

# **National Archives and Record Administration's (NARA) Standards for Guidance on Maintenance and Storage of Electronic Records**

The NARA standards within this document may also be accessed at <https://www.archives.gov/>.

## **Part 1234 - Electronic Records Management**

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Authority: 44 U.S.C. 2904, 3101, 3102, 3105, and 3303.

### **Subpart A -- General**

#### ***§1234.1 Scope of part.***

This part establishes the basic requirements related to the creation, maintenance, use, and disposition of electronic records. Electronic records include numeric, graphic, and text information, which may be recorded on any medium capable of being read by a computer and which satisfies the definition of a record. This includes, but is not limited to, magnetic media, such as tapes and disks, and optical disks. Unless otherwise noted, these requirements apply to all electronic information systems, whether on microcomputers, minicomputers, or main-frame computers, regardless of storage media, in network or

stand-alone configurations. This part also covers creation, maintenance and use, and disposition of Federal records created by individuals using electronic mail applications.

### ***§1234.2 Definitions.***

Basic records management terms are defined in 36 CFR 1220.14. As used in part 1234 --

*Data base* means a set of data, consisting of at least one data file, that is sufficient for a given purpose.

*Data base management system* means a software system used to access and retrieve data stored in a data base.

*Data file* means related numeric, textual, or graphic information that is organized in a strictly prescribed form and format.

*Electronic information system.* A system that contains and provides access to computerized Federal records and other information.

*Electronic mail system.* A computer application used to create, receive, and transmit messages and other documents. Excluded from this definition are file transfer utilities (software that transmits files between users but does not retain any transmission data), data systems used to collect and process data that have been organized into data files or data bases on either personal computers or mainframe computers, and word processing documents not transmitted on an e-mail system.

*Electronic mail message.* A document created or received on an electronic mail system including brief notes, more formal or substantive narrative documents, and any attachments, such as word processing and other electronic documents, which may be transmitted with the message.

*Electronic record* means any information that is recorded in a form that only a computer can process and that satisfies the definition of a Federal record in 44 U.S.C. 3301.

*Electronic record keeping system.* An electronic system in which records are collected, organized, and categorized to facilitate their preservation, retrieval, use, and disposition.

*Text documents* means narrative or tabular documents, such as letters, memorandums, and reports, in loosely prescribed form and format.

Transmission and receipt data.

(1) Transmission data. Information in electronic mail systems regarding the identities of sender and addressee(s), and the date and time messages were sent.

(2) Receipt data. Information in electronic mail systems regarding date and time of receipt of a message, and/or acknowledgment of receipt or access by addressee(s).

## **Subpart B -- Program Requirements**

### ***§1234.10 Agency responsibilities.***

The head of each Federal agency shall ensure that the management of electronic records incorporates the following elements:

- (a) Assigning responsibility to develop and implement an agency wide program for the management of all records created, received, maintained, used, or stored on electronic media; and notifying the National Archives and Records Administration, Modern Records Programs (NWM), 8601 Adelphi Rd., College Park, MD 20740-6001 and the General Services Administration, Office of Government Policy (MKB), Washington, DC 20505, of the name and title of the person assigned the responsibility.
- (b) Integrating the management of electronic records with other records and information resources management programs of the agency.
- (c) Incorporating electronic records management objectives, responsibilities, and authorities in pertinent agency directives and disseminating them throughout the agency as appropriate.
- (d) Establishing procedures for addressing records management requirements, including record keeping requirements and disposition, before approving new electronic information systems or enhancements to existing systems.
- (e) Ensuring that adequate training is provided for users of electronic mail systems on record keeping requirements, the distinction between Federal records and non-record materials, procedures for designating Federal records, and moving or copying records for inclusion in an agency record keeping system;
- (f) Ensuring that adequate training is provided for users of electronic information systems in the operation, care, and handling of the equipment, software, and media used in the system.
- (g) Developing and maintaining up-to-date documentation about all electronic information systems that is adequate to: Specify all technical characteristics necessary for reading or processing the records; identify all defined inputs and outputs of the system; define the contents of the files and records; determine restrictions on access and use; understand the purpose(s) and function(s) of the system; describe update cycles or conditions and rules for adding information to the system, changing information in it, or deleting information; and ensure the timely, authorized disposition of the records.

(h) Specifying the location, manner, and media in which electronic records will be maintained to meet operational and archival requirements, and maintaining inventories of electronic information systems to facilitate disposition.

(i) Developing and securing NARA approval of records disposition schedules, and ensuring implementation of their provisions.

(j) Specifying the methods of implementing controls over national security-classified, sensitive, proprietary, and Privacy Act records stored and used electronically.

(k) Establishing procedures to ensure that the requirements of this part are applied to those electronic records that are created or maintained by contractors.

(l) Ensuring compliance with applicable Government wide policies, procedures, and standards such as those issued by the Office of Management and Budget, the General Accounting Office, the General Services Administration, the National Archives and Records Administration, and the National Institute of Standards and Technology.

(m) Reviewing electronic information systems periodically for conformance to established agency procedures, standards, and policies as part of the periodic reviews required by 44 U.S.C. 3506. The review should determine if the records have been properly identified and described, and whether the schedule descriptions and retention periods reflect the current informational content and use. If not, or if substantive changes have been made in the structure, design, codes, purposes, or uses of the system, submit an SF 115, Request for Records Disposition Authority, to NARA.

### **Subpart C -- Standards for the Creation, Use, Preservation, and Disposition of Electronic Records**

#### ***§1234.20 Creation and use of data files.***

(a) For electronic information systems that produce, use, or store data files, disposition instructions for the data shall be incorporated into the system's design.

(b) Agencies shall maintain adequate and up-to-date technical documentation for each electronic information system that produces, uses, or stores data files. Minimum documentation required is a narrative description of the system; physical and technical characteristics of the records, including a record layout that describes each field including its name, size, starting or relative position, and a description of the form of the data (such as alphabetic, zoned decimal, packed decimal, or numeric), or a data dictionary or the equivalent information associated with a data base management system including a description of the relationship between data elements in data bases; and any other technical information needed to read or process the records.

#### ***§1234.22 Creation and use of text documents.***

(a) Electronic record keeping systems that maintain the official file copy of text documents on electronic media shall meet the following minimum requirements:

(1) Provide a method for all authorized users of the system to retrieve desired documents, such as an indexing or text search system;

(2) Provide an appropriate level of security to ensure integrity of the documents;

(3) Provide a standard interchange format when necessary to permit the exchange of documents on electronic media between agency computers using different software/operating systems and the conversion or migration of documents on electronic media from one system to another; and

(4) Provide for the disposition of the documents including, when necessary, the requirements for transferring permanent records to NARA (see §1228.270 of this chapter).

(b) Before a document is created electronically on electronic record keeping systems that will maintain the official file copy on electronic media, each document shall be identified sufficiently to enable authorized personnel to retrieve, protect, and carry out the disposition of documents in the system. Appropriate identifying information for each document maintained on the electronic media may include: office of origin, file code, key words for retrieval, addressee (if any), signator, author, date, authorized disposition (coded or otherwise), and security classification (if applicable). Agencies shall ensure that records maintained in such systems can be correlated with related records on paper, microform, or other media.

#### ***§1234.24 Standards for managing electronic mail records.***

Agencies shall manage records created or received on electronic mail systems in accordance with the provisions of this chapter pertaining to adequacy of documentation, record keeping requirements, agency records management responsibilities, and records disposition (36 CFR parts 1220, 1222, and 1228).

(a) Agency instructions on identifying and preserving electronic mail messages will address the following unique aspects of electronic mail:

(1) Some transmission data (names of sender and addressee(s) and date the message was sent) must be preserved for each electronic mail record in order for the context of the message to be understood. Agencies shall determine if any other transmission data is needed for purposes of context.

(2) Agencies that use an electronic mail system that identifies users by codes or nicknames or identifies addressees only by the name of a distribution list shall instruct staff on how to retain names on directories or distributions lists to ensure identification of the sender and addressee(s) of messages that are records.

(3) Agencies that use an electronic mail system that allows users to request acknowledgments or receipts showing that a message reached the mailbox or inbox of each addressee, or that an addressee opened the message, shall issue instructions to e-mail users specifying when to request such receipts or acknowledgments for record keeping purposes and how to preserve them.

(4) Agencies with access to external electronic mail systems shall ensure that Federal records sent or received on these systems are preserved in the appropriate record keeping system and that reasonable steps are taken to capture available transmission and receipt data needed by the agency for record keeping purposes.

(5) Some e-mail systems provide calendars and task lists for users. These may meet the definition of Federal record. Calendars that meet the definition of Federal records are to be managed in accordance with the provisions of General Records Schedule 23, Item 5.

(6) Draft documents that are circulated on electronic mail systems may be records if they meet the criteria specified in 36 CFR 1222.34.

(b) Agencies shall consider the following criteria when developing procedures for the maintenance of electronic mail records in appropriate record keeping systems, regardless of format.

(1) Record keeping systems that include electronic mail messages must:

(i) Provide for the grouping of related records into classifications according to the nature of the business purposes the records serve;

(ii) Permit easy and timely retrieval of both individual records and files or other groupings of related records;

(iii) Retain the records in a usable format for their required retention period as specified by a NARA-approved records schedule;

(iv) Be accessible by individuals who have a business need for information in the system;

(v) Preserve the transmission and receipt data specified in agency instructions; and

(vi) Permit transfer of permanent records to the National Archives and Records Administration (see 36 CFR 1228.270 and 36 CFR 1234.32(a)).

(2) Agencies may elect to manage electronic mail records with very short-term NARA-approved retention periods (transitory records with a very short-term retention period of 180 days or less as provided by GRS 23, Item 7, or by a NARA-approved agency records schedule) on the electronic mail system itself, without the need to copy the record to a paper or electronic record keeping system, provided that:

- (i) Users do not delete the messages before the expiration of the NARA-approved retention period, and
  - (ii) The system's automatic deletion rules ensure preservation of the records until the expiration of the NARA-approved retention period.
- (3) Except for those electronic mail records within the scope of paragraph (b)(2) of this section:

(i) Agencies must not use an electronic mail system to store the record keeping copy of electronic mail messages identified as Federal records unless that system has all of the features specified in paragraph (b)(1) of this section.

(ii) If the electronic mail system is not designed to be a record keeping system, agencies must instruct staff on how to copy Federal records from the electronic mail system to a record keeping system.

(c) Agencies that maintain their electronic mail records electronically shall move or copy them to a separate electronic record keeping system unless their system has the features specified in paragraph (b)(1). Because they do not have the features specified in paragraph (b)(1) of this section, backup tapes should not be used for record keeping purposes. Agencies may retain records from electronic mail systems in an off-line electronic storage format (such as optical disk or magnetic tape) that meets the requirements described at 36 CFR 1234.30(a). Agencies that retain permanent electronic mail records scheduled for transfer to the National Archives shall either store them in a format and on a medium that conforms to the requirements concerning transfer at 36 CFR 1228.270 or shall maintain the ability to convert the records to the required format and medium at the time transfer is scheduled.

(d) Agencies that maintain paper files as their record keeping systems shall print their electronic mail records and the related transmission and receipt data specified by the agency.

#### ***§1234.26 Judicial use of electronic records.***

Electronic records may be admitted in evidence to Federal courts for use in court proceedings (Federal Rules of Evidence 803(8)) if trustworthiness is established by thoroughly documenting the record keeping system's operation and the controls imposed upon it. Agencies should implement the following procedures to enhance the legal admissibility of electronic records.

(a) Document that similar kinds of records generated and stored electronically are created by the same processes each time and have a standardized retrieval approach.

(b) Substantiate that security procedures prevent unauthorized addition, modification or deletion of a record and ensure system protection against such problems as power interruptions.

(c) Identify the electronic media on which records are stored throughout their life cycle, the maximum time span that records remain on each storage medium, and the NARA-approved disposition of all records.

(d) Coordinate all of the above with legal counsel and senior IRM and records management staff.

***§1234.28 Security of electronic records.***

Agencies shall implement and maintain an effective records security program that incorporates the following:

(a) Ensures that only authorized personnel have access to electronic records.

(b) Provides for backup and recovery of records to protect against information loss.

(c) Ensures that appropriate agency personnel are trained to safeguard sensitive or classified electronic records.

(d) Minimizes the risk of unauthorized alteration or erasure of electronic records.

(e) Ensures that electronic records security is included in computer systems security plans prepared pursuant to the Computer Security Act of 1987 (40 U.S.C. 759 note).

***§1234.30 Selection and maintenance of electronic records storage media.***

(a) Agencies shall select appropriate media and systems for storing agency records throughout their life, which meet the following requirements:

(1) Permit easy retrieval in a timely fashion;

(2) Facilitate distinction between record and non-record material;

(3) Retain the records in a usable format until their authorized disposition date; and

(4) If the media contains permanent records and does not meet the requirements for transferring permanent records to NARA as outlined in 1228.270 of this chapter, permit the migration of the permanent records at the time of transfer to a medium which does meet the requirements.

(b) The following factors shall be considered before selecting a storage medium or converting from one medium to another:



- (1) The authorized life of the records, as determined during the scheduling process;
- (2) The maintenance necessary to retain the records;
- (3) The cost of storing and retrieving the records;
- (4) The records density;
- (5) The access time to retrieve stored records;
- (6) The portability of the medium (that is, selecting a medium that will run on equipment offered by multiple manufacturers) and the ability to transfer the information from one medium to another (such as from optical disk to magnetic tape); and
- (7) Whether the medium meets current applicable Federal Information Processing Standards.

(c) Agencies should avoid the use of floppy disks for the exclusive long-term storage of permanent or unscheduled electronic records.

(d) Agencies shall ensure that all authorized users can identify and retrieve information stored on diskettes, removable disks, or tapes by establishing or adopting procedures for external labeling.

(e) Agencies shall ensure that information is not lost because of changing technology or deterioration by converting storage media to provide compatibility with the agency's current hardware and software. Before conversion to a different medium, agencies must determine that the authorized disposition of the electronic records can be implemented after conversion.

(f) Agencies shall back up electronic records on a regular basis to safeguard against the loss of information due to equipment malfunctions or human error. Duplicate copies of permanent or unscheduled records shall be maintained in storage areas separate from the location of the records that have been copied.

(g) Maintenance of magnetic computer tape.

(1) Agencies shall test magnetic computer tapes no more than 6 months prior to using them to store electronic records that are unscheduled or scheduled for permanent retention. This test should verify that the tape is free of permanent errors and in compliance with National Institute of Standards and Technology or industry standards.

(2) Agencies shall maintain the storage and test areas for computer magnetic tapes containing permanent and unscheduled records at the following temperatures and relative humidities:

Constant temperature -- 62 to 68° F.  
Constant relative humidity -- 35% to 45%

(3) Agencies shall annually read a statistical sample of all reels of magnetic computer tape containing permanent and unscheduled records to identify any loss of data and to discover and correct the causes of data loss. In tape libraries with 1800 or fewer reels, a 20% sample or a sample size of 50 reels, whichever is larger, should be read. In tape libraries with more than 1800 reels, a sample of 384 reels should be read. Tapes with 10 or more errors should be replaced and, when possible, lost data shall be restored. All other tapes which might have been affected by the same cause (i.e., poor quality tape, high usage, poor environment, improper handling) shall be read and corrected as appropriate.

(4) Agencies shall copy permanent or unscheduled data on magnetic tapes before the tapes are 10 years old onto tested and verified new tapes.

(5) External labels (or the equivalent automated tape management system) for magnetic tapes used to store permanent or unscheduled electronic records shall provide unique identification for each reel, including the name of the organizational unit responsible for the data, system title, and security classification, if applicable. Additionally, the following information shall be maintained for (but not necessarily attached to) each reel used to store permanent or unscheduled electronic records: file title(s); dates of creation; dates of coverage; the recording density; type of internal labels; volume serial number, if applicable; number of tracks; character code/software dependency; information about block size; and reel sequence number, if the file is part of a multi-reel set. For numeric data files, include record format and logical record length, if applicable; data set name(s) and sequence, if applicable; and number of records for each data set.

(6) Agencies shall prohibit smoking and eating in magnetic computer tape storage libraries and test or evaluation areas that contain permanent or unscheduled records.

(h) Maintenance of direct access storage media.

(1) Agencies shall issue written procedures for the care and handling of direct access storage media which draw upon the recommendations of the manufacturers.

(2) External labels for diskettes or removable disks used when processing or temporarily storing permanent or unscheduled records shall include the following information: name of the organizational unit responsible for the records, descriptive title of the contents, dates of creation, security classification, if applicable, and identification of the software and hardware used.

***§1234.32 Retention and disposition of electronic records.***

Agencies shall establish policies and procedures to ensure that electronic records and their documentation are retained as long as needed by the Government. These retention procedures shall include provisions for:

(a) Scheduling the disposition of all electronic records, as well as related documentation and indexes, by applying General Records Schedules (particularly GRS 20 or GRS 23) as appropriate or submitting an SF 115, Request for Records Disposition Authority, to NARA (see part 1228 of this chapter). The information in electronic information systems, including those operated for the Government by a contractor, shall be scheduled as soon as possible but no later than one year after implementation of the system.

(b) Transferring a copy of the electronic records and any related documentation and indexes to the National Archives at the time specified in the records disposition schedule in accordance with instructions found in §1228.270 of this chapter. Transfer may take place at an earlier date if convenient for both the agency and the National Archives and Records Administration.

(c) Establishing procedures for regular recopying, reformatting, and other necessary maintenance to ensure the retention and usability of electronic records throughout their authorized life cycle (see §1234.28).

(d) Electronic mail records may not be deleted or otherwise disposed of without prior disposition authority from NARA (44 U.S.C. 3303a).

(1) Electronic mail records with very short-term (transitory) value. Agencies may use the disposition authority in General Records Schedule 23, Item 7, or on a NARA-approved agency records schedule for electronic mail records that have very short-term retention periods of 180 days or less. (See §1234.24(b)(2)).

(2) Other records in an electronic mail system. When an agency has taken the necessary steps to retain a record in a scheduled record keeping system (whether electronic or paper), the identical version that remains on the user's screen or in the user's electronic mailbox has no continuing value. Therefore, NARA has authorized deletion of the version of the record in the electronic mail system under General Records Schedule 20, Item 14, after the record has been preserved in a record keeping system along with all appropriate transmission data. If the records in the record keeping system are not scheduled, the agency must follow the procedures at 36 CFR Part 1228.

(3) Records in record keeping systems. The disposition of electronic mail records that have been transferred to an appropriate record keeping system is governed by the records schedule or schedules that control the records in that system. If the records in the record keeping system are not scheduled, the agency must follow the procedures at 36 CFR Part 1228.

***§1234.34 Destruction of electronic records.***

Electronic records may be destroyed only in accordance with a records disposition schedule approved by the Archivist of the United States, including General Records Schedules. At a minimum each agency shall ensure that:

(a) Electronic records scheduled for destruction are disposed of in a manner that ensures protection of any sensitive, proprietary, or national security information.

(b) Magnetic recording media previously used for electronic records containing sensitive, proprietary, or national security information are not reused if the previously recorded information can be compromised by reuse in any way.

(c) Agencies shall establish and implement procedures that specifically address the destruction of electronic records generated by individuals employing electronic mail.