![EPA logo]	**IT/IM DIRECTIVE PROCEDURE**

Directive No: CIO 2155-P-05.3

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

Digitization/Validation of Temporary Records Procedure

1.   PURPOSE

To establish EPA's approach for creating digitized versions of Agency temporary records in source formats (*e.g.*, paper, microfilm, photographic records), including:
1) Criteria for determining whether Agency records are good candidates for digitization,
2) Steps for digitizing those records, and
3) Steps for validating digitized records allowing them to be used as official recordkeeping copies.

This procedure 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

This procedure covers temporary record digitization efforts across the Agency and applies to all EPA programs, regions, laboratories, and offices. It is to be used in conjunction with the Digitization/Validation of Temporary Records Standard issued under the information directives framework in the implementation of digitization programs. Owners of existing systems and applications currently digitizing documents within the scope of their operating authority (*e.g.,* the Superfund Enterprise Management System, the Federal Docket Management System, and the Correspondence Management System) are strongly encouraged to evaluate and compare the procedure to their current practices and adopt the procedures (immediately or in a phased approach), but only if doing so does not jeopardize the status of their established standard business practice(s).

This procedure addresses all temporary records, regardless of format or medium, except analog audio and video recordings, made or received by EPA personnel under federal law or in connection with the transaction of public business, and preserved or appropriate for preservation as evidence of EPA functions, organization and activities or because of the value of the information they contain. Digitizing analog recordings of audio and video temporary records requires specialized procedures that are specific to the subject media and are beyond the scope of this document. See NARA Guidance at http://www.archives.gov/preservation/formats/video-playback-digitize.html, and http://www.archives.gov/preservation/formats/audio-toc.html.

Once digitized and validated, the resulting electronic versions of the documents/records shall be managed according to the appropriate information directives for Agency records (https://www.epa.gov/irmpoli8/current-information-directives).

This procedure for temporary records is effective immediately upon execution by the CIO for date-forward digitization operations. For legacy digitized temporary records, records that were digitized prior to this procedure, please see the EPA Requirements for Legacy Digitized Temporary Records, attachment 1.

Over the last several decades the federal government has increasingly recognized the importance of sharing information assets to meet mission needs and making them accessible to stakeholders and the public. Several drivers within the federal government are uniting to spur digitization, which facilitates information sharing. Increased need for transparency and accessibility to information (e.g., Presidential Memoranda and Directives, Freedom of Information Act (FOIA) and E-discovery), changing human resource management needs (e.g., teleworking) and space consolidation are significant drivers for digitization. Other drivers include the National Archives and Records Administration (NARA) and the Office of Management and Budget (OMB) Memorandum M-19-21, with the following goals for temporary records:

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

A significant benefit to digitization is the reduction in paper-based documents and records processes, which may include cost reductions and increased accessibility. The procedure:

- Supports the move from paper to electronic records;
- Integrates and standardizes the digitization process as part of the records life cycle while leveraging existing Agency investments in the EPA Enterprise Architecture (EA), Enterprise Content Management (ECM), and Enterprise Information Management (EIM);
- Serves as a framework into which additional program-specific processes and workflows can be incorporated; and
- Establishes the framework to address the requirements of the National Archives and Records Administration (NARA) and the Office of Management and Budget (OMB) Memorandum, M-19-21, under which the Agency must operate.

Directive No: CIO 2155-P-05.3

3. AUDIENCE

The audience includes all employees, contractors, grantees, and other agents who digitize Agency documents and records through internal operations, and managers or other officials that administer EPA programs with digitization operations.

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)
- Executive Order – Making Open and Machine Readable the New Default for Government Information, May 9, 2013, Presidential Memorandum: Managing Government Records, November 28, 2011
- Presidential Memorandum: Building a 21st Century Digital Government, May 23, 2012
- Management of Federal Information Resources (OMB Circular No. A-130)
- Open Government Directive M10-06, December 8, 2009
- OMB Memorandum M-13-13, Open Data Policy – Managing Information as an Asset, May 9, 2013
- United States vs. Russo, 480 F.2d 1228, 1239 (6th Cir. 1973)
- CIO 2130.1: Section 508: Accessible Electronic and Information Technology, February 20, 2014
- 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. PROCEDURE

Implementing the procedure at all dedicated scanning locations requires, at a minimum:
1) Developing a Standard Operating Procedure (SOP) that incorporates the core digitization capture process steps outlined in Steps A through I below;
2) Including any necessary location-specific process adjustments; and

3) Accommodating the specific hardware and software to be used.

Production, documentation, and implementation of the SOPs must include all stakeholders, such as the Program Contact, Agency Records Officer, Records Liaison Officers, and information technology (IT) staff.

EPA must validate that temporary records were digitized according to Agency digitization standards. Validation must be completed after the records are digitized by checking to ensure all information contained in the original source records has been captured. This validation allows digitized records to be used for the same purposes as the source, including the ability to attest to transactions and activities.

If temporary records were digitized prior to this procedure, and that digitization does not meet the digitization standards provided in the EPA Requirements for Legacy Digitized Temporary Records, attachment 1, the source record must be retained as the recordkeeping copy until disposition, or until digitization is completed following the standards in the Digitization/Validation of Temporary Records Standard.

If the original source temporary records were digitized and disposed of in accordance with a valid records schedule prior to the e-CFR §1236 update, April 10, 2019, agencies do not have to submit an unauthorized disposal notification to EPA's Agency Records Officer.

The organization shall determine what level of sign-off is required to permit any variances from the procedure at a local site. This authority must be documented in the local SOPs to ensure reproducibility, defensibility, and non-repudiation of EPA records in court proceedings. Figure 1 graphically represents the core process steps that must have been followed for legacy digitization of temporary records, prior to this procedure. Figure 2 graphically represents the core process steps that must be followed for the digitization process following the implementation of this procedure.

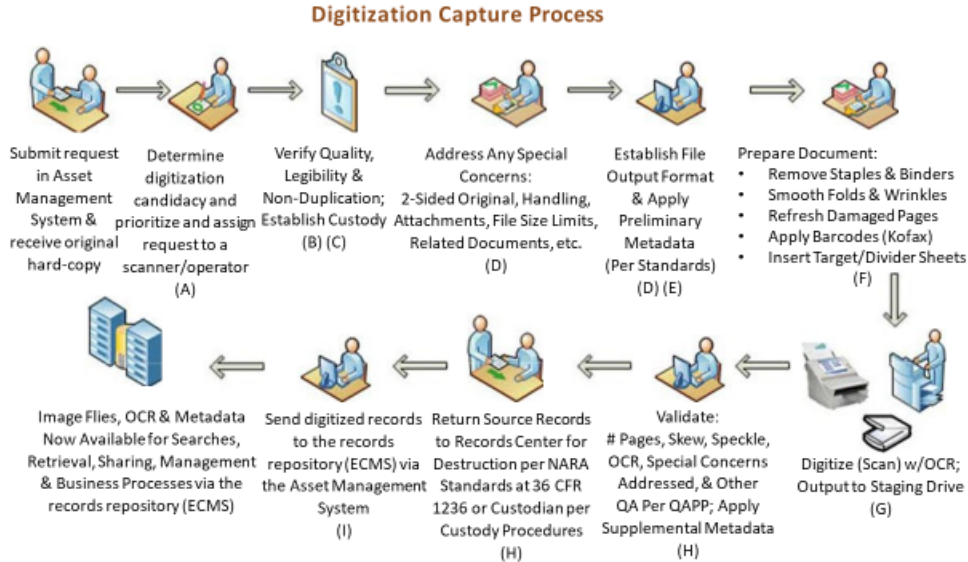*Issued by the EPA Chief Information Officer,*
Pursuant to Delegation 1-19

Digitization Capture Process

Figure 1: Legacy Baseline Digitization Process Workflow Diagram

Directive No: CIO 2155-P-05.3

Issued by the EPA Chief Information Officer,
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EPA Digitization Process

(A) Determine Digitization Candidacy and Prioritization

(B) (C) Verify Quality; Establish Custody

(D) (E) Identify Special Handling Requirements; Apply Preliminary Metadata (Per Standards)

(F) Prepare Document:
- Remove Staples and Binders
- Smooth Folds & Wrinkles
- Refresh Damaged Pages
- Apply Barcode (Kofax)
- Insert Target/Divider Sheets

(G) Digitize:
- Scan
- Apply OCR
- Append Metadata
- Apply Accessibility Features

Intermediary record copies (source temporary records), not under a preservation obligation, may be destroyed

Digitized records are official recordkeeping copies, and are maintained until disposition.

(I) Validation of Record in Production Environment

(I) Release to Production Environment
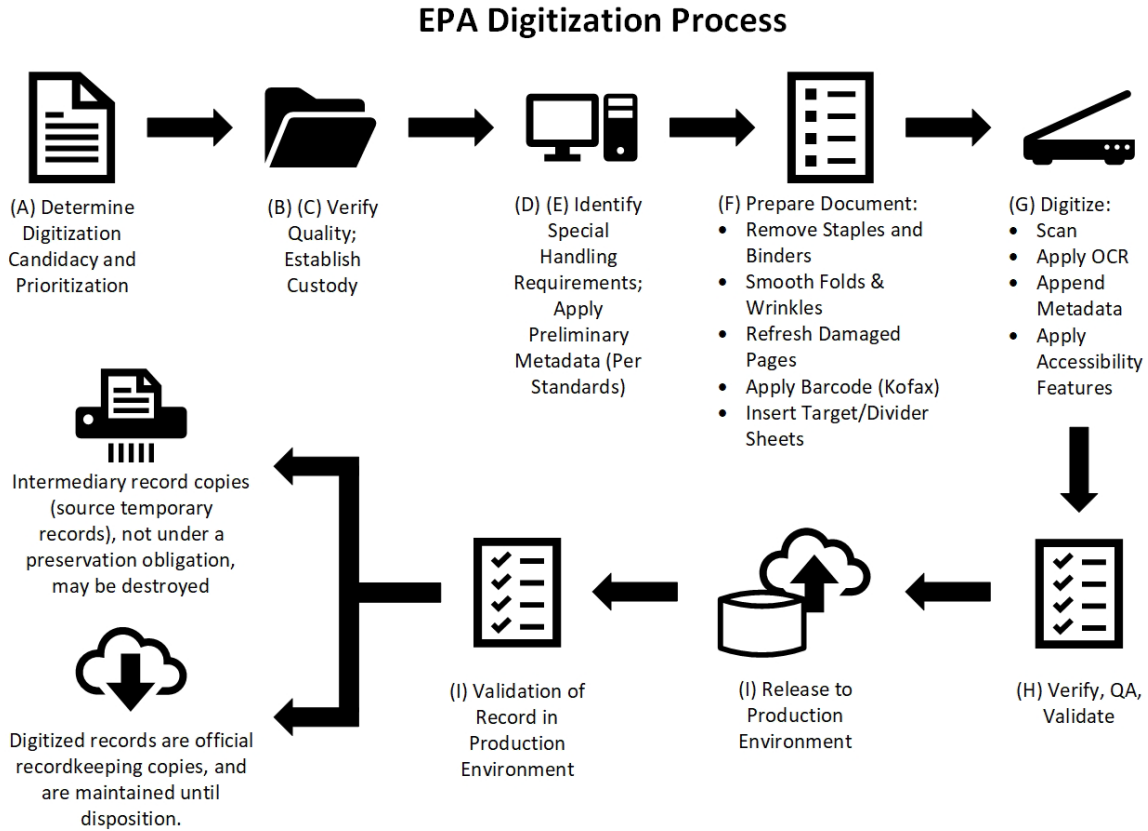
(H) Verify, QA, Validate

Figure 2: Current Baseline Digitization Process Workflow Diagram

There are several steps that must be followed to achieve the desired results when implementing a digitization process. These steps are described below:

A. Determine Records Status and Digitization Candidacy

- Is the document a temporary record or a potential temporary record?
  - Digitization of paper documents shall typically be limited to paper versions of EPA records.
  - In situations of litigation, discovery, subpoena, Congressional, or FOIA requests, responsive documents may not be limited to actual records as defined by the Federal Records Act. If in doubt about temporary record or potential temporary records status, the document custodian shall consult with the appropriate subject matter experts, attorneys, and records officer(s).
- Not all documents will need to be digitized. Below are some factors to consider before incurring the expense of digitization. This list is not intended to be

exhaustive, but it can serve to inform a digitization decision.
- Definitive "born digital" (records which are generated electronically) versions of the document (and related metadata) readily available from the source and will satisfy legal and records requirements.
  • These records shall be validated and used as the official record if the source satisfies all record requirements.
- Source analog records that are likely to be used periodically for EPA business purposes in the next three to five years.
  • The records should be digitized and managed according to the appropriate Agency guidance.
- Source analog records that are **not** likely to be used periodically for EPA business purposes in the next three to five years.
  • The records may be candidates for the National Digitization Centers (NDC) digitization efforts.
- The record is now, or likely to be, requested under FOIA, litigation, discovery, or subpoena.
  • Prioritize and digitize the record.
- General guidance for determining whether or not to digitize includes:
  - Digitize the record:
    • Essential record.
    • Document related to a high-profile Agency activity.
    • The document is now, or likely to be, part of a Department of Justice (DOJ) referral package supporting an enforcement action.
    • The document is now, or likely to be, part of an Administrative Record (*i.e.*, records that are the basis for any administrative action, including rulemaking).
    • The document is needed for collaborative activities/sharing.
    • The document is needed by remote users or others in the field.
    • The document's digital availability will improve productivity or improve/streamline business processes.
  - Do not digitize the record:
    • A digitized version of the record already exists in an Agency content management system or other repository and meets the requirements of the Digitization/Validation Standard or the EPA Requirements for Legacy Digitized Temporary Records, attachment 1.
    • The document/temporary record was previously requested under FOIA and provided as a response in FOIAonline.
- Development of a decision matrix or other documentation is recommended, which could be used to develop a standard approach, capture the most frequent rationale for the decision to digitize, create "rules of thumb" or decision tools for practitioners in specific areas, and justify the costs, which will be incurred by the program or region.

B. Assess Quality and Context, and Determine Whether Duplicate Copies Exist

- Determine the quality of the record for scanning purposes, and address any issues, including but not necessarily limited to the following:
    - Are all pages present and in a condition ready for scanning (*e.g.*, all supporting documentation is included, all photographs/negatives in an album are included)?
    - Are any pages oversized, requiring scanning on a different machine?
    - Are any special scanner or software settings required to scan the document (*e.g.*, two-sided original, contrast/brightness enhancements, non-paper format source records)?
    - Are there any attachments to the document that also need to be digitized and associated?
    - Are there any other known related documents (digitized or otherwise) that need to be captured and/or associated with the subject document?
    - Is there a risk of damage to the document from the scanning process?

- Determine whether the document is already available in electronic format and is a duplicate of the document to be digitized.
    - For the purposes of this document, the record custodian/officer must use experience and comparative analysis to determine whether one digitized version is a duplicate of another through visual inspection, review of the content, and other characteristics that are necessary to ensure the full content of the original version of a document is captured in any copy or duplicate thereof (*e.g.,* the presence of signatures, marginalia), that lend record value over and above a version of the document without those attributes

C. Establish and Track Custody

Chain of custody for source temporary records during the digitization process is critical to establishing that the designated paper record is indeed what was digitized, that it was used for comparative purposes during the quality review/validation of the scanned images, and that the source records are destroyed upon completion of the digitization and validation process. Typically, chain of custody procedures for source records management systems are already in place and shall apply to the digitization process; however, if a system for tracking custody of source records during the digitization and validation process is not established, the RLO, IMO, and other stakeholders shall devise and establish a means to track custody. Documents not already listed in a tracking system for digitizing source records should be logged in, and then custody assigned to the scanning technician prior to proceeding with the capture processes.

	IT/IM DIRECTIVE
EPA	**PROCEDURE**

Directive No: CIO 2155-P-05.3

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

This establishes a chain of custody and identifies a responsible party/custodian in case access to the source records is needed by others during the capture process, and through the completion of the validation and disposition process.

D. Identify Special Handling Concerns and Requirements

Special handling may be needed regarding the following:
- Identifying anomalies or unique aspects of the document to be digitized in order to prepare the equipment and software settings
- Determining the desired file output format – will be dependent upon the hardware and software used, document content, NARA or other requirements, and any downstream processing required to conform to the Document Digitization (Scanning) Standard and others, as appropriate
- Specifying any metadata/indexing elements that are needed to ensure that the relationships of the subject document to any related documents or attachments are captured during the cataloguing process, as required for conformance with other standards such as CIO Standards: Enterprise Information Management (EIM) Minimum Metadata Standards
- Ensuring that embedded metadata in certain documents (*e.g.*, exchangeable image file (Exif) or Extensible Metadata Platform (XMP) data in TIFF files) are not removed (although the data can also be copied into the external metadata/indexing schema to expose it to the widest variety of search tools)
- Ensuring that documents exceeding 500 megabytes in digital file size, after scanning shall be broken down into smaller pieces (and catalogued accordingly) since large file sizes become a factor when transmitting them across the Internet by email or saving to storage media for file sharing, such as CD-ROM, with limited storage capacity.
    - Large format documents such as maps and large photographs, particularly color versions, that when digitized exceed 500 Mb should be considered exempt from this size limitation.
    - If a record contains a "target" sheet, or "placeholder" sheet, as part of a document, and shared using another form of portable storage media such as DVD-ROM or secure digital card, the record will need to be re-scanned
- Ensuring that PDF output is set to "Optimize for Web and Mobile" to allow preliminary viewing of files delivered through networks or the Internet before the entire file has been downloaded, and to "Optimize Scanned Documents," to make them more useful by converting the contents into searchable text, correcting page orientation, and reducing file size

E. **Perform Preliminary Cataloguing and Indexing of Document**

- Perform preliminary/initial cataloguing/indexing of the document according to applicable standards and conveniences as needed to establish primary key data elements for subsequent retrieval and additional cataloguing as needed to conform to Agency metadata standards for digitized records (see Section 6 and Section 10 below for more details)
- Index additional metadata elements during the scanning process or after the document has been scanned and its image used for indexing purposes instead of the source

F. **Prepare Document for Digitization**

- Remove binders, staples rubber bands, and paper clips
- Review document to verify completeness, legibility and "scan-ability" to ensure that the imaged file is representative of the original paper materials and will scan smoothly
- Make photocopies of original documents/pages, if necessary, that are fragile or of a non-standard size or thickness which may hinder or be irreparably damaged upon movement through the scanner mechanisms, or that may not yield a legible image due to bleed-through
- Determine if the original document has single- or double-sided printing
- Count the number of pages to be scanned in the original document for quality assurance (QA) purposes after scanning to be sure that all necessary pages were captured
- Assemble materials that will be batch-processed according to scanner and software requirements
- Apply any bar codes (taking care not to obscure any important content) with identifying data on the first/cover page of a document (*e.g.*, a document ID as primary key indexing information), or as required by the digitization software, to link the image file with related documents and the document metadata captured in Step E above when it is released to the local storage environment
- Complete any necessary specialized source format preparation (*e.g.*, reinforcing photographs, preparing microfiche)

G. **Digitize (Scan) the Document**

- Use Agency approved software, such as Adobe Acrobat Professional, scan and apply optical character recognition (OCR) to the subject document(s) if there is textual content in the documents

- Output format, resolution, and destinations are dependent upon the source documents, whether the output requires additional processing by Enterprise Digitization Software, and the target storage environment of the content, with this subsequent processing performed according to appropriate SOPs for these activities
- Output of scanned images shall ideally be stored temporarily in a local staging storage environment to better facilitate additional processing, quality control, and finalization prior to release to the production storage environment
- Meet the following standards when digitizing temporary records:
  - Capture all information contained in the original source records,
  - Include all the pages or parts, including sticky notes, from the original source records,
  - Ensure the Agency can use the digitized versions for all the purposes the original source records serve, including the ability to attest to transactions and activities,
  - Protect against unauthorized deletions, additions, or alterations to the digitized versions, and
  - Ensure the Agency can locate, retrieve, access, and use the digitized versions for the records' entire retention period.

H. Verify, Perform Quality Assurance (QA) and Validate

- Perform quality control and assurance throughout the overall digitization process. Practitioners at all locations must establish the controls to ensure quality measures are integrated into the overall process
- Validate all content of the source temporary record. This validation requires using the EPA Validation for Temporary Records Checklist, attachment 2, to manually check and compare source record(s) to digitized temporary record(s) to ensure:
  - All information contained in the original source records is captured
  - All pages and parts, including sticky notes, must be included. All digitized content must match the source within the pages and parts of the temporary record
  - The Agency can use the digitized versions for all purposes the original source records serve, including the ability to attest to transactions and activities
  - All digitized content must be able to be used at the same or an improved functionality provided by the source temporary record
  - All colors in digitized record contents must match the source material
  - All images must be of equal or better quality of the source
  - All labels, associated documents, and information present with the source must be present in the digitized temporary record
  - All associated metadata must be accurately entered
  - Digitized records must be stored in a repository where they can be located

and accessed by the Agency, note the following:
- Any Federal digital-borne temporary record that an EPA employee creates, must be pushed through the ARMS Uploader once it becomes a federal record to aid the Agency in searching and locating the record as needed
- If a temporary record was received through electronic format (email) it will be available through Capstone. If the temporary record has a records retention requirement over ten (10) years, Agency staff must manually store it through the ARMS Uploader to allow searching and locating of the record for the lifespan of the record
- Verify visually that the scanned images match the hard copy originals (*e.g.*, number of pages/slides, skew, speckle); perform other quality-related activities as listed in the current versions of the Environmental Information Quality [Policy] and [Procedure] (CIO 2105.4 and CIO 2105-P-01.4). Consult with your organization's Quality Assurance (QA) Manager to ensure the implementation of processes and procedures as described in the organization's Quality Management Plan for all QA documents.
- Confirm that related documents (*e.g.*, parent, child, attachments, appendices) were also digitized, or are in the digitization queue, and are appropriately associated to ensure completeness of future search/retrieval efforts
- Confirm the accuracy of indexing/metadata, and complete any additional cataloguing/indexing of the subject document(s)

I. Release to Production Environment

- Upon completion of Steps A – H above, as well as any additional steps required by system- or program-specific SOPs, the images and related metadata may be released from the staging storage environment to the production/enterprise storage environment

After the digitized temporary record is validated, the source temporary record becomes an intermediary record copy and the digitized temporary record becomes the official recordkeeping copy. Intermediary copies that are not under a preservation obligation may be destroyed.

6. ROLES AND RESPONSIBILITIES

The roles and responsibilities of EPA employees with respect to digitization and validation of Agency temporary records include:

The Chief Information Officer (CIO)

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

Senior Advisory Council (SAC)

- Advise and assist CIO in developing and implementing the Agency's quality and information goals and policies
- Review updates to the Digitization/Validation of Temporary Records Procedure and associated policies, and proposed new information procedures and policies
- Review any progress reports provided and addresses success as well as Agency-wide challenges for the effective implementation of the procedures
- Endorse enterprise-wide information investments, coordinate with Agency Investment Oversight Boards, as appropriate

Senior Information Officials (SIOs)

- Implement the Digitization Procedure within their organizations
- Apprise the SAC of major information management 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
- Ensure Enterprise Architecture compliance of solution architectures
- Review, concur, and advise on waivers to the procedure, typically through participation on the Information Technology Operations Planning Technology Committee (IOPC)

Information Management Officials (IMOs)

- Review, concur on, or approve acquisition of digitization technologies to ensure compliance with the procedures
- 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 procedures, related technical specifications, and standard operating procedures
- Ensure that employees, senior environmental enrollees, and contractors are aware of their responsibilities regarding digitization and validation
- Review and/or certify compliance with the procedures and other Agency digitization policies and procedures, as appropriate

Agency Records Officer (ARO)

- Review Agency digitization policy documents
- Coordinate with NARA on new regulations, requirements, and guidance
- Communicate new NARA regulations, requirements, and guidance to the EPA Records Community

Records Liaison Officers (RLOs)

- Participate in the development and maintenance of digitization standards and procedures, as appropriate, for relevant programs, regional offices, and laboratories
- Support and implement standards, technical specifications, the procedures, and standard operating procedures (SOPs) for their organizations
  - Work with record, document, and content owners/generators to plan and manage the life cycle of the digitized materials
  - Assist personnel to implement the procedures and related SOPs
  - Coordinate with the Information Management Official and provide outreach, support, and technical assistance as appropriate to ensure the proper implementation of the procedures

Records Custodians

- Use this procedure to digitize Agency records
- If serving as a Contracting Officer Representative, instruct, as appropriate, contractors to employ the procedures in digitization operations

All EPA employees and agents

- Use the procedures to capture Agency-owned digitized information in content repositories

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 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, https://www.aiim.org/What-is-ECM)

- **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 procedure, 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

- **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)

	IT/IM DIRECTIVE
EPA	**PROCEDURE**

Directive No: CIO 2155-P-05.3

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- **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)
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- **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, 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 EPA 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

- **Skew:** Pages that are not straight, not in line with others or turned to the side

- **Speckle:** Small spots or marks on a document or image.

- **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 (http://www.webopedia.com/TERM/W/World_Wide_Web.html)

9. WAIVERS

Consistent digitization procedures are critical to facilitating the exchange, use and integrity of the Agency's unstructured information. For this reason, waivers to the procedures 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 procedures for sufficient cause. The CIO may delegate waiver authority to others, *e.g.,* the Information Management Official (IMO).

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

1) Identification of the procedures provision,
2) A listing of reasons why the procedures 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 application within 60 days of receipt.

10. DIRECTIVE(S) SUPERSEDED

- CIO 2155.P-05.0: Digitization (Scanning) Procedures, August 4, 2015
- Directive Number CIO 2155-P-05.1 Digitization (Scanning) Procedure, August 18, 2020
- Directive Number CIO 2155-P-05.2 Digitization/Validation of Temporary Records Procedure, February 23, 2022
- NARA/OMB Directive M-12-18: Managing Government Records, August 24, 2012

11. CONTACTS

For questions about this Procedure, 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

Attachments:

1. EPA Requirements for Legacy Digitized Temporary Records

2. EPA Validation for Temporary Records Checklist

Attachment 1

EPA Requirements for Legacy Digitized Temporary Records

For all temporary records scanned before the signature date of this procedure, use these requirements to determine if the legacy digitized record is generally compliant with NARA's current regulation and standard for temporary digitized records.
The following requirements must be met for the digitized temporary records to be compliant, for further details see the Electronic Code of Federal Regulations, PART 1236—Electronic Records Management.

Requirements:

1. Completed quality assurance/control.
2. Captured all information contained in the original source records.
3. Included all the pages or parts from the original source records.
4. Ensured the agency can use the digitized versions for all the purposes the original source records serve, including the ability to attest to transactions and activities.
5. Protected against unauthorized deletions, additions, or alterations to the digitized versions.
6. Ensured the agency can locate, retrieve, access, and use the digitized versions for the records' entire retention period.

If temporary records scanned prior to the signature date of this procedure do not meet the requirements above either:

- Source records must be retained for the duration stated in the records schedule, or
- Source records must be rescanned following the standards in the EPA Validation for Temporary Records Checklist.

After temporary records have been digitized and validated in a way that complies with appropriate (legacy or day forward, depending on the date of digitization) requirements/standards, and the digitized version serves as the official recordkeeping copy of the temporary record, the source record(s) may be disposed of following the e-CFR and EPA disposition standards ([§1236.36 Disposing of original source records](#)).

If temporary record(s) were digitized and the original source record(s) cannot be located, or were not destroyed using a valid records schedule, you must contact the Environmental Protection Agency Records Officer, records@epa.gov, to start an unauthorized disposal notification.

Directive No: CIO 2155-P-05.3

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

Attachment 2

EPA Validation for Temporary Records Checklist

Source Format	Validation Check (If temporary record fails the validation check, repeat digitization)
Initial Properties	
All	The digitized record opens without file corruption or error.
All	Password protection is removed.

All	File size is within specified limits or the record is broken up into multiple files within specified limits.
	 • Current ARMS file size limit is 500MB per record.
	 • Expected file sizes for one (1) A4/Letter 8.5"x11" page PDF is 25KB-1MB (minimal text through full page color image),
	  - See NARA Preservation Textual, Micrographic and Cartographic Records, Posters and Illustrated Materials (https://www.archives.gov/preservation/products/definitions/reformatting) for additional information.
	  -
	 • Expected file sizes for one (1) engineering drawing image, source record size up to 50" x 50" is 500KB-2MB (single layer mechanical image through multilayer electrical schematics),
	 • Expected file size for one (1) minute of audio varies by file type
	  - MP3 [720KB - 2.40MB]
	  - WAV [12.2MB – 134.5MB]
	  - See NARA Preservation Audio Recordings (https://archives.gov/preservation/products/reformatting/audio.html) for additional information.
	 • Expected file size for one (1) minute of 4k resolution video is 84MB.
	  - See NARA Preservation Digital Moving Images from Video Source Material (https://archives.gov/preservation/products/reformatting/video.html) for additional information.

Physical	
Document / Image	The page count of the digitized record matches the page count of the source record. • No extra pages, • No missing pages, • Number of pages matches the box listing,

Source Format	Validation Check (If temporary record fails the validation check, repeat digitization)
	• Both sides of source records printed in duplex were captured, • Single-sided source records were not captured in duplex, • In PDFs the Optical Character Recognition (OCR) ran (text can be selected, copied, pasted).
Video	This checklist does not address analog video recordings, made or received by EPA personnel under federal law or in connection with the transaction of public business, and preserved or appropriate for preservation as evidence of EPA functions, organization and activities or because of the value of the information they contain. Digitizing analog recordings of video temporary records requires specialized procedures that are specific to the subject media and are beyond the scope of this document. See NARA Guidance at http://www.archives.gov/preservation/formats/video-playback-digitize.html.
Audio	This checklist does not address analog audio recordings, made or received by EPA personnel under federal law or in connection with the transaction of public business, and preserved or appropriate for preservation as evidence of EPA functions, organization and activities or because of the value of the information they contain. Digitizing analog recordings of audio temporary records requires specialized procedures that are specific to the subject media and are beyond the scope of this document. See NARA Guidance at http://www.archives.gov/preservation/formats/audio-toc.html.
Multimedia	All content in the source record is included in the digitized/converted record. • Links contained in the record work, • Audio and video durations match, • No extra pages, • No missing pages, • All attachments are included, • All content of mixed media records is accurately associated with the record in PATT.
Digital **For temporary records refer to the EPA IT/IM Directive Standard – Digitization/Validation for Temporary Records Standard for current standards.**	
File Type	
Document	Preferred ARMS storage file type for primarily text-based documents is PDF/A-1. • See NARA Records Management Regulations, Policy, and Guidance – Appendix A, (https://www.archives.gov/records-mgmt/policy/transfer-guidance-tables.html), for additional approved formats and specifications.
Image	Preferred ARMS storage file types for images are PDF/A-1, JPG, or TIFF. • PDF is the preferred format for records that are primarily comprised of text.

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Pursuant to Delegation 1-19

Source Format	Validation Check (If temporary record fails the validation check, repeat digitization)
	• JPG is the preferred format for records that are primarily comprised of image elements (maps, photographs, handwritten records, graphics). • TIFF is not the preferred format but is acceptable for preparing or converting digital-origin records for ARMS storage. • See NARA Records Management Regulations, Policy, and Guidance – Appendix A, (https://www.archives.gov/records-mgmt/policy/transfer-guidance-tables.html), for additional approved formats and specifications.
Video	Preferred ARMS storage file types for video are Audio Video Interleaved Format (AVI), QuickTime File Format (MOV), Windows Media Video 9 File Format (WMV), or MPEG 4. • See NARA Records Management Regulations, Policy, and Guidance – Appendix A, (https://www.archives.gov/records-mgmt/policy/transfer-guidance-tables.html), for additional approved formats and specifications.
Audio	Preferred ARMS storage file types for audio are Broadcast Wave (BWF) or Free Lossless Audio Codec (FLAC). • See NARA Records Management Regulations, Policy, and Guidance – Appendix A, (https://www.archives.gov/records-mgmt/policy/transfer-guidance-tables.html), for additional approved formats and specifications.
Multimedia	Preferred ARMS storage file types for multimedia records are dependent on the content type and source format and align with NARA's preferred formats. • See NARA Records Management Regulations, Policy, and Guidance – Appendix A, (https://www.archives.gov/records-mgmt/policy/transfer-guidance-tables.html), for additional approved formats and specifications.
Resolution	
Document / Image	Capture resolution for images and documents should be 300 pixels per inch (PPI) minimum, 600 PPI maximum. • If source records are in average to good quality 300-600 PPI is acceptable. • If source records are poor to average quality 400-600 PPI is acceptable.
Documents	• Source records comprised of text without information conveyed in color should be digitized as Bi-tonal (2-bit), or RGB (24-bit) regardless of source record quality. • Source records comprised of text, or images with information conveyed through color (links, charts, graphics, legends) should be digitized as RGB (24-bit) regardless of source record quality.
Video	See NARA Guidance at http://www.archives.gov/preservation/formats/video-playback-digitize.html.
Audio	See NARA Guidance at http://www.archives.gov/preservation/formats/audio-toc.html.
Dimensions	

Directive No: CIO 2155-P-05.3

Source Format	Validation Check (If temporary record fails the validation check, repeat digitization)
Document / Image	Check the paper/image size
Document / Image	Paper size should match the content, a majority of content will be in standard letter (8.5x11") records, but legal (8.5x11"), or oversized/custom sizes may be used.
Video	Check video for lossless compression.
Image	Digitized source photographic records must have a minimum resolution of 3,000 pixels across the long dimension, maintaining scale/aspect ratio.
All	Digitized records are legible at the size/dimensions of the source record.
Color Mode	
	If source record contents contain color the record should be digitized in RGB color. Information conveyed through color occurs in: • Links, • Images, • Chart legends.
	If source record contents do not contain color the record should be digitized in grayscale or RGB color.
	Due loss of quality in black and white captures the Black and White (B/W) setting should not be used.
Content	
	The entirety of source record content is captured.
	Content legibility matches or optimizes the source content. • If the source record can be read clearly does the result have that same ability to be read clearly, • If the source record font/size was too small to read clearly, does the digitized content improve or at least match the source record quality, • If the source record contains audio, the audio quality is comparable or improved when compared to source record quality, • If the source record contains images/video, the image quality is comparable or improved when compared to source record quality.
	Record contents are in the correct order. • Pages are in the correct order, • Appendices are in the correct order, • Tracks/attachments are in the correct order.

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

Source Format	Validation Check (If temporary record fails the validation check, repeat digitization)
	Page skew is within acceptable limits. - Skew does not cut off content, - Skew does not distort content.
	Brightness is within acceptable limits. Brightness does not interfere with content legibility.
	Contrast is within acceptable limits. Contrast does not interfere with content legibility.
	Content is not distorted beyond source record content distortion. - Speckling - Folds - Waves
	Content rotation is accurate. Mixed orientation content is rotated appropriately or matches the source record (i.e. 95% of content is in portrait orientation, with 5% of content in landscape orientation for large tables or graphics).
	Metadata associated with the record is accurate and follows the Agency's Information Standard: Enterprise Information Management (EIM) Minimum Metadata Standard and/or other appropriate EPA metadata standards.
Enhancement **If digitization or conversion software has features or calibration settings to enhance record capture quality (speckle correction, skew correction, contrast adjustments, brightness adjustments, automatic page rotation, hole fill/ignore holes), these features should be used.**	
Document / Image	Brightness should be set to enhance legibility, dependent on the document or image.
Document / Image	Contrast should be set to enhance legibility, dependent on the document or image.
Document / Image	Hole Fill was used consistently through the record.
Document / Image	Ignore Holes was used consistently through the record.