Electronic Records and the Illinois Local Records Act

Guidelines for Using Electronic Records April 2001

Effective January 1, 2001, the Local Records Act (50 ILCS 205) is amended to allow Local Government agencies to reproduce existing public records in a digitized electronic format with the intent to dispose of the original records. This practice is only allowable if the electronic records are reproduced on a "durable medium that accurately and legibly reproduces the original record in all details," and "that does not permit additions, deletions, or changes to the original document images." In addition, the digital records must be "retained in a trustworthy manner so that the records, and the information contained in the records, are accessible and usable for subsequent reference at all times while the information must be retained." Each agency is also under the obligation to file a Records Disposal Certificate with the appropriate Local Records Commission before any original record may be disposed of and before the reproduced digital record is disposed of. Click here for the *Guidelines Summary*.

In the past, public record laws, regulations, and procedures were based on the fact that records were created and maintained in paper or microfilm formats. Although very safe for long-term storage of records, those formats only allowed access to the records by one person in one place at one time. Currently, some local government record keepers feel that paper records take up too much space and filmed records are often too difficult to use. They perceive that the wide-scale use of electronic records will increase their ability to provide records to more clients in a clearer format in a timelier manner while saving money on record storage and staff. Digital systems also greatly reduce the amount of physical space required to store paper records.

However, while electronic record technology promotes broad and rapid access to local records, it also carries the danger that those records and the information contained therein can be easily lost. It is imperative that local governments ensure that because of changing technology, electronic records are not rendered unusable before their retention and preservation requirements are met. When indicating his support for the amendment to the Local Records Act, Governor Ryan warned that there are no universal standards for the creation and storage of electronic documents and urged local governments to "be cautious in the way in which they maintain public records and protect the public interest."

Because digital media are constantly in a state of flux, few national standards exist regulating the creation, copying and preservation of electronic records. Therefore the Local Records Commissions have issued no formal standards to guide local government agencies that decide to implement an electronic records storage system. The following guidelines for electronic record keeping in Illinois are currently accepted as "best practice" by industry and are endorsed by the Local Records Commissions, the Governor's Office on Technology, and the Secretary of State as State Archivist. These guidelines do not specify how a local government agency is to accomplish electronic record keeping and do not preclude agencies from transferring imaged records to other media or maintaining microfilm copies for long-term preservation purposes.

Legal Responsibility

Agencies must remember that any information that was a public record when produced in paper remains a public record when produced or maintained in any digital format, and that any information created as, or converted to, an electronic format is a government asset and must be retained for any period required by law or Local Records Commission regulations. Agencies are also obligated to produce and present to the public any records kept in digital formats that are needed to comply with the provisions of the Illinois Freedom of Information Act (5 ILCS 140/).

Disposing of any public record, regardless of format, before its retention is complete and notification given to the Local Records Commission is a Class 4 felony. Therefore, before implementing any local government electronic record keeping system, a records inventory (Application for Authority to Dispose of Local Records) should be on file with the Local Records Unit of the Illinois State Archives (217/782-7075).

To prevent negative audit findings and to defend itself during any legal challenge to the authenticity of the document, agencies should prepare documentation that explains how its systems and procedures ensure the integrity of the electronic document. At a minimum, this documentation should explain the technology that was used during creation and use (*i.e.* type of media, file format, type of document management software used); the operational procedures about how the document enters the system; and the security procedures about how the agency ensures the document has not been altered.

Longevity of Digital Records

Most people realize that if you had created a text document 12 years ago using any of the most popular commercial word processing software programs, you would not be able to read it today. Even if you had kept the exact machine and software program that created the document, there is a good chance that the storage medium would have degenerated*.*

Therefore, although no longer required by law, the Illinois State Archives and the Local Records Commissions still suggest that digital records with a retention value of more than ten years be backed up on microfilm or paper.

When retaining long-term records in digital format, user copies should be made and the "original" digital information stored off-site in a controlled environment. Temperature and relative humidity for permanent digital information should be in a range between 65-75 degrees Fahrenheit and 30-45 percent humidity. Maintaining constant temperatures and humidity is very important in the long-term preservation of information in digital, as well as paper and microfilm formats. Users can gain guidance for the storage and use of optical disks in ANSI/AIIM **TR25-1995**, *Use of Optical Disks for Public Records.*

Digitizing Existing Records

Before beginning a digitization of records, agencies should analyze the costs associated with implementing and maintaining an imaging system. This includes the cost of hardware, software, training staff, preparation of materials, scanning current and future records and possibly converting old files. While outsourcing may be cheaper than an in-house program, agencies should be concerned about losing control of their records.

Agencies should also plan for the refreshing of digital data on a regular basis and for migrating and converting images and corollary indices to new storage media as needed to preserve the records "for subsequent reference at all times while the information must be retained." Therefore, agencies must remember to budget up to 20% of the original system acquisition expense for the migration of digital records to newer media, software and/or hardware. It is difficult to predict whether this will need to be done every 3, 5 or 10 years to prevent the loss of information. In fact, before embarking on any record conversion project from paper to digital or microfilm, agencies

would be wise to perform a cost/benefit analysis that also factors in Local Record Commission record retention requirements.

Based on the requirements of the new law, agencies should establish operational practices and provide technical and administrative documentation to ensure the future usability of the system, continued access to all records, and the foundation for assuring the system's legal integrity. Any procedures should comport to requirements for the legal acceptance of records as outlined in AIIM **TR31-1992**, *Performance Guidelines for the Admissibility of Records Produced by Information Systems as Evidence.*

To ensure images are readable in the future, agencies should require an open systems architecture for electronic imaging or require vendors to provide a bridge to systems with non-proprietary configurations. Also, if a proprietary digital image file format is used, the vendor should provide a bridge to a non-proprietary digital image file format. It is recommended that agencies use a non-proprietary image file format to ensure the ability to transfer successfully digital images between different systems or to upgraded or modified systems. A definition for file formats is found in: ANSI/AIIM **MS53-1993***, Standard Recommended Practice, File Format for Storage and Exchange of Images, Bi-Level Image File Format, Part 1.*

While there are no formal Illinois government standards in place to guide an agency that is considering implementation of an electronic records storage system, there are a number of accepted industry standards that can increase the likelihood of long-term data accessibility. For example, the non-proprietary American Standard Code for Information Interchange (ASCII) has been a standard for text information since 1963 and is a basic building block in practically every program involving text.

It is highly recommended that every textual record an agency creates is reducible to the ASCII format.

RTF (Rich Text Format) is another transferable format. Its major advantage over ASCII is that it retains spacing, bold, italic, and underlining commands when transferring documents between most versions of Microsoft Word and WordPerfect. RTF is also the default format for certain programs like Microsoft's Outlook e-mail software.

Hypertext Markup Language (HTML), used for text on the Internet, also can be used as a medium of exchange between word processing programs and other software programs that display text. Most programs today automatically detect HTML files and display them appropriately.

With regard to graphic files, since 1981 TIFF has become the standard, non-proprietary graphics format and is widely used to transmit document information by imaging systems, fax machines and software programs. However, even though the Adobe Portable Document Format (PDF) is a proprietary standard, it has become the *de facto* standard for publishing fully formatted documents on the Web. But in order to read these documents a user must have a copy of the proprietary Adobe Acrobat Reader, available free from Adobe, installed on their computer. The creator of the document must have a copy of the full Adobe Acrobat Writer installed on his/her computer. Adobe charges for the full version of Adobe Acrobat. Unlike TIFF, PDF allows for the display of the exact format of the original document on the Internet with all graphics and text formatting intact.

The resolution of scanned images shall be sufficient to permit the recording of an accurate image of the public record. Agencies should refer to AIIM **TR26-1993**, *Resolution as it Relates to Photographic and Electronic Imaging* for guidance concerning resolution criteria. Standard office text documents should be scanned at a minimum resolution of 200 dpi (dots per inch). Drawings,

maps and plans require 300 dpi, while deteriorating documents or those with fine detail require 600 dpi to capture the record. Many digital technicians believe that a good image comes from a high-resolution scan that is scaled down to a workable storage size. When deciding on scanning resolutions, agencies should be guided by the law that requires a system that "legibly reproduces the original record in all details." Therefore, each agency should perform a visual quality control evaluation of each scanned image and related index data before any records are disposed of. Standards for ensuring scanner quality can be found in ANSI/AIIM **MS44-1988 (R1993**), *Recommended Practice for Quality Control of Image Scanners.*

When using optical disks, the system should provide techniques for monitoring and reporting verification of the records stored on a digital optical disk as found in ANSI/AIIM **MS59-1996**, "Media Error Monitoring and Reporting Techniques for Verification of Stored Data on Optical Digital Data Disks." Each year the agency should sample five percent of the images from both the primary and backup storage media to verify continued accessibility. They should also use an indexing database that provides for efficient retrieval, ease of use, and up-to-date information about the digital images stored in the system.

Since it is impossible to determine content merely by looking at a disk or tape, all digital media and storage containers should be clearly labeled identifying the agency, department, type of records, date span, system and software used, any access restrictions and the retention period assigned by the Local Records Commission. The agency should maintain specific, detailed documentation about the contents as well as the system specifications needed to access each tape or disk.

Managing Electronic Records

No matter what media or file formats are selected for creation and storage of digital documents, a system is needed that can organize and reliably retrieve all electronic information. Such a system is usually referred to as Records Management Application software (RMA). The RMA software must dependably catalog and index all of the documents and images and quickly retrieve those objects. To retrieve individual documents, each must be uniquely identified and indexed in a database. The United States Department of Defense has adopted standards (**DoD 5015.2-STD**) for what this software must be able to do in various file formats. It is suggested that Illinois agencies use only electronic records management software that meets the **DoD 5015.2-STD** that can be found on the National Archives and Records Administration web site.

However, the Archivist of the United States warns that government agencies must understand "the move towards electronic recordkeeping is more complicated than simply purchasing a 5015.2-certified records management application. Further agency analysis needs to be carried out to evaluate technical and business requirements that must be considered when automating records management, including human factors, ease of integration, scalability, system performance, reliability and provider stability."

Choosing the Right Vendor

The importance of selecting a highly qualified vendor when planning and implementing a records imaging and indexing system cannot be over-emphasized. In your Request for Proposals demand evidence the vender has a track record of successful projects of the type you wish to accomplish and that they can provide you with some of the same staff that worked on earlier projects.

Confirm that the vendor has the financial, human and other resources available to actually finish your project. In your contract, consider requiring your vendor to:

- Deposit a copy of the imaging/indexing system's application software codes and associated documentation in an escrow account with an institution acceptable to the agency for transmission to the agency if the vendor's business fails. The vendor must verify that the code is updated every year. If the vendor goes out of business, the agency must be given a copy of the source code.

- Notify the agency about the discontinuation of the imaging/indexing system or its product line, changes or upgrades to the imaging system, or the cessation of service support for the digital system.

Summary

1. "Regardless of physical form or characteristics," any information produced or received by a local government agency (including some e-mail) may be a record. For examples of non-records see the Local Records Act, 50 ILCS 205/3. [Agencies using Internet web pages to transact government business need to retain only the data from each transaction and not capture a "picture" of the web form used during each transaction. However, for legal protection, agencies should save examples/documentation of each web transaction page after the form has been modified or replaced.]

2. No public record may be disposed of without the permission of the appropriate Local Records Commission. Contact (217) 782-7075 for information about how to adhere to this process.

3. Just as record keepers in the past have used safes and locks to provide security for valuable records, agencies today must ensure that only those persons that are entitled have access to digital information. Security systems should be in place to ensure that electronic records cannot be altered, deleted or changed without documentation.

4. For the past two thousand years, nothing has helped information survive natural and man-made disasters more than redundancy, the preservation of the same records in different formats at different locations. All electronic records should be backed up in some manner at a remote site.

5. Digital information creation, storage and preservation systems are constantly changing. It is the responsibility of the local government agency to keep public records accessible as long as required by law. Agencies must plan for future refreshing, migration, emulation or reformatting of existing digital records and budgets should anticipate and reflect the necessary expense of this process.

6. Extensive metadata (data about your digital data) will help minimize the risk of your digital information becoming obsolete. Information should be kept separately from your digital records that identifies the record group, who created it, when created, and what technical environment is needed to access it.

7. In the near future there will be a need for local governments to send and receive information in digital formats to and from the public and other government agencies. Anticipating this, local governments should adopt the most universally accepted digital formats and systems in an effort to be compatible with other systems.

Questions about the creation, preservation and disposal of all local government records, regardless of physical characteristics or format, should be addressed to the Local Records Unit, Illinois State Archives, (217) 782-7075, e-mail: mailto:msorens@ilsos.net.

GLOSSARY

ASCII (American Standard Code for Information Exchange) – The ASCII character set is the basic set of characters that can be displayed on a PC screen. When text documents are converted from their original word processor file formats to ASCII they lose all special formatting such as bold, italics, and underlining.

CD-ROM (Compact Disk – Read Only Memory) – A CD-based storage medium that cannot be altered.

Emulation – The approach to save digital information by focusing on the applications software rather than on the files containing information. Those in favor of emulation want to build software that mimics every type of application that has ever been written for every type of file format and make them run on whatever the current computing environment is. Both **migration** and emulation require **refreshing** of data.

ERMS (Electronic Records Management System) – An automated method of maintaining and making accessible electronic records that includes retention values and disposal documentation.

GIF (Graphics Interchange Format) – A graphics format using small images that are to be displayed in a Web browser.

HTML (Hypertext Markup Language) – A tag-based language used to display text on the Internet.

JPEG (Joint Photographic Experts Group) – JPEG is a graphics file format that utilizes compression to reduce large image files into files that can be more easily stored and transferred. JPEG files are usually used for display of photographs on the Internet and also for digital photography.

Migration of Digital Data – Involves periodically moving files from a previous file-encoding format to another that is useable in a more modern computing environment. Migration seeks to limit the problem of files encoded in a wide variety of old file formats that have existed over time by gradually bringing all former formats into a limited number of contemporary formats.

PDF (Portable Document Format) – A proprietary format owned by Adobe Corp. that has become the *de facto* standard for displaying documents and forms on the Web.

Records Management – Systematic control of all recorded information (regardless of physical form or characteristics) created or received by an organization. The system's objectives are to provide accurate information to the people who need it in a timely manner at the lowest possible cost from the moment of record creation, through safe storage and maintenance, to legal documented disposal.

Refreshing Digital Data – Periodically moving a file from one physical storage medium to another to avoid the physical decay or the obsolescence of that medium. Since physical storage media (such as CD-ROMs) decay, and because technological changes make older storage

devices (such as 8" floppy drives) inaccessible to new computers, some ongoing form of refreshing is likely to be necessary for many years to come.

RTF (Rich Text Format) – An electronic text format that allows for preservation of special formatting such as bold, italics, spacing and underlining. Considered the best file format to save a document that will be read by a different work processor program.

TIFF (Tagged Image File Format) – A raster-based (bitmapped) graphics file format that maintains high resolution. TIFF files are much larger that JPEGs but allow for the highest fidelity to the original. TIFF files are often converted to JPEG files for display on the WEB.

WORM (Write Once, Read Many) – Any compact disk system that imprints information that can not be altered at a later date.

Websites on Imaging and Electronic Documents

/departments/archives/records_management/recman.html
(Illinois State Archives) State and Local Government Records Management laws, rules and forms.

http://www.finditillinois.org/ida/bestpractices.html
(The Illinois State Library) Best Practices for Digital Imaging and Model Requests for Digital Imaging Proposals.

http://www.nedcc.org/digital/TofC.htm
(Northeast Document Conservation Center) HANDBOOK FOR DIGITAL PROJECTS: A Management Tool for Preservation and Access, First Edition. Maxine K. Sitts, Editor. Northeast Document Conservation Center: Andover, Massachusetts, 2000.

http://www.rlg.org/ArchTF/tfadi.index.htm
(The Commission on Preservation and Access and the Research Libraries Group, Inc.) "Preserving Digital Information: Report of the Task Force on Archiving of Digital Information."

http://www.nara.gov
(National Archives and Administration) – Records Management policies, regulations, publications and laws relating to records management for federal agencies.

http://www.arma.org
(Association of Records Managers and Administrators)

http://stnds.aiim.wegov2.com/
(Association for Information and Image Management)

http://www.osta.org
(Optical Storage Technology Association) – Publications and references on optical storage issues.

http://www.nara.gov/records/dodstd.html
DoD 5015.2-STD Department of Defense records management application software standards.

http://www.cslib.org/optical.htm
(Connecticut State Library) –"Standards for the Use of Imaging Technology for Storage, Retrieval, and Disposition of Public Records."

http://cio.doe.gov/standards/
(U.S. Dept. of Energy) Industry standards for many aspects of electronic records and optical disks.

Download the *Guidelines for Using Electronic Records*

The *Guidelines for Using Electronic Records* can be downloaded in Adobe Acrobat format. The guidelines can be viewed using Adobe Acrobat Reader 3.0 or later in your web browser or the file can be saved to disk and used with Adobe Acrobat Reader 3.0 outside your web browser. Macintosh and Windows versions of Acrobat Reader may be downloaded free of charge from Adobe.

Click here to find out how to obtain the Adobe Acrobat Reader.

Download a Guidelines for Using Electronic Records now (Requires Adobe Acrobat Reader 3.0 or later).

These Guidelines have been reviewed and accepted by the Downstate Local Records Commission and the Local Records Commission of Cook County.

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