

STATE OF NEBRASKA  
STATE RECORDS ADMINISTRATOR  
DURABLE MEDIUM WRITTEN BEST PRACTICES & PROCEDURES  
(ELECTRONIC RECORDS GUIDELINES)

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Following is a voluntary guideline issued by the State Records Administrator (Secretary of State) for use by state and local government agencies in the State of Nebraska. This is a guideline only and does not have the force and effect of rule and regulation or of law except where stated. The State Records Administrator strongly recommends that these guidelines be followed with any electronic records system.

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**State of Nebraska**  
**State Records Administrator**  
**Durable Medium Written Best Practices & Procedures**  
**(Electronic Records Guidelines)**

**001 Scope and Purpose**

**001.01 Scope.** These guidelines apply to all state and local government agencies in the State of Nebraska as defined in the Records Management Act (Revised Statutes of Nebraska, Chapter 84, Article 12). The term “agencies” means state and local government agencies.

**001.02 Purpose.** These guidelines do not require agencies to create, send, communicate, receive, store, preserve, or otherwise process records by electronic means or in electronic form. Rather, they provide guidance for agencies that choose to use technology for these purposes.

**002 Definitions**

**002.01 Record.** The Records Management Act (Revised Statutes of Nebraska, Chapter 84, Article 12) defines a record as: “any book, document, paper, photograph, microfilm, sound recording, magnetic storage medium, optical storage medium, or other material regardless of physical form or characteristics created or received pursuant to law, charter, or ordinance or in connection with any other activity relating to or having an effect upon the transaction of public business.” A record is information that is inscribed on a tangible medium or that is stored in an electronic or other medium and is retrievable in perceivable form.

**002.02 Public record.** The Records Management Act (Revised Statutes of Nebraska, Chapter 84, Article 12) defines a public record as follows: “Public records includes all records and documents, regardless of physical form, of or belonging to this state or any agency, branch, department, board, bureau, commission, council, subunit, or committee of this state except when any other statute expressly provides that particular information of records shall not be made public. Data which is a public record in its original form shall remain a public record when maintained in computer files.”

**002.03 Electronic record.** A record created, generated, sent, communicated, received, or stored by electronic means.

**002.04 Records retention schedule.** A listing of approved records retention periods governing the retention and disposition of all government records.

**002.05 Electronic records management.** The application of records management principles to electronic records and the management of those records using electronic systems.

**002.06 Electronic records management system.** A system consisting of software, hardware, policies and processes to automate the preparation, organization, tracking, distribution and disposition of records regardless of media.

### **003 Records Retention**

#### **003.01 Records Retention Schedule Compliance for Electronic Records.**

All records, regardless of the media on which they reside, including paper, microfilm, diskettes, optical disks, CDs, DVDs, servers, computer hard drives, etc. must be retained for the minimum retention period required per State of Nebraska general records retention schedules (24 and 124) and/or agency specific records retention schedules. All current approved records retention schedules are located at:

[http://www.sos.ne.gov/records-management/retention\\_schedules.html](http://www.sos.ne.gov/records-management/retention_schedules.html)

#### **003.02 Non-permanent records with an established retention.**

State and local government officials may maintain non-permanent records in an electronic records system and dispose of the originals provided agencies:

**003.02.01** Maintain security copies of the disks, tapes, and indexes in off-site storage.

**003.02.02** Migrate and convert both the working and security copies of the disks, tapes, and indexes if:

(a) the systems are upgraded or changed in a way that prevents access to the contents of the old system, or

(b) the information has not been migrated in ten years.

**003.02.03** Sample both the working and security copies of the disks and indexes at least once a year to make certain the data is readable and recopy to new media immediately if any loss of information is detected.

Agencies not able to ensure compliance with points 1-3 above should retain a paper or a microform that meets state standards for the established retention period.

#### **003.03 Records with a permanent retention.**

**003.03.01 General.** Agencies should meet all the requirements found in Section 003.02 above.

**003.03.02 Transfers to the Nebraska State Historical Society (NSHS).** The NSHS is responsible for the care, maintenance and reference use of state records with enduring value, regardless of media. The NSHS will accept electronic records deemed of permanent historical value that are scheduled for transfer to the Society, or it will work with the agencies in preserving and accessing electronic records maintained in agency custody. Because of the variety of formats of electronic records, issues of proprietary software and specialized hardware, decisions should be made in consultation between the NSHS staff, the agency staff and the State Records Administrator about either transferring the records or

maintaining them in the agency of origin. Agencies should have preliminary discussions with NSHS staff at the point at which new records series are created or new electronic records management systems are considered. If a decision to transfer electronic records to the NSHS is made, the method, frequency and format of the transfer should be determined cooperatively between the agency and the NSHS.

**003.03.03 Non-transfers.** If the decision is made to maintain the records in the agency of origin, the agency should be responsible for making the records accessible to the public in a manner consistent with the way the NSHS would perform this function. The originating agency should be responsible for upgrading the system to current technology standards so that data remain usable over time and for testing at regular intervals any storage medium used for accuracy or loss of data.

**003.04 Use of Electronic Records Management System Software.** Agencies should use electronic records management system software that complies with DoD 5015.2-STD, "Design Criteria Standard for Electronic Records Management Software Applications," as issued by the U.S. Department of Defense or the latest version thereof.

#### **004 Documentation**

**004.01 General.** The agency should establish operational practices and provide technical and administrative documentation to ensure the future usability of the system, continued access to long-term records as operating environments change, and a sound foundation for assuring the system's legal integrity. Procedural controls should reflect requirements for the legal acceptance of records as outlined in AIIM TR 31-1992, "Performance Guideline for the Admissibility of Records Produced by Information Systems as Evidence" or the latest edition thereof. In addition, agencies should keep full documentation of:

**004.01.01 Hardware and software,** including brand names, version numbers and dates of installation, upgrades, replacements, and conversions.

**004.01.02 Data structure and content,** including the file layout and data dictionaries.

**004.01.03 "Enhancement" algorithms.** These are techniques for processing an image so that the result is visually clearer than the original image.

**004.01.04 Operating procedures,** including: methods for scanning or entering data; revising, updating, or expunging records; indexing, backing up disks, tapes, microfilm, etc.; testing the readability of records; applying safeguards to prevent tampering and unauthorized access to protected information; and carrying out the disposition of original records. In addition, to provide audit trails, agencies should document procedures for logging and tracking.

#### **005 Hardware and Software**

**005.01 Open systems.** Agencies should require open system architecture or require vendors to provide a bridge to systems with non-propriety configurations.

**005.02 Staffing.** The agency should assign a permanent staff member as system administrator and require the vendor to provide a project director during the installation and training periods.

**005.03 Indexing.** Agencies should use an indexing database that provides for efficient retrieval, ease of use, and up-to-date information about the records stored in the system. The indexing database should be selected after an analysis of agency operations and user needs.

**005.03.01 Query Interface.** The query interface for the indexing database should meet the requirements of Federal Information Processing Standards Publication 127-2, "Database Language SQL." The purpose of FIPS SQL is to promote portability and interoperability of database application programs.

**005.04 Document Imaging System.** If your electronic records management system includes an imaging process, the following guidelines apply:

**005.04.01 Image file format.** Agencies should use a non-proprietary digital image file format or provide a bridge to a non-proprietary digital image file format. A standard definition for file formats is found in: American National Standards Institute (ANSI)/Association for Information and Image Management (AIIM) MS53-1993, "Standard Recommended Practice, File Format for Storage and Exchange of Images, Bi-Level Image File Format, Part 1." or latest version thereof, or open published standard file formats, such as the Adobe Portable Document Format (PDF and PDF/A), HTML or XML. If a proprietary header is used, the system should provide a bridge to a non-proprietary header label standard such as ANSI/AIIM MS54, "File Format for Storage and Exchange of Images, or Bi-Level File Format, Part 1" or the latest edition thereof.

**005.04.02 Compression.** Agencies should seek vendors who use standard rather than proprietary compression algorithms to make future migrations of data more certain and reliable. Imaging systems should utilize the Consultative Committee on International Telegraphy and Telephony (CCITT) Group 3 or Group 4 compression techniques without proprietary alterations to the algorithm. If the use of a proprietary compression algorithm is unavoidable, the system should provide a gateway to either Group 3 or Group 4 standards.

**005.04.03 Scanning resolution.** When determining document scanning resolution, agencies should consider data storage requirements, document scanning throughput rates, and the accurate reproduction of the image. Vendor claims should be validated using a sampling of the agency's documents. Calibration and maintenance of the scanners should meet the manufacturers' recommended schedule. The following minimum resolution readings are for black and white documents:

1. **Standard text office documents.** A minimum resolution of 200 dots per inch (dpi) is desired.
2. **Drawings, maps and plans.** A minimum resolution of 300 dots per inch (dpi) is desired.
3. **Deteriorating documents or documents with fine detail.** A minimum resolution of 600 dots per inch (dpi) is desired.

**005.04.04 Error correction and detection.** Agencies should select equipment that conforms to the standard methodology for media error detection and correction.

**005.04.05 Quality control.** The agency should perform a visual quality control evaluation of each scanned image and related index data. When the system is operational, the agency should perform a weekly scanning quality test that complies with ANSI/AIIM MS44-1988

(R1993), “Recommended Practice for Quality Control of Image Scanners” or latest edition thereof.

## **006 Media**

**006.01 Optical disks.** If optical disks are used the system should provide techniques for monitoring and reporting verification of the records stored on a digital optical disk, and the system administrator should actively follow the status of the monitors. The system should comply with ANSI/AIIM MS59-1996, “Media Error Monitoring and Reporting Techniques for Verification of Stored Data on Optical Digital Data Disks” or latest edition thereof.

**006.02 CDs.** If CDs or DVDs are used only archival grade gold CDs and DVDs are recommended while explicitly excluding non-archival grade CDs and DVDs.

## **007 Media Handling and Storage**

**007.01 Annual sample.** On an annual basis, agencies should select a sample of records from both primary and backup storage media to verify continued accessibility. The sample size should be adequate to provide statistically valid results.

**007.02 Labeling.** Disks, tapes, and other storage containers should be labeled with particular care since it is impossible to determine content merely by looking at a disk or tape. Labeling is critical when the disk and its index are stored on different media.

**007.03 Security copies.** Security copies should be marked with appropriate external labels that identify the government entity, system and software used, and any access restrictions.

**007.04 Documentation.** The agency should maintain specific, detailed documentation of the contents and the system specifications needed to access each tape or disk.

**007.05 Storage conditions.** Backups for electronic records stored on magnetic or optical media should be housed in an area with stable environmental conditions. The current standards for magnetic media are: room temperature, 65-75 degrees Fahrenheit; relative humidity, 40-45 percent. These environmental standards also should be observed for security copies of optical media.

**007.06 Planning.** Agencies should prepare a plan for “refreshing” data and for migrating electronic records to new media as needed to preserve the records in an accessible form.

**007.07 Migrating.** Records maintained on electronic media should be migrated onto new media at least once every 10 years.

## **008 Backup and Disaster Recovery**

**008.01 Backup.** The agency should implement backup procedures to create security copies of electronic records and their related index.

**008.02 Backup storage.** Security copies should be stored in secure and suitable off-site facilities.

**009 Nebraska Information Technology Commission (NITC) Standards**

Electronic Records Systems are required to meet NITC technical standards and guidelines. NITC standards and guidelines are located at:

<http://www.nitc.state.ne.us/standards/>.

**010 Records Management Act**

Electronic Records are required to meet all Statutes listed in the Records Management Act (84-1201 – 84-1208). The Records Management Act is located at:

[http://www.sos.ne.gov/records-management/records\\_mgmt\\_act.html](http://www.sos.ne.gov/records-management/records_mgmt_act.html).