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Information Management

DOCUMENT IMAGING SYSTEMS

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This instruction implements AFPD 37-1, *Air Force Information Management*, and provides procedural guidance on the implementation of Title 36, Code of Federal Regulations (CFR), Part 1230, which establishes the document imaging management program. It includes description, responsibilities, checklist for preparation, implementation, or conversion stage, approval procedures, system change and termination notification. It applies to Air Force Reserve, civilian personnel, nonappropriated fund employees assigned to or on duty with any Air Force Reserve organization, and contractor personnel who manage Air Force records. This instruction pertains to source document application, not printing or publishing applications.

SUMMARY OF REVISIONS

This revision incorporates procedures formerly in AFRESR 4-2, *Document Imaging Systems*.

1. Concept:

1.1. Miniaturization. The Air Force Reserve has a continuing interest in the benefits of miniaturizing official records. Systems which miniaturize records are called document imaging systems. Changing from one medium to another using optical/photographic technology is a prerequisite to imaging, for example, paper to microform, electronic to optical, or microform to optical media. Each system must improve productivity while preserving valuable information in the official records. In most cases miniaturization is linked with improved file structure and indexing subsystems to provide computerized archiving, retrieval, distribution, document manipulation, and preservation.

1.2. Review and Approval/Disapproval. Unit records managers recommend approval or disapproval of proposals to start, change, or stop document imaging systems, then pass the proposal to HQ AFRC/IMD for further review and recommendation. HQ AFRC/IMD approves or disapproves system proposals where first investment cost is less than \$250,000. HQ AFRC/IMD maintains command inven-

tory of imaging systems. SAF/AAIQ approves or disapproves system proposals where first investment cost is \$250,000 or more. SAF/AAIQ assigns control numbers and maintains an inventory of document imaging systems.

1.3. Technologies. Document imaging systems in the Air Force use the following major technologies and their hybrids:

1.3.1. Micrographics (Silver-Halide/Diazo), computer output/input microfilm (COM/CIM), computer-assisted retrieval (CAR) microfilm.

1.3.2. Electronic Image Management. Write-Once, Read Many (WORM) optical disks, Write-Many and Read-Many (WORM) rewritable/erasable disks also called magneto-optical disk (M-O).

1.3.3. Intelligent Optical Character Recognition (I-OCR).

2. Goals. Program goals are to:

2.1. Use document imaging technology for better and less costly ways to create, reproduce, use, handle, transfer, store, preserve, and retrieve records and information.

2.2. Provide the best systems design for records users.

2.3. Achieve compatibility with other information processing systems, including word processing, publishing, and computer/communications systems.

3. Conditions:

3.1. Approval. Document imaging management is an information management function. Functional managers or chiefs of the office must obtain approval from the unit records manager and HQ AFRC/IMD before initial installation of a system which images Air Force records. Check with computer/communications management for approval of information management resources (hardware/software) design, test/evaluation, acceptance, implementation, and operational aspects.

3.2. Benefits. Document imaging technology can lower the cost of recordkeeping. When the importance of the recorded information outweighs an increased cost, a document imaging system may be beneficial to the government.

3.3. Use. The use of document imaging systems is governed by the goals above. Document imaging systems are justifiable only for official Air Force records. A prerequisite to system approval is establishment and identification, in AFMAN 37-139, *Records Disposition Schedule*, of all official records to be processed by the system.

3.4. Media for Official Record Copies. The functional manager/chief of the office must decide, in consultation with the records manager, which media best satisfies official record copy requirements.

3.4.1. Original source records with a retention period of nine years or more, including permanent, are disposed of only with written approval from the unit records manager, HQ AFRC/IMD, and SAF/AAIQ.

3.4.2. Original source records with less than nine years total retention are destroyed only with written approval from the unit records manager and HQ AFRC/IMD. System approval constitutes approval to destroy the original source records if that is incorporated into the system design.

3.5. Existing Systems. Existing document imaging systems may not meet current regulatory requirements. Use the records management staff assistance visit to identify these systems that need to be brought into compliance. Ensure that changes to the system are approved. (See paragraph 3.8.)

3.6. Image Quality. Image quality is the most critical aspect of an imaging system. Quality refers to both the sharpness of the image and the durability of the image. Images must be readable for the life of the record.

3.6.1. The system operator ensures that processing and resulting images meet the appropriate standards and specification for quality.

3.6.2. The functional manager/chief of the office ensures a careful check of new miniaturized images before disposing of source records (if this procedure has been approved) to make sure that all records intended to be processed are included, properly indexed, and can be retrieved and read.

3.6.3. The functional manager/chief of the office ensures inspection of the records for deterioration at least once every two years. The results must be documented.

3.6.4. The functional manager/chief of the office must be prepared to provide retireable records using media acceptable to the staging area, or Federal Records Center, (that is paper, CD ROM disks, archival-quality microform, magnetic tape).

3.7. Systems Proposals. The functional manager/chief of the office notifies the records manager of the intent to establish a document imaging system within the functional area. The functional manager/ chief of the office submits a system proposal to the unit records manager for approval. The unit records manager forwards proposal to HQ AFRC/IMD for approval or disapproval (attachment 2). In addition to the proposal, a cost and benefit analysis (attachment 3), and an AF Form 3215, Communications-Computer Systems Requirement Document, are prepared, coordinated, and presented at each applicable Communications-Computer Systems Requirement Board (CSRB). For systems costing less than \$25,000 in which AF Forms 3215 are not forwarded to HQ AFRC CSRB for approval, HQ AFRC/IMD coordination must still be obtained on subject form.

3.8. System Changes and Terminations. The functional manager/chief of office coordinates proposed changes and system terminations with the unit records manager. The unit records manager submits changes and system terminations to HQ AFRC/IMD for approval.

4. Responsibilities:

4.1. Command Records Manager:

4.1.1. Establishes a command program to promote, manage, and control document imaging applications that result in cost effectiveness, improved records retrieval, and preservation.

4.1.2. Ensures periodic reviews of installed document imaging systems.

4.1.3. Evaluates recordkeeping systems for possible conversion to microform or optical media systems.

4.1.4. Advises unit records manager and functional managers/chiefs of the office about preparing system proposals.

4.1.5. Approves or disapproves system proposals.

4.1.6. Obtains a control number from the Air Force records manager for each approved system. Sends to SAF/AAIQ a copy of each approved:

4.1.6.1. New system proposal information, system assignment letter, and command approval.

4.1.6.2. Change recommendation, including request for change, recommendation, and command approval.

4.1.6.3. Termination recommendation, including request for termination, descriptive data, recommendations, and command approval.

4.1.7. Submits recommendation about system proposals to SAF/AAIQ for approval/disapproval when:

4.1.7.1. The records are scheduled for permanent retention and the original source records are destroyed after the imaging process is completed.

4.1.7.2. The records to be imaged must be retained for nine years or more and the original source records are destroyed after the imaging process is complete.

4.1.8. Approves or disapproves significant changes for command-approved systems and sends SAF/AAIQ a copy of the approval. Recommends approval or disapproval of changes for SAF/AAIQ-approved systems and submits to SAF/AAIQ for further processing.

4.1.9. Approves or disapproves termination for command-approved systems and sends SAF/AAIQ a copy of the termination approval. Recommends approval or disapproval of termination for SAF/AAIQ-approved systems and submits to SAF/AAIQ for its decision..

4.2. Records Manager. Records managers perform similar advisory, review services, and inspection of systems within their jurisdiction. (Use Part II/AFRC Form 253, **Report of Records Management Staff Visit**). Records managers coordinate proposals to start, change, or terminate document imaging systems, then pass the proposal to their command records managers for further processing. Those proposals not coordinated through the applicable unit records managers are returned through records management channels without action.

4.3. Functional Manager/Chief of the Office. Each functional manager or chief of the office should be alert to possible efficiencies of imaging applications and review the checklist for establishing the document imaging system (attachment 1), since it is the chief of the office who is responsible for the records under their purview. The functional manager:

4.3.1. Consults with functional area records managers/records managers about possible document conversion.

4.3.2. Determines user requirements and bases decision upon which product best complies with the office needs.

4.3.3. Prepares brief proposal (attachment 2), cost and benefit analysis (attachment 3), and an AF Form 3215 for SC/IMD approval.

4.3.4. Prepares a system number assignment letter upon approval of system (attachment 4).

4.3.5. Prepares an operating instruction.

4.3.6. Conducts a careful check of new miniaturized images to ensure that all records intended to be processed are included, properly indexed, and can be retrieved and read.

- 4.3.7. Performs back-ups periodically.
- 4.3.8. Inspects the records for deterioration at least once every two years (see paragraph 3.6.3.).
- 4.3.9. Complies with disposition instructions in AFMAN 37-139.

DAVID S. SIBLEY, Brig Gen, USAFR
Assistant Vice Commander

Attachment 1**CHECKLIST FOR ESTABLISHING A DOCUMENT IMAGING SYSTEM****PREPARATION STAGE:**

1. Has the records management office (IMD) been contacted and informed of the office's intentions? (IMD will provide assistance and guidance at each stage. IMD concurrence is obtained for the final design and any subsequent changes to the system which affect the creation, identification, maintenance, preservation, or disposition of official records).
2. Have requirements been established after reviewing considerations?
3. Have records been researched to determine if original signatures are required? (AFI 37-121). What provisions will be made for these records?
4. Are the records classified? (TEMPEST approval at base-level is required before implementation and testing).
 - a. If so, are only personnel with appropriate security clearance identified to be trained to store and retrieve records.
 - b. Is the system being considered password protected?
5. Have (according to base contracting procedures) several vendors been contacted to ascertain which company best complies with office's needs?
6. Prepare a brief proposal and cost/benefit analysis (attachment 2 and attachment 3).
7. Prepare an AF Form 3215 for SC/IMD approval and attach the proposal and cost/benefit analysis which is forwarded to HQ AFRC/IMD for coordination.

IMPLEMENTATION STAGE:

1. Prepare an operating instruction.
2. Prepare a letter requesting system assignment number and forward to HQ AFRC/IMD (Attachment 4).
3. Assign grouping codes according to AFMAN 37-123, paragraph 7.10, table 7.1. if the system maintains the only record copy. Review the file plan and each disposition authority and assign the applicable code. Place the letter (code) next to the item designation number. Review the file plan and identify each type of code. (If the system requires manual disposal, it is suggested that you create a separate disk for each grouping code.)
4. Decide which items will remain in hard copy and which will be electronically stored. (Example: transitory, or suspense control would not be scanned because of their short life cycle). Place an "E" in the location column of the file plan to identify those records which are electronically stored.
5. External Labeling of Disks. On the label list the office symbol and each item number from the file plan which is maintained on the disk. (If disposing of records manually within the system, create a separate grouping disk for each code and externally label the disk with the applicable code).
6. Internal Labeling. Provide enough information to identify the record to allow quick and easy retrieval.
7. Ensure system training includes document preparation, identification, and disposition.

8. Ensure disk checks are accomplished at least on a quarterly basis.
9. Perform periodic backup to safeguard against loss of information due to equipment malfunction or human error, and store these disks in an alternate location.

CONVERSION STAGE: (if applicable)

1. Coordinate this conversion with the records management office.
2. Ensure the information is not lost because of changing technology or deterioration by converting storage media to provide compatibility with current hardware/software. Before conversion to a different medium, ensure the authorized disposition of the electronic records can be implemented after the conversion.

Attachment 2**SAMPLE DOCUMENT IMAGING SYSTEM PROPOSAL**

1. Unit designation/office symbol and mailing address.
2. Point of contact: Name, grade, and duty phone.
3. System Title.
4. Purpose.
5. Discussion. Include information on the following items:
 - a. Source of request (long term plan, etc).
 - b. General information about the existing organization, applications, system, etc.
 - c. Problems, opportunities, and potential benefits seen by those requesting the system.
 - d. Areas of study, areas to be excluded from analysis, and the reasons for exclusion.
 - e. Constraints on costs, schedules, etc.
 - f. Potential solutions (no known solution, reorganization, centrally developed system, etc). Document any available estimates for developing and operating potential solutions.

Attachment 3

SAMPLE COST AND BENEFIT ANALYSIS

The following is based on National Archives Records Administration (NARA) statistics for FY 92:

1 foot of records = 3,000 sheets (8 1/2 x 11)

The filing system is a modular type = 4 drawers are used with approximately 2 1/2 feet of records in each drawer.

7,500 sheets x 4 drawers = 30,000 sheets

30,000 sheets x 13 cabinets = 390,000 sheets

(One magnetic imaging disk contains approximately 40,000 sheets or approximately one disk per cabinet).

Average growth of records per year = 25%

Average time looking for misfiles = 7.4%

Office space used:

Average annual cost per square foot of office space = \$20.66

File cabinet cost: \$160.02

Life of cabinet: 40 years

Cost amortized: \$0.53 per year

Cost for office storage per cubic foot a year: \$21.19

If 2 1/2 square ft of records are contained in each drawer, and I have a five drawer cabinet, then the cabinet would contain 10 sq feet of records. Now, lets suppose that I have 13 cabinets then my total would be 130 sq ft. Therefore, \$21.19 (cost of storage per sq ft) x 130 sq ft (total) equals \$2,754.70 (total cost of storage per year).

In addition, there is a 25% increase of records holding per year.

So, this additional cost would be \$2,754.70 x .25% equals an additional cost if \$688.67.

Therefore \$2,754.70 + 688.67 = 3,443.37 (total storage cost per year).

Average executive time spent looking for misfiles = 7%

7% of 2,080 (hours per year) = 145

145 hours X \$16.61 (minimum hourly rate of GS-11= \$2,408.45

Benefits must be coordinated with a cost analyst before submission.

Present minimum cost:

Storage cost: \$3,443.37 Misfile cost: \$2,408.45

Total Yearly \$5,851.82

Proposed System Cost

System hardware/software \$19,200.77

Conversion cost: 1040 hours (6 months)

x hourly wage (GS-5/\$9.06)= \$9,422.40

Total \$28,623.17

Therefore, in approximately 4 years and 9 month payback.

Attachment 4

SAMPLE SYSTEM NUMBER ASSIGNMENT LETTER

1. System name.(EXAMPLE: HQ AFRC Records Management System)
2. System number.(Leave blank, this is assigned by SAF/AAIQ)
3. Description. (EXAMPLE: The Records Management Division at HQ AFRC, scans unclassified paper record series listed below to optical disk storage. This system serves document archive and retrieval).
4. Point of contact. Name, unit address/office symbol DSN number.
5. Records management notification. (EXAMPLE: HQ AFRC has notified SAF/AAIQ by sending proposal according to prescribing directives.)
6. Arrangement of records. EXAMPLE: Each case file is arranged:
 - a. First, in agreement with file designation on the file plan.
 - b. Second, the record is indexed or listed by the subject of the records and date prepared.
 - c. Third, chronologically.
7. AFM 37-139 tables and rules affected. (List the table and rule and disposition instruction for each series imaged).
8. Implementation strategy.