

Digitization/Validation of Temporary Records Standard

1. PURPOSE

To establish EPA's standard for capturing digitized versions of temporary records in Agency content repositories or other designated digital storage environments. The standard is designed to enhance the efficiency of Agency digitization efforts and ensure that the digitized temporary records capture all information contained in the original format of source records, and the quality allows digitized records to be used as the official recordkeeping copies that meet intended uses of the records. This standard is only applicable to temporary records, records that are approved by the National Archives and Records Administration (NARA) for disposal, either immediately or after a specified retention period, based on the appropriate approved records schedule.

2. SCOPE

The standard covers digitization and validation efforts of temporary records across the Agency and applies to all EPA programs, regions, laboratories, and offices. The standard shall be used by owners of existing systems and applications that are currently digitizing documents within the scope of their operating authority (*e.g.*, the Superfund Enterprise Management System (SEMS), the Federal Docket Management System (FDMS), the Correspondence Management System (CMS)). The standard is intended to supplement other EPA information management policies, procedures, and standards that focus primarily on operations for digitizing temporary records for delivery to Agency document/records management applications, and is to be used in conjunction with the [Digitization/Validation of Temporary Records Procedure](#). The standard may also be relevant to and considered when initially capturing temporary records and managing electronic information.

Drivers for digitization within the federal government include the increased need for transparency and accessibility to information, the requirement for enhanced mobility, and the requirement to reduce the physical footprint of government office space. Other drivers for digitization include the National Archives and Records Administration (NARA) and the Office of Management and Budget (OMB) Memorandum M-19-21, with the following goals:

- Goal 1.3, Requiring all temporary records in federal agencies to be managed in electronic format or stored in commercial records storage facilities by December 31, 2022.
- Goal 2.4, Requiring NARA to no longer accept transfers of permanent or

Directive No: CIO 2155-S-01.3

*Issued by the EPA Chief Information Officer,
Pursuant to Delegation 1-19*

temporary records in analog formats (hardcopy, microfilm, and microfiche) and only accept records in electronic format and with appropriate metadata, after December 31, 2022.

Benefits from the standard include:

- Productivity improvement due to enhanced access to Agency records,
- Reduction in the time and effort required to search for records needed for a variety of regulatory and mission-related reasons,
- Increased accessibility of digitized temporary records, allowing assistive technology to access and enhance the consumption of information,
- Decrease in the number of filing errors and the volume of duplicate content,
- Reduction in and better management of the overall volume of hard-copy (paper) information,
- Easier data sharing among information systems across the enterprise, and
- Enhanced identification, sharing and use of Agency information resources by EPA's information customers and stakeholders.

The electronic management of digitized records will also result in subsequent reductions in the costs associated with paper-based records. The standard is thus designed to:

- Support the migration from hard-copy/paper-based documents to electronic documents,
- Integrate and standardize the digitization process as part of the records life cycle,
- Leverage existing Agency investments in the EPA Enterprise Architecture (e.g., Documentum® and its enterprise storage environment, and scanners), Enterprise Content Management (ECM) systems such as CMS, FDMS, and SEMS, and Enterprise Information Management (EIM),
- Serve as a framework into which additional program-specific standards and workflows can be incorporated, based upon the needs of the business units, and
- Establish the basic standard business practices necessary to satisfy the requirements of the Federal Rules of Evidence, the Federal Records Act, and other authorities, policies, and procedures under which the Agency must operate, such as NARA and known best practices.

3. AUDIENCE

The audience for the standard includes all EPA organizations, officials, and employees, as well as contractors, grantees, and other agents of EPA that digitize Agency-owned temporary records.

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4. AUTHORITY

- Clinger-Cohen Act (also known as Information Technology Management Reform Act of 1996) (Pub. L. 104-106, Division E)
- Paperwork Reduction Act of 1980, as amended by the Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35)
- Government Paperwork Elimination Act of 1998 (Pub. L. 105-277, Title XVII)
- United States vs. Russo, 480 F.2d 1228, 1239 (6th Cir. 1973)
- Presidential Memorandum: Managing Government Records, November 28, 2011
- Presidential Memorandum: Building a 21st Century Digital Government, May 23, 2012
- Executive Order – Making Open and Machine Readable the New Default for Government Information, May 9, 2013
- NARA/OMB Memorandum, M-19-21: Transition to Electronic Records, June 8, 2019
- OMB Circular No. A-130: Management of Federal Information Resources
- OMB Memorandum M 10-06: Open Government Directive, December 8, 2009
- OMB Memorandum M-13-13: Open Data Policy - Managing Information as an Asset May 9, 2013
- CIO 2130.4: Section 508 Policy: March 5, 2024
(<https://www.epa.gov/irmpoli8/section-508-policy-and-procedures#policy>)
- NARA/OMB Memorandum, M-19-21: Transition to Electronic Records, June 8, 2019
- Electronic Code of Federal Regulations (e-CFR) Part 1236 – Electronic Records Management, Subpart D – Digitizing Temporary Federal Records
(<https://ecfr.federalregister.gov/current/title-36/chapter-XII/subchapter-B/part-1236#subpart-D>)

5. STANDARD

EPA programs, regions, laboratories, and offices are directed to:

- Use the digitization standard for capture of hard-copy temporary records and preserve them in Agency content repositories or other designated storage environments (e.g., CMS, FDMS); and
- Incorporate the digitization standard into documented standard operating procedures (SOPs) to ensure consistency across the Agency and establish the framework for legally defensible standard business practices for digitization.

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For additional information on digitization SOPs, please refer to the related [Digitization/Validation of Temporary Records Procedure](#).

Digitized temporary records must meet the requirements listed in the Electronic Code of Federal Regulations (e-CFR) Part 1236 – Electronic Records Management, Subpart D – Digitizing Temporary Federal Records (<https://ecfr.federalregister.gov/current/title-36/chapter-XII/subchapter-B/part-1236#subpart-D>),

Scanning Standard

A. Typical office setting scanner standard

The standard designates the acceptable scanning results applicable for scanning of standard office paper materials only. Typical office setting scanners include:

- Desktop/stand-alone flatbed scanners,
- Multi-function copier/printer machines,
- All-in-one scanners/printers, and
- Wide-format scanners for oversized documents, up to 34 in. x 44 in. (*i.e.*, page measurement standards ISO-A0 and ANSI-E).

B. High volume scanner standard

The standard designates the acceptable scanner devices for high volume (*i.e.*, frequent use for large-batch jobs >25 pages) applicable for the scanning of standard office paper materials only:

- 1,000 page/hour minimum throughput,
- Compatible with Enterprise Capture Software standard (see software standard below),
- ISS- and Twain-driver compatible,
- Native (on board), or compatible with, Kofax Virtual Re-Scan® (VRS®) quality-enhancing production software, or alternatively, the Captiva®/Input Accel® Image Quality Checks feature,
- Sheet size capability from 2.05 in. x 2.91 in. (*i.e.*, page measurement standard ISO-A8) up to 11 in. x 17 in. (*i.e.*, page measurement standards ISO-A3 and ANSI-B),
- Duplex (2-side scanning) capability, and
- Color, grayscale and monochrome capability.

C. Film digitizers standard (*e.g.*, microform, microfilm, slides)

The standard directs users to address the following characteristics that may influence

the digitization approach or affect the digital image quality:

- The type and volume of the materials to be digitized,
- Text quality and clarity on the microfilm,
- The quality of the original capture of the film (lack of focus, uneven lighting, page curvature, gutter shadows),
- Variations in density between exposures,
- The reduction ratio of the film,
- Resolution and the ability to detect detail on the film, and
- The condition of the film itself (scratches, brittleness, warping).

Content Digitized File Format Standard

The format of digitized temporary records is determined by the content type of the record. Portable Document Format (PDF) offers a format that can be enhanced for accessibility and utilized by EPA employees. Joint Photographic Experts Group (JPG) offers a format that preserves image quality and allows for content to be easily utilized or reproduced as a reference in new documents. Regardless of format the standards require the capture of all information contained in the original source record so that after validation the digitized version can serve as the official recordkeeping copy of the temporary record and the source record becomes an intermediary record.

D. PDF/A-1 file format standard (Portable Document Format/Archive)

- Preferred format for documents that are primarily textual in nature,
- Image-over-text content indexing (a.k.a., optical character recognition, or OCR),
- Optimized for Internet/Web streaming,
- NARA preferred specification for transfer to Archive:
 - ISO 19005-1:2005 electronic document file format for long-term preservation – part 1: Use of PDF 1.4 (PDF/A-1): (<https://www.iso.org/standard/38920.html>),
 - Not the preferred output for non-networked scanning of textual records where that output should be passed on to Enterprise Capture software for processing (see the TIFF file format standard below),
 - Not the preferred output for non-textual materials such as graphics, maps, and photographs (see the JPEG file format standard below)

E. TIFF file format standard (formerly Tagged Image File Format)

- Preferred format for low volume, stand-alone record scanning where the TIFF file can be passed on (manually or via automated workflow) to Enterprise Capture

software for additional processing such as OCR, or image enhancement, conversion to PDF/A. NARA specification for transfer to Archive:

- TIFF Revision 6.0 Final – June 3, 1992 Adobe Systems, Inc.
(<https://www.itu.int/itudoc/itu-t/com16/tiff-fx/docs/tiff6.pdf>)

F. JPG file format standard (Joint Photographic Experts Group)

- Preferred format for non-textual records that are primarily graphical (image) in nature, *e.g.*, maps, photos,
- Compression should not result in an image quality of 10% or less than the original image to preserve image quality while minimizing file size,
- NARA specification for transfer to Archive:
 - ISO/IEC 15444-1:2019 Information technology – JPEG 2000 image coding system: Core coding system (<https://www.iso.org/standard/78321.html>)

Content Image Standard

G. Image resolution standard

- Predominately textual records:
 - Good-to average quality originals – Bi-tonal (2-bit), scanned at a minimum of 300 pixels per inch (ppi), up to 600 ppi
 - Average-to-poor quality originals – Low inherent contrast, staining or fading, *e.g.*, carbon copies, thermofax, NCR/carbonless paper or records with handwritten annotations or other markings – Bi-tonal (2-bit), scanned at a minimum of 400 ppi
- Predominately textual records of good-to-poor quality with grayscale or color illustrations, photos or text containing color important to interpretation or content – 24-bit RGB (Red, Green, Blue), scanned at 300-400 ppi
- Non-textual (or minimal text content) graphics, illustrations, photos, charts, and maps – 24-bit RGB (Red, Green, Blue), scanned at 300-400 ppi

NOTE: Depending upon the type of scanner and capture software used, it may be useful and more convenient to simply apply the settings for 24-bit RGB (Red, Green, Blue), scanned at 300-400 ppm (as described above) as a default for all record scanning.

H. Skew standard

- Three degrees (3°) or less
- The skew standard setting should be applied to the Kofax Virtual Re-Scan® (VRS®) quality-enhancing production software, or alternatively, the Captiva®/Input Accel®

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Image Quality Checks feature, in order to optimize batch processing and to ensure the skew standard is monitored by the software

I. Speckle standard

- Five percent (5%) or less
- The speckle standard should be applied to the Kofax Virtual Re-Scan® (VRS®) quality-enhancing production software, or alternatively, the Captiva®/Input Accel® Image Quality Checks feature, in order to optimize batch processing and to ensure the speckle standard is monitored by the software

J. Contrast and brightness standard

- Due to variances in scanners and software, each digitization installation should run test batches of records to be digitized to determine the capture software contrast and brightness setting calibrations that are needed for optimum record viewing, utility, and production software functionality
- The settings determined from the operations described in the above bullet should be applied to the Kofax Virtual Re-Scan® (VRS®) quality-enhancing production software, or alternatively, the Captiva®/Input Accel® Image Quality Checks feature, in order to optimize batch processing and to ensure the minimum contrast and brightness parameters are monitored by the software.

Output Information Standard

Content indexing should be applied to digitized records in order to allow agency employees to utilize the unique features of digital formats, such as content search and recognition by assistive technology (e.g. screen reading software and braille display). Agency metadata standards must be followed for all digital formats to allow users to locate information and records based on keyword and metadata searches.

K. Content must be digitized to the standards in e-CFR §1236.32,

<https://ecfr.federalregister.gov/current/title-36/chapter-XII/subchapter-B/part-1236.32#1236.32>).

L. Content indexing standard (a.k.a., Optical/Intelligent Character Recognition – OCR, ICR)

- Only with human review and re-keying can 100% content indexing accuracy for scanned records be achieved. For truly effective, efficient, and accurate retrieval of digitized content from content management systems, content indexing must be supplemented by cataloguing (indexing) records for metadata-based searches, as described in the cataloguing and categorization standard below.

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- All textual records should be content indexed during the digitization/capture process
- Whenever possible, content indexing should be accomplished using the standard Enterprise Capture software. For low volume scanners, this may require passing TIFF file output to the Enterprise Capture software, utilizing the Agency's data network(s), secure Web portal, or via secure email

M. Text and image quality must match or improve source record content and legibility when viewing at 100% zoom

N. Cataloguing and categorization standard (metadata indexing)

- Associating metadata with an imaged (scanned) file is necessary to meet the NARA's definition of a high-quality "production master image." Additionally, 100% accuracy in content indexing (see content indexing standard above) is rarely achieved during scanning operations. This necessitates the cataloguing of scanned content in order to maximize the power, effectiveness, and accuracy of enterprise information search/retrieval tools
- Digitized records should be catalogued using the Agency's Information Standard: Enterprise Information Management (EIM) Minimum Metadata Standard (<https://www.epa.gov/irmpoli8/enterprise-information-management-eim-policy-standards-and-procedure>) – or depending upon the source and type of record, using other appropriate Agency metadata standards – and more granular document taxonomies, as registered in the Agency's data resource registries and repositories
 - For PDF records
 - Accurate metadata must be entered into the Document Properties (*e.g.*, Document Title, Author, Subject, Keywords, Language),
 - When possible, record contents should be automatically or manually tagged, and bookmarks generated,
 - When possible, alternate text should be entered for images (*e.g.*, photographs, tables, figures, signatures, seals) that convey information and are not layout elements.

Validation Standard

O. Quality assurance and quality control

Quality control during the digitization process, and quality assurance of digitized content, is critical to ensuring the integrity, reliability, and utility of the content for uses that support the Agency's mission.

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- Some basic QA and QC operations should be incorporated in the capture process through the use of quality-enhancing production software tools such as VRS (Kofax) and Captiva's Image Quality Checks feature (see the output information standards above)

NOTE: For waivers to the Content Parameters, see [Section 9](#).

P. Validation

Validation of digitized materials is required to ensure all standards for temporary records were followed and the digitized record can be utilized as the official recordkeeping copy, superseding the analog or digital original.

- To ensure the digitized temporary record matches the source, all parts and pages including all related attachments, must be verified for accuracy in conversion, legibility, and usability.
- Page counts must match source materials, if a record contains multimedia (audio, video) content durations must match source materials.
- Associated metadata of the digitized temporary record must be verified. Required metadata must be validated to ensure content matches the information supplied and is associated in the appropriate file properties to allow search and retrieval of the record. Additional cataloging and accessibility features used to enhance the record must be checked.
- Digitized records must be checked for digitization failure resulting in obfuscated content due to record or scanner issues (*e.g.*, folded pages, skewed pages, ink smears on the scanner bed, dirt or dust on the scanner lens or feed roller, dark highlighting of text rendering the text illegible in the digitized file, low contrast digital output, incorrect page orientation).
 - If the source material of the record is blemished but the best available copy of the content the digitization must match or improve usability.
- Verify visually that the scanned images match the hard copy originals (*e.g.*, number of pages, skew, speckle); perform other QA activities as required to conform to applicable Quality Assurance Project Plan(s) (QAPP) for digitized records, or as required by CIO 2105.1: Environmental Information Quality Policy.
- Confirm the accuracy of indexing/metadata, and complete any additional cataloguing/indexing of the subject record(s), using the appropriate content management tools and user interfaces

Once all processing is completed, validation has occurred, the digitized record is protected against unauthorized deletions, additions, or alterations, and the record can be located, retrieved, accessed, and used for the records' entire retention period the source

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of the digitized temporary record is now considered an intermediary record, and if not under a preservation obligation, may be disposed of according to e-CFR §1236.36 (<https://ecfr.federalregister.gov/current/title-36/section-1236.36>).

6. ROLES AND RESPONSIBILITIES

The roles and responsibilities with respect to the digitization standards include:

The Chief Information Officer (CIO)

- Lead Agency-wide implementation of the Digitization/Validation of Temporary Records Standard as part of the overall framework of CIO Policies
- Facilitate the process for appropriate business organizations to incorporate the standards into their organization and operations
- Manage the Senior Advisory Council process to update the standards and associated policies and procedures, and propose new information standards, policies, and procedures as needed
- Authorize formal information calls for updates or reviews of the standard, as appropriate
- Grant waivers to selected provisions of the standard for sufficient cause, or delegate waiver authority

Senior Advisory Council (SAC)

- Advise and assist the Chief Information Officer in developing and implementing the Agency's quality and information goals and policies
- Review updates to the Digitization/Validation of Temporary Records Standard and associated policies and procedures, and propose new information policies and procedures as needed
- Review any progress reports provided and address successes, as well as Agency-wide challenges, for the effective implementation of the standard
- Endorse enterprise-wide information investments, coordinating with Agency Investment Oversight Boards, as appropriate

Senior Information Officials (SIOs)

- Implement the standard within their organizations
- Apprise the SAC of major digitization issues within their offices
- Ensure that the information technology used and managed by their organizations supports their business needs and mission and helps to achieve strategic goals

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- Ensure Enterprise Architecture compliance of solution architectures
- Review, concur, and advise on waivers to the standards, typically through participation on the Information Technology Operations Planning Committee (IOPC)

Records Liaison Officers (RLOs)

- Participate in the development and maintenance of digitization standard operating procedures, as appropriate, for relevant programs, regional offices, laboratories, etc.
- Support and implement the Digitization/Validation of Temporary Records Standard, and related technical specifications and standard operating procedures
- Work with records, document, and content owners/generators to plan and manage the life cycle of the digitized materials
- Oversee the implementation of such plans throughout the life cycle of the digitized materials
- Coordinate with Information Management Official(s) and provide outreach, support, and technical assistance as appropriate to ensure the proper implementation of the standard

Information Management Officials (IMOs)

- Review, concur on or approve acquisition of digitization technologies to ensure compliance with the standard
- Review Agency digitization policy documents, as appropriate. Proposals to set new standards and procedures should be submitted to the appropriate group under the IT/IM Governance model, following the current CIO Policy Review procedures
- Ensure that staff and contractors are aware of the standard, and related technical specifications and standard operating procedures
- Ensure that employees, senior environmental enrollees, and contractors are aware of their responsibilities regarding digitization
- Review and/or certify compliance with the standard and other Agency digitization policies and procedures, as appropriate

All EPA employees and agents

- Use the standard to manage Agency-owned unstructured information in content repositories

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7. RELATED INFORMATION

- CIO 2105.4: Environmental Information Quality Policy, March 20, 2024
- CIO 2105-P-01.4: Environmental Information Quality Procedure, March 20, 2024
- CIO 2135-P-02.0: National Geospatial Data Procedure, July 31, 2023
- CIO 2133.0: Data Standards, June 28, 2007
- CIO 2135-P-01.1: Enterprise Information Management Policy Cataloguing Information, August 19, 2019
- CIO 2135-S-01.1: Enterprise Information Management (EIM) Minimum Metadata Standards, August 19, 2019
- CIO 2155.5: [Records Management Policy](#), August 17, 2021

8. DEFINITIONS

- **ARMS Uploader:** ARMS Uploader enables EPA staff to save electronic records from local storage, OneDrive, or emails from Outlook to ARMS. ARMS Uploader information and training can be found at <https://work.epa.gov/records-management/arms-uploader-overview>
- **Cataloguing:** The process of listing an information object for inclusion in a registry/repository as part of an inventory
- **Content:** The intellectual substance of a document, including text, data, symbols, numerals, images, and sound. (Society of American Archivists)
- **Content Management:** The capability to manage and track the location of, and relationships among, content within a repository (AIIM International)
- **Content Repository:** A database that securely stores electronic content and associated metadata with management controls
- **Custodian:** A person who has custody; keeper; guardian; trusted with guarding or maintaining property
- **Data Resource Registry:** An application which stores metadata for querying, and which can be used by any other application in the network with sufficient access privileges. A registry is an index of a data or metadata repository which is made up of all the data providers' data and reference metadata sets within a community, distributed across the Internet or similar network. The registry services are not concerned with the storage of data but rather with providing visibility of the data and reference metadata, and information needed to access the data and reference metadata. (<https://data-explorer.oecd.org/>)
- **Data Resource Repository:** "A central place where data are stored and maintained. It can be a place where multiple [data,] databases or files are located for distribution

over a network, or a repository can be a location that is directly accessible to the user without having to travel across a network.”

(<http://www.webopedia.com/TERM/R/repository.html>)

- **Digitization:** Conversion of analog, or physical, format materials to an electronic, or digital, format. This conversion includes updating the digital copy to ensure content can be utilized through the use of standard file formats, inclusion of metadata, updating settings and properties, and completing validation of the file contents.
- **Document:** Information set down in any physical form or characteristic. A document may or may not meet the definition of a record. (DOD 5015.2-STD)
- **Enterprise:** An organization (or cross-organizational entity) supporting a defined business scope and mission. An enterprise includes interdependent resources (*e.g.*, people, organizations, and information technology) that must coordinate their functions and share information in support of a common mission (or set of related missions).
- **Enterprise Content Management:** The strategies, methods and tools used to capture, manage, store, preserve, and deliver content and documents related to organizational processes. ECM tools and strategies allow the management of an organization’s unstructured information, wherever that information exists. (AIIM International, <http://www.aiim.org/What-is-ECM-Enterprise-Content-Management>)
- **Guidance:** A non-mandatory compilation of advice, examples, best practices or past experience. Guidance supplements procedures. (EPA Web Governance and Management Policy)
- **Indexing:** Content indexing, or image over content indexing occurs when Optical/Intelligent Character Recognition (OCR, ICR) is applied to a digital file so the content of the record can be searched
- **Information:** For purposes of the standards, information means any communication or representation of knowledge such as facts or content, in any medium or form, including, but not limited to, textual, numerical, graphic, cartographic, narrative, or audiovisual forms. (OMB Information Quality Guidelines)
- **Intermediary Record:** An intermediary record is a copy of a record that is not the official recordkeeping version. Original source records become intermediary records when they have been digitized and validated and the validated digital record becomes the official recordkeeping version of the record. Agencies may dispose of intermediary records according to e-CFR §1236.36 as long as they are not under a preservation obligation
- **Metadata:** Data describing stored data; that is, data describing the structure, data elements, interrelationships, and other characteristics of electronic records. (DOD 5015.2) Consists of preserved contextual information describing the history, tracking,

and/or management of an electronic document

- **Organization:** A company, corporation, firm, enterprise, or institution, or part thereof, whether incorporated or not, public or private, that has its own functions and administration. In the context of the standards an EPA organization is an office, region, national center, or laboratory
- **Permanent Record:** Records appraised by NARA as having sufficient historical or other value to warrant continued preservation by the Federal Government beyond the time they are needed for administrative, legal, or fiscal purposes. These records and legal custody must be transferred to NARA based on the appropriate approved records schedule.
- **Policy:** A high-level statement about an Agency requirement designed to influence and determine decisions, actions, and other matters. It is usually driven by statute, Executive Order, the mandate of an oversight agency or Congress, or the head of the organization. (EPA Web Governance and Management Policy)
- **Preservation Obligation (Record Freeze):** A preservation obligation. The act of holding or being held at a fixed level or in a fixed state (*i.e.*, a litigation hold). The scheduled disposition of a frozen record is temporarily suspended.
- **Procedure:** The required steps, courses of action, or processes needed to accomplish or satisfy a policy. It provides a basis for assuring consistent and acceptable minimum levels of quality, performance, safety, and reliability. Standards usually are included in, or accompany, procedures. (EPA Web Governance and Management Policy)
- **Quality Assurance (QA):** A management or oversight function that deals with setting policy and running an administrative system of management controls that cover planning, implementation, review, and maintenance to ensure products and services are meeting their intended use
- **Quality Control (QC):** The overall system of technical activities that measure the attributes and performance of a process, item, or service against defined standards to verify that they meet the stated requirements established by the customer; operational techniques and activities that are used to fulfill requirements for quality
- **Record(s):** All recorded information, regardless of physical form or characteristics, made or received by an agency of the United States government under federal law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the government or because of the informational value of data in them. (44 U.S.C. §3301)
- **Records Management:** The planning, controlling, directing, organizing, training, promoting and other managerial activities involved with respect to records creation,

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records maintenance and use, and records disposition in order to achieve adequate and proper documentation of the policies and transactions of the federal government and effective and economical management of agency operations. (36 CFR §1220.14)

- **Scanning:** Encoding a source record into digital format by means of an optical scanning device
- **Senior Advisory Council (SAC):** The SAC consists of high-level managers from each Region and program office, typically at the Deputy Assistant Administrator level. The SAC's primary focus is on addressing and resolving intra-Agency cross-media, cross-program, and interdisciplinary information technology/information management and related policy issues.
- **Taxonomy:** A hierarchical structure of information components, any part of which can be used to classify a content item in relation to other items in the structure (from "The Challenges of Building Enterprise Content Taxonomies and the Role of Classification Technologies in Maintaining their Effectiveness," Reginald J. Twigg, PhD, IBM Corporation, 2007)
- **Temporary Record:** Records approved by NARA for disposal, either immediately or after a specified retention period, based on the appropriate approved records schedule.
- **Validation:** Validation means checking the accuracy and quality of digitized records, comparing them against source records and associated metadata. After the digitized temporary record passes validation, it becomes the official recordkeeping copy, and the source record becomes an intermediary copy.
- **Web:** A system of Internet servers that support specially formatted documents. The documents are formatted in a markup language called HTML (Hypertext Markup Language) that supports links to other documents, as well as graphics, audio, and video files.

9. WAIVERS

Consistent digitization standards are critical to facilitating the exchange, use and integrity of the Agency's unstructured information. For this reason, waivers to the standards are rare and will be considered on a case by case basis.

Waiver Process: The Agency's CIO may grant waivers to selected provisions of the standards for sufficient cause. The CIO may re-delegate the authority.

Requests: Requests for waivers to specific provisions of the standards must conform to the appropriate OMS-EI waiver procedures, and must contain:

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- 1) Identification of the standards provision,
- 2) A listing of reasons why the standards cannot be applied or maintained,
- 3) An assessment of impacts resulting from non-compliance, and
- 4) A memorandum to the CIO originating at the Office Director level (or equivalent) responsible for the information in question, through the SIO or other senior manager.

Notification: The CIO will notify the requesting office in writing of the disposition of the waiver within 60 days of receipt.

10. DIRECTIVE(S) SUPERSEDED

- CIO 2155-S-01.0: Document Digitization (Scanning) Standards, August 4, 2015
 - Directive Number CIO 2155-S-01.1 Digitization (Scanning) Standard, June 9, 2020
 - Directive Number CIO 2155-S-01.2 Digitization/Validation of Temporary Records Standard, February 10, 2022
 - NARA/OMB Directive M-12-18: Managing Government Records, August 24, 2012
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11. CONTACTS

For questions about this Standard, please contact the U.S. EPA National Records Management Program, records@epa.gov.

***Vaughn Noga, Chief Information Officer and Deputy Assistant Administrator
for Information Technology and Information Management***