

Summary of Changes
to
Procedure 243.3
Digitizing Records

Revised Version Issued as P 243.3A

LM Procedure 243.3, Digitizing Records of 5/16/07, has undergone revisions. The procedure has been revised to reflect changes in definitions and formatting. Please replace LM Procedure 243.3 with LM Procedure 243.3A.

The most recent and official controlled hard copy version of this document resides with LM's Directives Coordinator.
An electronic version of the controlled document has been placed on the LM Intranet for employee use. Printed
hard copies of this electronic version are considered uncontrolled documents.

U.S. Department of Energy Office of Legacy Management



Procedure: 243.3A

Effective: 6/18/08

SUBJECT: DIGITIZING RECORDS

1. PURPOSE.

To ensure new electronic records and digital surrogates are created according to Federal and Department of Energy (DOE) requirements. Digitizing of records implements electronic government initiatives and accomplishes the Office of Legacy Management (LM) goal to preserve, protect, and make accessible legacy records.

2. CANCELLATION. Procedure 243.3, Digitizing Records, dated 5/16/07

3. REFERENCES.

- a. 36 Code of Federal Regulations (CFR) 1234, Electronic Records Management
- b. DOE Order 243.1, Records Management Program
- c. LM Procedure 200.1-1, File Plan
- d. LM Procedure 200.2, Electronic Records
- e. LM Procedure 200.4, Records Management
- f. Expanding Acceptable Transfer Requirements: Transfer Instructions for Existing E-mail Messages with Attachments, National Archives and Records Administration (NARA)
- g. Expanding Acceptable Transfer Requirements: Transfer Instructions for Existing Permanent Electronic Records Scanned Images of Textual Records, NARA

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- h. Expanding Acceptable Transfer Requirements: Transfer Instructions for Permanent Electronic Records, Records in Portable Document Format (PDF), NARA
- i. Technical Guidelines for Digitizing Archival Materials for Electronic Access: Creation of Production Master Files – Raster Images, NARA
- j. ISO Standard 19005-1:2005, Document Management – Electronic Document File Format for Long-Term Preservation – Part 1: Use of PDF 1.4 (PDF/A-1)
- k. Office of Management and Budget (OMB) Circular A-130 Revised, Management of Federal Information Resources
- l. E-Government Act of 2002

4. DEFINITIONS.

- a. Digital Surrogates -- Electronic versions of record documents that facilitate access and reproduction. Digital surrogates are not considered appropriate for preservation as they cannot be used to replace original records.
- b. Digitizing -- A process by which a document (primarily a paper-based document) is converted to a computer-readable image file. For the purpose of this procedure, digitizing additionally refers to the process of converting electronic documents into an image format for long-term preservation. Digitizing is also referred to as imaging.
- c. Electronic Record -- 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.
- d. Electronic Recordkeeping System (ERKS) -- An electronic information system in which records are collected, organized, and categorized to facilitate their preservation, retrieval, use, and disposition. An ERKS ensures that the records it maintains will have sufficient authenticity and reliability to meet the agency's recordkeeping requirements. These requirements are based in statute, ensuring "adequate and proper documentation," which contributes to efficient and economical agency operations.
- e. Enterprise Management Representative (EMR) -- LM Federal representative who ensures information technology infrastructure and maintenance practices are in place to properly maintain electronic records.
- f. National Archives and Records Administration (NARA) -- An independent Federal agency that provides guidance to Federal agencies on the management of records, determines the retention and disposition of records, stores agency records

in records centers from which agencies can retrieve them, and preserves permanently valuable Federal records.

- g. Optical Character Recognition (OCR) -- A method of entering information into a computer by using an optical scanning device to read the contents of documents. The electronic text generated can be searched for record retrieval purposes. OCRed records must include the unaltered image and exact text for search purposes.
- h. Pixels Per Inch (PPI) -- A digital image consists of pixels (picture elements or tonal values) arranged in columns or rows. The number of pixels per inch determines the image's resolution (clarity of the image expressed as pixel height by pixel width).
- i. Portable Document Format (PDF) -- A format created by Adobe Systems based on its PostScript page description language. PDF files are created and supported using Adobe's Acrobat software tools. PDF records must have all security settings disabled and must be created using legally embedded fonts.
- j. PDF/A -- A subset of Adobe PDF version 1.4 intended to be suitable for long-term preservation. Key elements defined by ISO 19005-1:2005 include the embedding of all fonts and the disabling of any security settings.
- k. Program Records Official (PRO) -- Individual who ensures that all LM records management practices are properly executed.
- l. Records -- Include all books, papers, maps, photographs, machine readable materials, or other documentary materials, 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.
- m. Records Coordinators -- Personnel who work with the RLO to provide support for LM records management activities.
- n. Records Liaison Officer (RLO) -- Individual(s) designated by the PRO to oversee the LM records management program in cooperation with the DOE Records Officer.
- o. Record Source -- LM Personnel who capture and route documents to the Records Coordinators for archiving.

5. QUALITY CONTROL.

This procedure will be reviewed annually and as necessary to accommodate changing conditions within LM and to ensure compliance with applicable laws, regulations, and DOE requirements.

6. RESPONSIBILITIES.

- a. The PRO, Team Leader of Archives and Information Management (AIM), is responsible for reviewing and approving plans to digitize records.
- b. The RLO is responsible for:
 - (1) Collecting relevant information needed to assess plans for digitizing LM records and including a cost-benefit analysis if warranted.
 - (2) Coordinating with the Enterprise Management Representative to ensure appropriate information technology actions are taken to maintain and preserve digitized records.
- c. The Enterprise Management Representative is responsible for ensuring that LM's electronic records, including those digitized according to this policy, are properly protected with adequate backup processes, migration plans, and cyber security controls.
- d. Records Coordinators are responsible for following requirements in this procedure when generating PDF documents that are LM records or digital surrogates of LM records.

7. TRAINING REQUIREMENTS.

Personnel with responsibilities for digitizing records should be cognizant of the applicable requirements and processes within this procedure and with any DOE guidelines.

8. DOCUMENT CONTROL.

- a. The Directives Manager shall maintain the official controlled version of this document in the LM ERKS.
- b. The Directives Manager shall place the most current version of this procedure on the LM Intranet in a read-only format.
- c. Printed hard copies of this document shall be considered information-only copies.

9. PROCEDURE.

Digitizing of new and inherited records accomplishes LM's goal to preserve, protect, and make accessible legacy records and information.

a. New Electronic Records

This section pertains to electronic records that are "born" electronic. New electronic records are converted from their native electronic format (e.g., Microsoft Word, Excel, PowerPoint) to PDF using archival specifications (PDF/A). Each PDF record is also OCR'd to enable full-text search capability.

Attachment A. illustrates the digitizing process for new electronic records.

(1) The RLO:

- (a) Monitors the digitizing process for new electronic records.
- (b) Provides guidance to Record Sources concerning documents proposed for digitizing as LM records.

(2) The Record Source:

- (a) Generates or receives an electronic file determined to be a record.
- (b) E-mail electronic documents identified as records to a Records Coordinator using the appropriate address for that location:
 - rc-mound@lm.doe.gov
 - rc-fernald@lm.doe.gov
 - rc-morgantown@lm.doe.gov
 - rc-washington@lm.doe.gov
 - rc-grand.junction@lm.doe.gov
 - rc-rocky.flats@lm.doe.gov
 - rc-nevada@lm.doe.gov

Personnel-related and sensitive documents are sent to a dedicated human resources address (rc-hr@lm.doe.gov).

The record submittal e-mail should include:

- The electronic document in its native format (e.g., .doc for Microsoft Word documents, .xls for Microsoft Excel spreadsheets);
- A brief description or necessary metadata to provide context for the information; and

- A proposed LM File Plan code for the document. The current version of the LM File Plan is available on the LM Intranet.

An e-mail message that is a record should not be “forwarded” to the appropriate record coordinator mailbox. It should instead be included as an Inserted Item in a new e-mail message to the record coordinator mailbox.

- (3) The Records Coordinator:
 - (a) Receives the electronic file in native format from the Record Source.
 - (b) Creates a PDF/A-compliant version of the electronic file using Adobe Acrobat Professional version 7.0.9 or above. (Contact the LM Help Desk for information concerning application configuration.)
 - (c) Scans at 600 PPI image resolution any signature pages or additional documents for which there is not an electronic counterpart. Scans should be made using black and white or 256 gray scale settings unless color is necessary to correctly interpret the original.
 - (d) Merges any images created in Step 9.a.(3)(c) with the PDF/A-compliant version of the electronic file.
 - (e) Performs a quality control check to verify that the resultant PDF file is an exact reproduction of the original electronic file.
 - (f) Imports the PDF record to the LM ERKS for retention. The Records Coordinator completes the ERKS document profile with information provided by the Record Source and assigns a file code according to the LM File Plan.

b. Digital Surrogates

When digitizing existing or inherited collections, LM must consider the cost along with the associated benefits. Digitized copies of records shall be used as surrogates to facilitate access and reproduction. Per NARA guidance, the original records are not destroyed upon digitization. Attachment B. illustrates the digitizing process for digital surrogates.

- (1) The RLO:
 - (a) Identifies the need or receives a request to digitize an LM records collection.
 - (b) Works with appropriate personnel to identify a funding source for the proposed digitizing effort.
 - (c) Notifies the PRO, as appropriate, of the digitizing effort.
 - (d) The RLO instructs the Records Coordinator to begin the digitizing project. If the plan specifies use of an external vendor, the RLO works with Procurement personnel to secure vendor services.
- (2) The Records Coordinator:
 - (a) Initiates the digitizing project, as directed by the RLO, by retrieving the records from storage or receiving the records from the Record Source.
 - (b) Evaluates the condition of the records to be digitized. If it is likely that the records will be damaged during the digitizing process, the Records Coordinator seeks RLO guidance.
 - (c) Prepares the records for scanning by removing staples, fasteners, or bindings. The Records Coordinator takes care to preserve file integrity (e.g., original record page order).
 - (d) Takes precautions to protect records during scanning. Precautions include cleaning hands before touching records, not using hand lotions, and wearing clean white cotton gloves when handling materials (e.g., film negatives, transparencies, microfilm) that can be damaged by hand oils.
 - (e) Scans the records at a 300 PPI image resolution setting and with OCR'd exact text. Scans should be made using black and white or 256 gray scale settings unless color is necessary to correctly interpret the original.
 - (f) Reassembles the records and places them in their original order in their original containers.
 - (g) Quality checks the digitized records to ensure that all pages are imaged correctly and are readable.

- (h) Transfers the digital surrogates to a network drive or other media as specified.
- (i) Notifies the RLO that the digitizing project is completed.
- (j) Returns the original records to storage (e.g., a Federal Records Center, the LM Central Files) or the Record Source.

10. ATTACHMENTS.

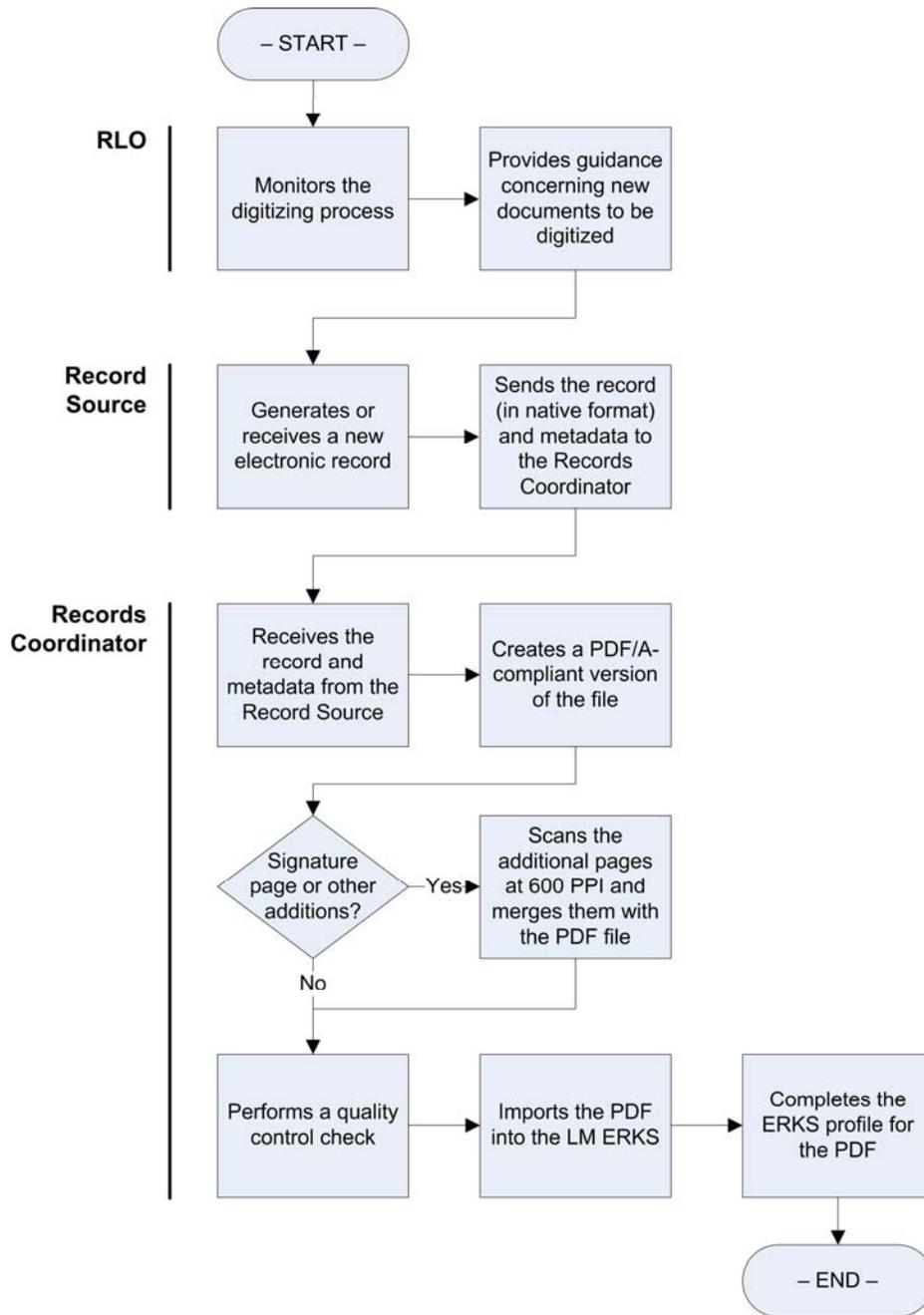
- a. Attachment A. – Digitizing New Records Flowchart
- b. Attachment B. – Creating Digital Surrogates Flowchart

Approved: Original signed by Celinda H. Crawford, 6/18/08
Director
Office of Business Operations

Distribution: As required

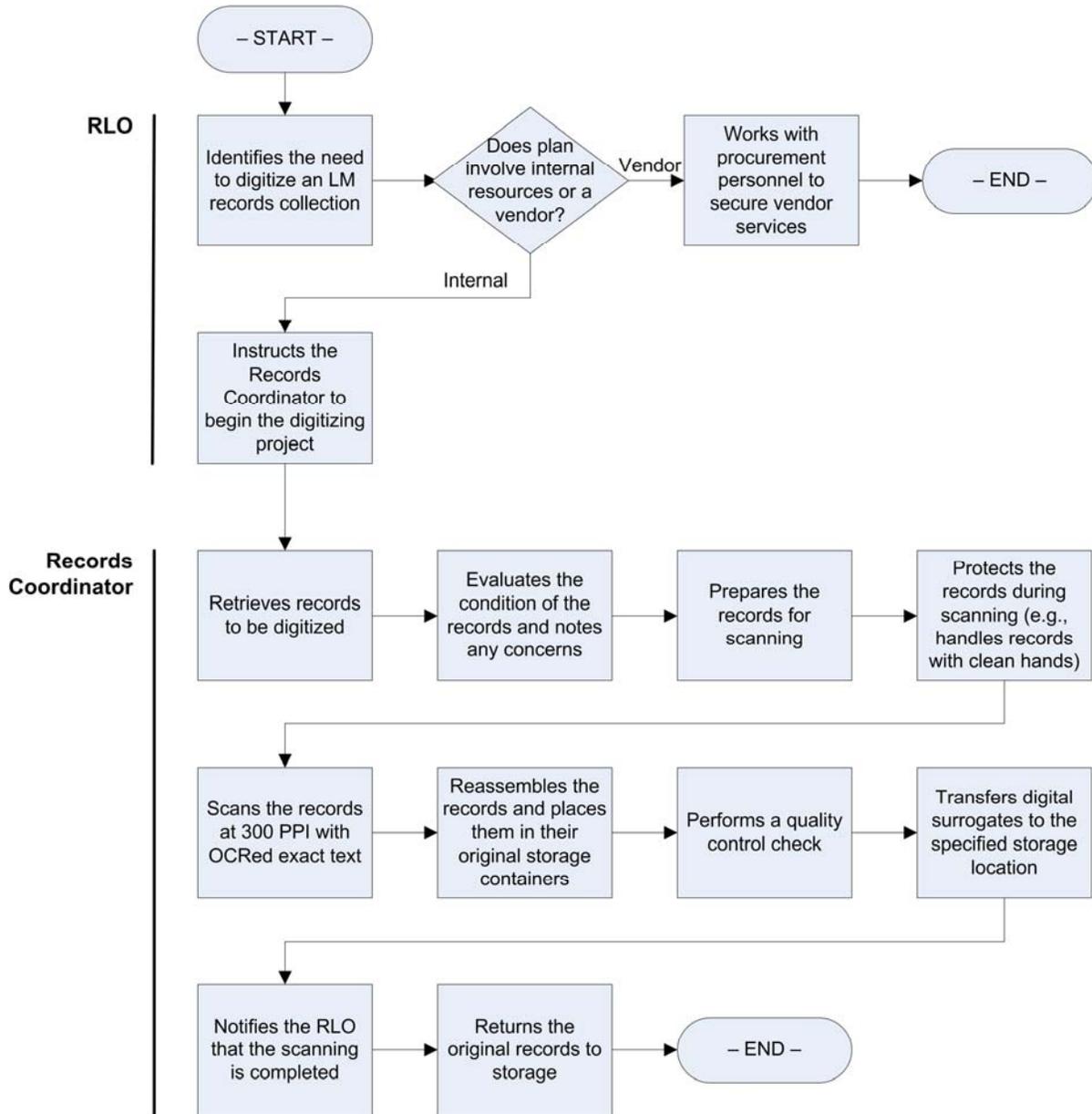
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Attachment A. – Digitizing New Records Flowchart



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Attachment B. – Creating Digital Surrogates Flowchart



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