

EPA INFO ACCESS



Records Network Communications



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The Future Is Now by Michael L. Miller, Agency Records Officer

Records Management Is Hot!! Whether by choice or by chance, programs are flocking to records management. The success of records management Agency-wide is illustrated by the box on page 2. The tide is turning. Records managers who felt that they were struggling for recognition and acceptance are now struggling just to keep up with the work load. Recognizing that implementation is still uneven and that the battle is far from won, we can all take great pride in the progress we have made in recent years.

So where do we go from here? I submit that we are getting a handle on the past. Cincinnati inventoried and scheduled over 4,000 feet of old records. Region 5 cleaned up 2,500 feet in commercial storage. Headquarters retired over a mile of old records in FY93 alone. And so on. But if records management and records managers are to be real players in the future, we need to help the Agency address its current and future records issues now, and not wait until 2000 to solve 1994's records problems. That means squarely addressing the electronic records management issue.

Records Management Goals

To lead us in that direction, I offer the vision statement in the box on this page. To implement that vision statement, I propose two goals for the records management program and records managers across the Agency:

1. Assist the Agency in making the transition from keeping its official

Continued on page 2

Vision Statement

The Agency:

Creates adequate and proper documentation of its decisions and activities, and

Manages and maintains the documentation in a cost-effective manner throughout its life cycle.

The Records Management Program:

Ensures that the documentation is complete and concise, consistently maintained, and compliant with all requirements.



records in paper-based systems to maintaining them on automated information systems, thereby maximizing the investment in information technology.

2. Empower programs to manage their own records within the parameters established by Federal regulations and Agency policies and monitor their success in doing so.

Electronic Records

I regularly meet with my counterparts in other Federal

agencies as well as staff from the National Archives and Records Administration (NARA). To my knowledge, no Federal agency has addressed all aspects of electronic records management successfully. Our Agency can and must. We are too reliant on our data not to. Besides, if we are going to lead the way in waste minimization for paper, we need to be able to assure our management that they do not need a paper backup for everything. At this point no records manager is comfortable with keeping only electronic documents or eliminating all paper copies.

The question is: What do we need to do to get to that point? The insert titled "Records Management Strategy" outlines both strategic and tactical plans for accomplishing this goal. The first two steps are creating the policy framework to support maintaining our records electronically and conducting an inventory of all of our records to identify what information resources can and should be maintained in some medium other than paper. Because it is so crucial for the future of the records program, the records inventory will be the key Agency-wide records management activity in FY95.

Empowering Programs

EPA has always felt that those closest to the action should have maximum flexibility and authority to resolve the issues. This is as true for records management as it is for any other function. The National Records Management Program (NRMP) is committed to providing records managers across the Agency with the policy, training, and tools they need to do their jobs. The NRMP's FY94 plans for empowering programs are included in the "Records Management Strategy." If you know of areas where you would like more flexibility or authority, please contact me by telephone at 202-260-5911, fax at 202-260-3923, mail at Mail Code 3404, or All-in-1 at MILLER.MICHAEL-OIRM with your suggestions.



FY93 Records Management Highlights

Overall Indicators

- ◆ Total footage for records retired is up from 3,695 to 5,704 at Headquarters.
- ◆ Regional retirement totals increased to over 5,300 feet in FY93.
- ◆ Nine of ten Regions have active Regional records programs, up from only four Regions three years ago.
- ◆ Ten of twelve Headquarters AAships have records management programs, up from one three years ago.
- ◆ All Regions and all but one AAship have developed, or are actively developing, records management action plans in response to the National Archives and Records Administration evaluation.

Program Initiatives

- ◆ OARM and OE records management studies
- ◆ Expanded docket activity
- ◆ Document security and records management training in OPPT
- ◆ Imaging initiatives in Superfund and Region 6
- ◆ Systematic records awareness training in OPPE, ORD, and Cincinnati
- ◆ Expansion of records management from Superfund to RCRA in Regional offices
- ◆ Records training for office managers in OSW
- ◆ Systematic file plan development and conversion in OSWER
- ◆ Major new records management initiatives in ORD, OAR, and Cincinnati

Electronic Forms Systems Analysis and Design

GSA Document No. KMP-92-6-R, August 1993

This new publication by the General Services Administration is intended to provide Federal forms analysts with information on how to analyze electronic forms systems and design electronic forms. It explains what electronic forms and electronic forms systems are, how they differ from manual analysis and design, and the benefits of electronic forms management. The following provides a brief summary of the major chapters.

Electronic Forms Systems—"Electronic forms are non-paper machine-readable forms created by forms analysts with the aid of forms design software. Electronic forms may be stored on and retrieved through compatible computer systems." Electronic forms systems are the resources needed to develop and complete the electronic forms. This includes the software used for development of the forms on the forms analyst's computer and the software used for completion of the forms on the user's computer. It may also include related databases used to provide information for the forms as well as graphics software, optical scanners, and fonts and printers.

Characteristics of electronic forms, input and output, and the system environment are discussed in the second chapter. A system environment can be "open" to the general population, "closed" to the general population, or "embedded" (that is, integrated with other software systems). All of these factors are important parts of a total electronic forms system.

Principles of Analysis and Design—Many of the principles used to analyze and design paper forms are the same for electronic forms, but there are important differences. Chapter 3 compares procedures for manual and electronic forms and what some of the considerations should be when designing electronic forms. It also includes some of the benefits of the

electronic format, such as on-line help screens and instructions for easy user access.

Evolution of Electronic Forms Design Software—The rapid evolution of technology has had an effect on forms analysis and design, beginning with preprinted specialty forms for high-speed printers, through word processing and computer-based systems, to systems based on database management systems (DBMSs). The greatest potential for savings with the use of database management systems is entering the data only once, thereby reducing data entry errors.

Procedures & Systems for Creating Electronic Forms—This chapter discusses the components of a typical system and methods for transfer of existing forms. Creation of forms also includes the design of user aids, design aids, and completion aids. User aids may include help messages and menus, and design aids may include such things as form grids, rulers, style features, and graphics. Techniques such as help screens, form mapping, check boxes, edit checks, and the like, can be included to aid the user with form completion.

Systems Operations—There are a number of life cycle issues related to electronic forms which will be familiar to records managers. Distribution, retrieval, forms completion, updates, retention, and disposition considerations must be addressed whether forms are created manually or electronically.

Authenticating Electronic Forms—Issues of security and confidentiality are of concern for electronic forms as with all records. Authenticating electronic signatures has been a particularly thorny problem which is currently being addressed on a national basis by the National Institute of Standards and Technology (NIST). To be effective,

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Electronic Forms from page 3

authentication programs must be part of an overall security program. EPA has already approved a policy for the use of electronic signatures for internal documents.

Benefits of Forms Automation—Benefits of automating forms are detailed in Chapter 8. They include both quantifiable benefits such as faster, more accurate data entry, and non-quantifiable benefits such as better control over forms and forms design. There is also a checklist of benefits and cost savings in Appendix E.

Appendices—Other appendices include a glossary of terms, forms management authorities, standards and guidelines, and information on requirements analyses.

Copies of the publication can be obtained from:

General Services Administration
IRM Reference Center,
Room 1231
18th and F Streets, NW
Washington, DC 20405
202-501-4860

For more information concerning EPA's electronic signature policy and the use of electronic forms in EPA, contact Geoff Steele. His telephone number is 202-260-5636, or he can be reached at Mail Code 3404 or via All-in-1 at STEELE.GOEFF.



Progress at AWBERC—Or, What a Difference a Year Can Make!

The Andrew W. Breidenbach Environmental Research Center (AWBERC) in Cincinnati held its first annual Records Management Awareness Week on October 18-22. There were banners, buttons, and lots of handouts. Over 100 people participated in the "Overview of the EPA Records Program" by Mike Miller and the presentation on the Dayton Federal Records Center by Jim Hurst. Later that day Mike and Lois Riley from the Headquarters Office of Research and Development met with the AWBERC Records Committee, the IRM Division, and Lab Directors. On the following day, Mike presented in-depth training for over 150 scientists. Inspired by the success of this first awareness week, the Record Management Committee has already started making plans for next year.

The Records Management Awareness Week is one of many milestones the AWBERC records program has reached this past year. Here are some of the others:

Record Management Committee—The Committee was established in February 1993 to provide records management expertise to the staff at AWBERC. Members are appointed by division or laboratory directors and meetings are held the second Wednesday of each month. The Committee was instrumental in establishing the Records Management Awareness Week.

Inventory of Storage Areas—Sarah Wills-Dubose (contractor) conducted an inventory of storage areas. She found some records but she also found personal items, journal issues, duplicate copies of reports, Credit Union records, and many items not appropriate for an area where records are stored. As a result of this inventory, over 2,000 boxes have been removed from two storage areas and the need for offsite storage has been eliminated. The Credit Union has removed all their boxes, and the Contract Management Division has decided to manage its own records. This has reduced the holdings at AWBERC to approximately 1,500 boxes, and 30 percent of these will be destroyed or sent to the FRC.

Records Management Reference Section—A collection of EPA records management tools has been established in the AWBERC Library. Items such as NARA publications, EPA Records Control Schedules, and the NARA General Records Schedules are available upon request.

Legal Requirements for Imaging Systems

The Association for Information and Image Management (AIIM) hosted a live satellite broadcast of a symposium on legal issues surrounding electronic imaging systems. The experts concluded the following:

- ◆ Imaging systems and their products are just as admissible in court as any other records.
- ◆ Imaging systems are subject to the same legal admissibility requirements as other information/records systems.
- ◆ While imaged information has been admitted as evidence, it has never been challenged. Therefore, there is no case law specifically addressing the admissibility issue.

One of the most interesting pieces of the presentation was a review of what makes any system of records admissible in court. According to the rules of evidence, the following are required if a system of records is to be entered as evidence:

- ◆ Someone who is familiar with the system and its workings must be able to testify to authenticity of the documents.
- ◆ The records should have been made at or near the time of the activity they document.

- ◆ The records should have been made by someone with knowledge of the activity recorded.
- ◆ The records should have been made in the regular course of business.
- ◆ The records should be relied upon by the creating organization to do its business.

The experts then proposed criteria for judging whether a record is really trustworthy. To lay the foundation for successfully admitting records, the organization needs to be able to show three things about the system, be it paper or image based:

- ◆ The system is relied upon by the organization.
- ◆ There are procedures in place that guarantee that the information in the system is complete and accurate.
- ◆ The organization can prove that the procedures are followed.

How does an organization do this? There are three basic steps:

- ◆ Develop written procedures for operating the records system.
- ◆ Train staff in the operation of the system so that there is confidence that the written

procedures are regularly followed.

- ◆ Audit the system on a regular basis so that the error rate can be documented, access to the records can be traced, and adherence to procedures can be documented.

Put in more traditional records management terminology, systems managers need to develop recordkeeping requirements for their systems. A strong set of written, approved recordkeeping requirements will provide the framework for determining what procedures are needed for the regular use of the records by the organization, the needed procedures to ensure that the documents are reliable, and the necessary audit procedures.

The interesting point is that while most people think of paper originals as being the most easily admissible records, in fact, electronic systems of all kinds are more likely to meet the criteria outlined above. System managers need to determine whether their systems (paper or electronic) warrant these steps, based on the potential importance of the system and the likelihood that records from the system will be needed in court.





It's not often that records management shows up on the front page of the Washington Post. But the Sunday Post for November 16 included a front page story titled "Appetite for Paper Fed by Computers" and a picture of a person retrieving records from a box in the Federal Records Center in Suitland. As you can tell from the title, the gist of the story was the seeming paradox between the increased use of computers and the increased volume of paper generated. Among the handy, if depressing, facts:

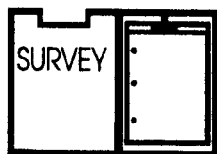
- ◆ Paper consumption has doubled over the past decade.
- ◆ Each year the Washington, D.C., area consumes enough copier paper to reach to the moon and back nine times.
- ◆ The United States uses an average of 600 pounds of paper per person per year.

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Records Management Survey Results

We want to thank all of those who responded to our National Records Management Program evaluation forms. There were not enough replies for a rigorous statistical analysis, but the responses did provide food for thought and some interesting suggestions.



Under "food for thought" there was a clear dichotomy in the responses. There were those who were familiar with the National Records Management Program (NRMP) and were enthusiastic about it.

Then there were those who were relatively unfamiliar with the NRMP and wanted more information. The lesson here is that despite the NRMP's extensive communications efforts, there are still many who are not getting the message. Another comment that caused some concern was the observation that the NRMP staff seems "stretched" by the added demands from an enlarged records management network.

Among the proposed suggestions were the following: computerize all records management forms, hold a national records management meeting, promote records management among managers, produce a confidential business information manual, and develop more "mandatory policy" and less "optional guidance." The NRMP will look at these and other suggestions to see which ones are feasible during FY94.

Tip of the Hat

Welcome to the Network!

Jim Baca, Office of Administration and Resources Management, Headquarters

Alan Johns (contractor), Region 4, Superfund

Robert Wilson, Anthony Lyles, and Bertram William (contractors), Region 6, RCRA

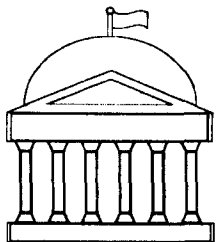
Brenda Kubicki (contractor) Superfund cost recovery, Region 7

Keep up the Good Work!

Region 5 has removed all 2,500 boxes of records from a commercial storage center for evaluation and application of appropriate dispositions.

Region 4, Superfund, has removed 111 cubic feet of site files for retirement to the FRC.

Bette Drury (contractor) has moved to the TSCA Information Center. The new contact for the OSWER HQ Records Management Initiative is Bill Wolchak (contractor). His number is 202-260-7511.



Headquarters Update

Transferring Records to the National Archives

Recently EPA has begun to get requests to transfer some older records to the National Archives. Such requests are made using a Standard Form (SF) 258, not the SF 135 used to transfer records to Federal records centers. The majority of the requests have been at Headquarters, but there have been Regional requests as well.

The Headquarters Records Management Council approved the following procedures for the transfer of permanent records:

- ◆ The National Records Management Program (NRMP) will review all requests (SF 258s) submitted to the National Archives.
- ◆ The NRMP will verify that transfer at this time it is authorized. If the transfer request is legitimate, the NRMP will approve the transfer and notify the program that the transfer was approved.

If there are questions concerning the records (e.g., whether they include sensitive information that can be released to the public), the NRMP will contact the Records Officer of the

program responsible for the records, and request a clarification.

In the case of Regional office records, the Regional Records Officer is authorized to sign the SF 258 under existing authorities delegated to the RMO in Chapter 10 of the IRM manual. Regional Records Officers need to develop procedures for approving SF 258s.

In the case of records of Headquarters programs located in the field, the SF 258s should be forwarded to the NRMP for review and signature.

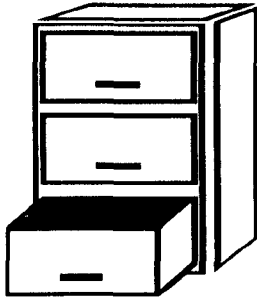
Records Management Survey Begins in OARM

The Office of Administration and Resources Management (OARM) has begun work on a baseline study of its records management program. The study is being lead by Jim Baca and Kathy Lewis under the direction of Kathy Herrin (OARM's Senior IRM Official). Mike Miller of the NRMP is providing technical support. The study, which includes a complete inventory of OARM records at Headquarters, will develop a picture of OARM's records management needs and recommend a plan for meeting those needs.

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INFOACCESS

INFOACCESS, a forum to provide information and report on progress in information management across the Agency, is produced by the Information Access Branch (IAB) of the Information Management and Services Division (IMSD), Washington, DC, under the direction of Jonda Byrd, National Library Network Program Manager. Please send comments and suggestions to: Ann Dugan (contractor), Network Coordinator, 3404, EPA Public Information Center, 401 M Street, SW, Washington, DC 20460. Telephone: (202) 260-7762. Electronic mail: Dugan. Ann.



FRC Use up Dramatically

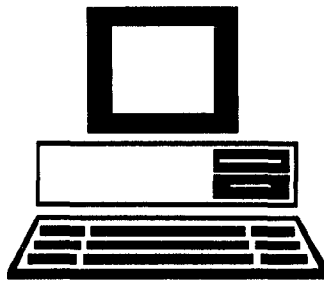
Programs retired records to Federal records centers (FRCs) at a record pace in FY93, and the trend is continuing in FY94. During FY93 Headquarters offices retired 5,700 feet of records to the FRC in Suitland, Maryland. Regional office retirement statistics were up, too. Region 5 took top honors retiring 1,904 feet, but eight Regions retired just over 5,300 feet last year. Keep it up!



OPPE Begins Training Initiative

The Office of Policy, Planning and Evaluation (OPPE) has begun a program to train staff in records management. Mike Miller of the NRMP presented the first in a

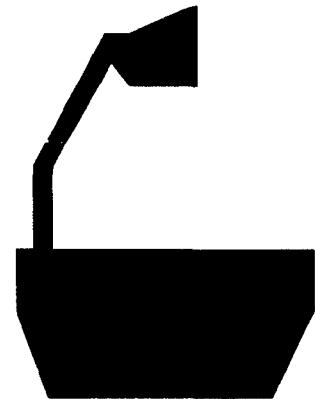
series of training classes that discussed the benefits of a good records management program, records management responsibilities, records management laws and regulations, the principal components of a records management program, and overall Agency records management goals. The training is similar to that offered in Athens, Narragansett, and Cincinnati. Other programs interested in receiving this training should contact Mike on 202-260-5911.



SDMS Development

Lisa Jenkins and contractors were recently in Region 9 for a series of design interviews with future users and IRM folks for the Superfund Document Management System (SDMS). Design of the system for imaging of Superfund site file documents is proceeding nicely and is expected to be completed in December. The visit included several demonstrations of the proposed system platform which were enthusiastically received by Region 9 interviewees. Lisa has

also distributed information to the Superfund Records Work Group and asked for feedback on the recommended indexing fields and input values for the document type and phases/activities fields.



TSCA CBI Training

At the October 28 meeting of the Records Management Council Georgianne McDonald (from the Information Management Division of the Office of Pollution Prevention and Toxics) discussed the TSCA CBI training program she has been presenting in the Regional offices. There are four modules, including the two major phases of the clearance process, document management requirements, security inspections and audits and how to prepare for them, and records management. The two-day training is also open to staff from programs other than TSCA who may be interested in using the TSCA CBI program as a model.



The story noted that document storage was now a major problem given the volume of paper to be stored. Filing is being reborn as document tracking, and "the work once done by file clerks is now in the purview of professionals who specialize in a field called records management." The journalist who wrote the story confessed to the following use of paper to produce the story that ran just under a page in length:

- ◆ 60 pages of notes (including 28 pages entered directly into a computer and then printed out).
- ◆ Over 100 pages of background information collected.
- ◆ 22 pages of drafts.
- ◆ 15 pages of graphics printouts.
- ◆ 8 pages for photo assignment.
- ◆ 80 pages for review by copy editors.

The paper industry has found that people have a physical comfort level with paper that they don't have with computer storage. Among the most cited reasons are:

- ◆ Feeling of safety (backup).
- ◆ Ability to mark it up.
- ◆ Ability to use it in places where computers aren't available.

The article held out some hope that things might improve. It is possible, but not a forgone conclusion, that those raised on computers will halt the rush to paper. Sending E-mail has reduced the use of note paper somewhat according to industry officials, and the direct entry of information into computers helps as well. But as the story goes, "old habits die hard" and the "comfort level" of holding hard copy is one old habit that dies extremely hard. The paper crunch will be with us for some time to come.

Update from Region 8

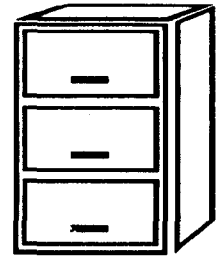
The Federal Records Center, Denver, held its first meeting of Federal Records Managers. Some items that were discussed are as follows:

- ◆ Phyllis Hamilton, Management Analyst with Bureau of Reclamation, discussed "Records Management at BOR"
 - Phyllis was assigned to this project in September 1993; and some of the slides that she showed were incredible. The storage space that BOR used was an old army building (with holes in the roof) and all the records (permanent) were water damaged, covered with pigeon waste, and just in a mess. The interesting part of her story was the amount of management support she gets for putting these records and the records system in shape.
- ◆ Nola Freeman, Chief Appraisal & Disposition Branch, FRC, discussed the appraisal process at the FRC.
 - The floor was opened for discussion and many of the other agencies have more problems than we do. We can thank everyone involved in records management for all their hard work and efforts in putting this program at EPA together.
 - There will be an evaluation form mailed to each person who participated. The FRC wants all of us to be frank with the evaluation and we hope that this program can continue as a networking system here in Denver.

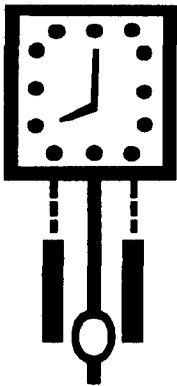
Around The Network

Progress in Region 2

Joseph Clore reports that great strides are being made in the cleanup and reorganization of RCRA files in Region 2, resulting in more available file space and better file organization. The other major records project on the front burners is planning for the move into the new Region 2 facility, scheduled for the fall of 1994.



If Only Someone Could...in Region 4



"If only someone could devote 100% of their time to this project." The Region 4 Superfund Program said this often enough when lamenting the slow progress being made on applying dispositions to Superfund records. Debbie Jourdan, AR Coordinator and Superfund Records Manager, hit on the idea of bringing in an additional contractor whose only job would be applying dispositions to site files. Since beginning July 1, 1993, Ervin Kittles (contractor) has classified, organized, inventoried, and boxed 111 cubic feet of files, averaging nearly 29 boxes per month. The result has been large gaps on the shelves allowing correct placement of documents that have been sitting on top of shelves, under desks and tables, or in empty cubicles, not only creating space on the shelves but also improving file retrieval.

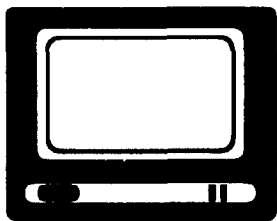
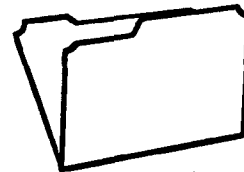
Cleanup in Region 5

Region 5 has brought in over 2,000 feet of records from a commercial records storage center. Box contents were evaluated and matched to correct disposition schedules. Manker Harris (contractor) reports that as a result of the recommendations made to the programs responsible for the materials, approximately 800 feet were destroyed by shredding, recycling, or discard. Another 1,125 feet have been transferred to the FRC, and the remainder will be returned to the programs. All records destroyed were "out of retention." Over 600 feet could have been destroyed 3 or more years ago, but were being stored at commercial rates. Over 60 feet consisted of non-record materials such as unused or outdated forms, reference material, and the like. Another 140 feet had passed retention dates by 6 months to 3 years.

Added benefits of removing these records from commercial storage included the finding of missing Superfund Administrative Records, cost savings, placing records in a more secure area in the FRC, and correctly identifying the correct retention of records which had been missed.

Region 7 RCRA File Conversion

The RCRA Records Center is in the process of putting all of the facility files in RCRIS number order. Previously they had been filed in facility name order and divided by small- and large-quantity producers. The old system was confusing since records staff didn't always know whether the facility was considered a large or small producer and facility names frequently changed. Two of four states have been converted. Duplicate reports are also being removed from the files and either returned to the program staff or recycled.



Region 8 Superfund CBI Training Video

On October 4th a special sneak preview of the new Superfund CBI training video was held in Region 8. The 20-minute video was produced by Region 8 staff to replace the traditional 3-hour training session and has been enthusiastically received. The actors are all well-recognized Region 8 personalities. During the months of October and November, 105 EPA and contractor staff received Superfund CBI access authority by viewing the video and reading the CBI Security Manual. Use of the video simplifies future training sessions and it will be shown monthly for the convenience of any new staff members who need CBI training. Contact Carole Macy at (303) 294-7038 for more information.

Region 9 Records Management Task Force

Yvonne Pederson reports that the new Records Management Task Force had its first meeting in November. The Task Force is made up of a representative from each program or office. They have decided to meet again in January and, with the aid of a facilitator, come up with a list of records management priorities for the Region. They also hope to be able to identify some short-range goals that can be attained sooner rather than later to help gain momentum, as well as identify some long-range goals.



Washington Operations Office Consolidation in Region 10

Fern Honore (contractor) assisted Region 10's Washington Operations Office (WOO) with their consolidation of four sites into one new building in Olympia. She developed written instructions on how to move files, presented a training session on moving files, helped retire records to the FRC, aided the identification of records for disposition, and made recommendations on filing products and space allocations for their new mobile shelving.

Imaging Sessions at the ARMA International Conference

Kris Pappajohn from the Program Management and Support Division of the Office of Pesticide Programs (OPP) and Sandy York (contractor) attended the recent ARMA International Annual Conference held in Seattle, October 17–20. Several sessions at the conference dealt with imaging issues, and the following is a summary of some of the sessions they attended.

“Legality of Optical Storage and Electronic Imaging”—According to the speaker, the legal admissibility of optically stored information is the second most asked question about optical storage (cost is the first). All fifty states have laws providing a legal foundation for admitting optically stored records in court. However, just because there is a legal foundation is no guarantee for the admissibility of all optical systems. In a legal proceeding, the specific system from which the documentary evidence was produced will be evaluated with respect to that particular system’s capability to produce accurate, reliable, and trustworthy documents.

“Indexing Documents for Optical Disk-Based Imaging Systems”—The presenter stressed the importance of determining relevant indexing parameters long before bringing an imaging system in-house. Various automation techniques can be used to accelerate the process. This is important, according to the speaker, because over 50 percent of the total document entry time can be spent on indexing. Some of the automation techniques mentioned were reading a bar code on the document, a pattern in the image, optical character recognition (OCR), and using existing databases for extracting and/or downloading index data.

“Optical Disk Application in a Local Government, City of Lenexa, Kansas, Case Study”—The City of Lenexa, Kansas (population of 35,000), has implemented an optical disk system for its Administration and Planning and Development Departments. The speaker discussed the existing records management system and problems they were attempting to solve, assumptions made and goals set by the implementation committee, the proposal process, decision criteria, indexing, implementation, and results. As a result of the successful implementation of the system, the city has found they have increased efficiency and reduced filing space because many city employees and city council members have given up paper files, document distribution habits have been changed, and employees have learned how to structure queries to quickly retrieve documents. One interesting note—the scanning-to-indexing ratio is 2:1. In other words, it takes twice as long to index the documents as it does to scan them.

“Optical Storage Solutions for Records Management Productivity Gains”—This was an overview of the characteristics and benefits of optical storage technology and a case study of an optical storage solution implemented at First (Bank) Chicago. First Chicago used the technology to make repetitive, predictable work flow into virtually automatic processes. Optical was tied in with other solutions to improve processes. Objectives and results were also discussed. For example, they have realized a 46-percent reduction in the time required to process customer inquiries. Contributed by Sandy York (contractor), Regional Program Director.