantages of scanning these technologies are not a guaranteed or immediate solution to workflow, document management and/or information management issues.

When introduced as a quick “get organized” solution, without careful planning, scanning initiatives risk the following:

- **Inadequate manual systems = inadequate electronic systems:** Record-keeping systems (whether manual/paper or electronic), work best where there is a clearly articulated and *simple* means of organizing, controlling, and accessing the records. If your system is not working manually (with paper), it is unlikely to work in electronic form.

Consider how the scanning will address problems with your workflow? Does the scanning project include a system for managing and accessing the documents in digital form? How will the resulting images be organized, shared, and protected over the longer-term? Unless these issues are resolved, scanning risks duplicating the inadequacies of your manual and related paper systems.

- **Local efficiencies = resource implications for other areas:** Scanning may result in efficiencies to your unit, such as an enhanced workflow and less space devoted to paper storage. The digital results of the project, however, will require ongoing maintenance (including storage and backup) with resource implications for the University’s IT sectors and the University Archives.

Have you consulted with McGill’s IT units and the University Archives regarding the ongoing resource commitment and standards required for managing/sustaining the scanned and/or paper versions?

- **Not all McGill records may be replaced by digital versions:** The *McGill University Records Retention Schedule (MURRS)* is McGill’s authority on how records are managed including detailed information on which records may be destroyed or replaced by alternate formats. *MURRS* reflects Provincial legislation on record-keeping and the University’s interest in maintaining records for business and historical/legacy purposes.

Is the scanning initiative intended to improve the workflow of a paper system alone or will it replace the paper entirely (including the destruction of the paper records)? Does your project have authorization to replace the paper with electronic versions?

McGill Record-keeping: Obligations and Technical Issues

Why are McGill's records important? Records, regardless of their format, support McGill University's ability to pursue its mission, demonstrate accountability, defend its interests, and maintain institutional memory. The management of McGill University records is subject to Provincial law and McGill regulations protecting both McGill's business interests and historical legacy.

The *McGill University Records Retention Schedule (MURRS)* is McGill's guide to record-keeping obligations, detailing retention and destruction guidelines for all McGill records regardless of their format. *MURRS* complies with *The Act Respecting Access to Documents of Public Bodies and the Protection of Personal Information (1982)* and the *Archives Act (1983)*). In addition to *MURRS*, McGill University records are also subject to more specific requirements regulating the management of digital records and scanning detailed in *An Act to establish a legal framework for information technology (2000)* and the *Guide d'imagerie numérique* (by the Archives nationales du Quebec). These regulations consider the archival, technological and legal considerations where electronic records may be considered as a replacement for a paper record.

Technological Obsolescence

The purpose of such regulations is to protect digital records against technological obsolescence. Digital records are hardware and software dependent, potentially leaving the content unreadable when the systems originally used to create and read them are no longer in use.

Consider the common examples of obsolete storage media (8-track tapes, 5 ¼ inch diskettes), and files created in software formats not migrated or converted to newer readable versions. Will you be able to open a file created in a proprietary software format in 2, 5 or 10 years or read the DVD to which your data is stored? Keeping digital records requires careful attention to migration/conversion through the record's life-cycle ensuring readability over time.

Even if a digital version is readable, the extent to which it is accepted as reliable and authentic evidence will depend on the availability of system documentation detailing the creation, maintenance and ongoing management of the records over time. Compliance with scanning standards ensures that the resulting electronic version of a document is recognized as a reliable and authentic version.

In sum, scanning projects have archival, record-keeping, technological and resource implications for the University. Before proceeding McGill offices are advised to consult with campus-based experts to ensure the project outcomes reflect record-keeping obligations, technical requirements, and are best suited to McGill's developing information technology infrastructure.

SCOPE

Stakeholders include all McGill employees (administrative staff, Deans, Directors, Instructors, IST Staff, Librarians, Researchers, Support Staff), the McGill University Archives and all units reporting to the Office of the Deputy Provost/CIO.

PROCEDURES

McGill University offices considering scanning projects will advise the Office of the Deputy Provost/CIO – an ad hoc advisory group on scanning may be convened (on a short-term basis) to advise the office in question on how to apply the standards. The purpose of group is to ensure the initiating office receives a preliminary consultation on the application of the standards and that the Office of the CIO is aware of campus scanning initiatives to ensure that appropriate resource planning and allocation can occur.

The ad hoc group will be composed of representatives of the Office of the Deputy Provost/CIO, the University Archives, ISR, and NCS.

Any member of the community with questions about the standards may contact the following directly for more information:

- For selection/deployment of scanning and related applications: Contact IT sectors (ISR & NCS).

- For compliance with record-keeping requirements including *MURRS*: Contact McGill University Archives.

STANDARDS

1. Compliance & Retention

- 1.1 For the purposes of this standard the terms “scanning” and “electronic document imaging systems” are used interchangeably.
- 1.2 University offices seeking to implement electronic document imaging systems are required to comply with McGill University and Provincial regulations.
- 1.3 University offices considering such implementations must consult with campus information technology (Information Systems Resources) and record-keeping (McGill University Archives) authorities prior to beginning a scanning project. This consultation may include product, technical, and business process recommendations.
- 1.4 Retention: McGill University records retention and disposal regulations *MURRS (McGill University Records Retention Schedule)* apply to scanned/imaged records.

Original source documents and imaged/scanned versions are subject to the approved retention standard documented in *MURRS*. Any plan to replace original source records (paper) with scanned versions and destroy the originals requires changes to *MURRS* and the approval of the University Archives. Under Provincial regulations not all University records may be permanently replaced by scanned versions. Compliance with *MURRS* must be established and approved **in advance** of imaging system implementation.

- 1.5 System Architecture: The system architecture is to allow flexibility in exporting and importing data to other nonproprietary systems. Systems should consist of hardware and software that conform to nonproprietary standards and should be constructed in open system architecture.

2. Business Process & Documentation Requirements

- 2.1 Documentation must include extensive written procedures on the transfer process and technical specifications (format and resolution output) used. Documentation must indicate use of system architecture that allows flexibility in exporting and importing data to other nonproprietary systems (i.e.: how will the resulting images remain readable and authentic when systems change?).

Such documentation must be retained by the office responsible for the scanning project and retained according to *MURRS*.

Documentation regarding the process must include the following:

Document(s) Identification:

- Office of origin of the document(s)
- Type of document(s), *MURRS* classification and series identification (requires consultation with the University Archives)
- Content/purpose of the document(s)
- Search and indexing metadata

Process Mapping:

- Access conditions (including nature of review and approval process for the document(s) and frequency of use)

System Documentation:

- Nature of imaging application, evidence of compliance with technical standards

Project Responsibility:

- Statement of project purpose, business process analysis, role and responsibilities of project officers and deliverables with a timeline

- 2.2 University offices seeking to implement an imaging system must review the associated business process and complete the Business Process Checklist (see APPENDIX). The review of the business process must articulate the nature of the scanning project in the context of unit record-keeping functions including whether the scanning is for backlog paper records and/or continuing scanning of paper.
- 2.3 The project must include a detailed plan to view and verify the scanned results. This plan would include a commitment to view 100% of the images, ensuring that the resulting scanned images are an authentic, reliable and readable reflection of the original.
- The plan would also include a commitment to perform a detailed comparison of between 5 and 10% of the resulting scanned images and the originals.
- 2.4 A plan to retrieve the information must be instituted and adequate security measures must be in place to guarantee the accessibility and confidentiality of the document including:
- Description of the methods utilized to locate the information. For example, to identify the scanned images by a code embedded in the media or on the box where the media is stored.
 - Depiction of the type of index and retrieval process (e.g. Bar Code, Full Text Retrieval).
- The security measures must include password documentation ensuring access only by authorized persons.
- 2.5 Type of storage media and back-up procedures must be stated.

3. Technical Standards

- 3.1 Electronic documents stored in an imaging system are to be in standard image file formats. TIFF (Tagged Image File Format) file format is the preferred standard for documents submitted through a scanning system. The nature and relevance of colour in paper documents will be considered a factor in whether the project elects to scan in colour vs. black and white (black and white scanning may risk the loss of colour notations or other relevant information in paper form).
- 3.2 Required format for the index associated with an imaging system is ASCII (open format and easily readable by varied software).
- 3.3 Where optical disks (CD ROM) are used for information interchange between information processing systems, the process must comply with ISO 9660. ISO 9660 defines the attributes of the volume and the descriptors recorded, file placement; file attributes, and other related processes provided within information processing systems.
<http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=17505>
- 3.4 Scanning resolution standards: Resolution requirements reflect the recommendations of the Archives nationales du Quebec *Guide d'imagerie numerique*.
www.anq.gouv.qc.ca/Publications/GUIDEIMAG.pdf
- For textual administrative records, a minimum of 300 dpi – this provides a high resolution for reading and for manipulation of the image if necessary and covers a variety of document formats.
 - Barcodes and data in check box forms: 300dpi
 - Optical character recognition: 300dpi
 - Geographical charts, maps, drawings or special documents: 300-400dpi or greater depending on the tests carried out.

BUSINESS PROCESS CHECKLIST*

**The following are selected questions aimed at prompting further analysis of the purpose and outcome of scanning initiatives. These questions do not necessarily represent a comprehensive business process analysis and may be require additional questions based on consultation with campus experts (ISR, MUA).*

Record-keeping Authority/Responsibilities:

- Legal/administrative requirements: Have you consulted with the MUA regarding the *MURRS* requirements associated with these documents?
- What file format will the vendor/imaging product deliver? Is the format one reviewed and approved by ISR and MUA? Is the resulting data expected to replace paper records?

All records created and accumulated in the course of McGill administrative activities are governed by the *MURRS (McGill University Records Retention Schedule)*. Any scanning activities or proposed replacement of existing paper systems must be in compliance with *MURRS*.

Documentation:

- Who is the creator of the documents? What is the content/purpose of the documents in relation to your office functions and business processes? Are the documents related to McGill enterprise systems (ie: HR, Finance or Student Records functions)?
- What are the key search fields for the document(s)? Has the document(s) previously been indexed? Is there a standard vocabulary or authority list of terms used for indexing?

The above information may be obvious but is essential to an analysis of workflow and an understanding of how and why the scanning is beneficial. Ensure the project documentation includes office name, positions responsible for creation of the documents, descriptions of the content and purpose of the documents concerned in relation to your office functions and business processes.

- If the documents are related to enterprise functions (ie: finance, HR or student records), have you consulted with ISR regarding the initiative?
- Has ISR been involved in the selection of the product? Project documentation should include details on the nature of the product, vendor contact information.

Process Mapping:

- How are the documents currently used? (ie: who has access, reviews and/or approves the documents?)
- How often are the documents accessed/used?
- How do the documents relate to other records maintained by your office?
- Are multiple copies of the document kept?

Project Responsibility Issues:

- Who will be responsible for scanning in your area?
- What kind of schedule do you plan to maintain for scanning? Daily, Weekly, Monthly?
- Number of people to be trained?

APPROVAL PROCESS

Approval Step	Action Required	Date Completed	Version Number
Johanne Pelletier with documentation from MUA staff and ISR (Larry Tansey)	Develop	October 18 2004	0.1
Office of the Deputy Provost/CIO (Reviewed by Tony Masi with JP)	Review for next steps	November 3 2004	0.1
McGill University Archives/ISR SC IST Standing Committee on Administrative Computing	Comment	November 18 2004	0.2
SC IST (presentation/request for feedback to JP)	Review/comment	December 10 2004	0.2
SC IST SCAC Distributed for review by JP January 20 2005; Changes approved for forwarding to Tony Masi	Review/comment	January 27 2005	0.4
Office of the Deputy Provost/CIO (Tony Masi)	Approve		
Office of the Deputy Provost/CIO	Publish official standard		
McGill University Archives – ISR	Amend		

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