

Archives, Records Management and Electronic Records

**A report to the Iowa General Assembly
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Introduction

83 GA Senate File 2088 Section 25 requires a study to be performed concerning creation, storage and retention of electronic records by state government:

Sec. 25. STUDY == CREATION, STORAGE, AND RETENTION OF ELECTRONIC RECORDS == STATE AGENCIES. The departments of administrative services and cultural affairs, in consultation with the state records commission, shall conduct a study on and make recommendations for the creation, storage, and retention of state agency records in an electronic format and shall submit a report containing the recommendations to the general assembly by December 15, 2010. In conducting the study, the departments shall collect and assess information from each state agency that includes an inventory of each agency's records including the types of agency records as well as agency records series retention and disposition schedules. The assessment shall include agency records identified as having permanent historical value by the state records commission. The departments shall also describe in the report what efficiencies and cost-saving efforts could be achieved through the creation, storage, and maintenance of such records in an electronic format.

Three basic report needs are emphasized in Section 25:

- 1) That the study include "inventory of state agency records as well as agency records retention and disposition schedules,"
- 2) That the study assessment include "agency records identified as having permanent historical value by the state records commission," and
- 3) That the report is to describe which "efficiencies and cost-saving efforts could be achieved through the creation, storage and maintenance of such records in an electronic format."

In this report, certain definitions are applicable:

1) Record

Iowa Code Chapter 305 indicates:

"Record" means a document, book, paper, electronic record, photograph, sound recording, or other material, regardless of physical form or characteristics, made, produced, executed, or received pursuant to law in connection with the transaction of official business of state government. "Record" does not include library and museum material made or acquired and preserved solely for reference or exhibition purposes or stocks of publications and unprocessed forms.

Effectively, state government records are recorded information, in any format, that is created, received or maintained in performance of the official functions of state government.

2) Archives

Iowa Code Chapter 305 indicates:

"Archives" means records that have been appraised by the state records commission as having sufficient historical, research, evidential, or informational value to warrant permanent preservation and that have been transferred to the custody of the state archives.

Effectively, archives are records that have been determined to merit permanent (i.e., "without end") preservation, due to long term value of those records.

3) Records retention schedule

The term "records retention schedule" used in this report refers to the "records series retention and disposition schedule" defined at Iowa Code Chapter 305:

"Records series retention and disposition schedule" means a timetable established by the state records commission that describes the length of time a records series of an agency or multiple agencies must be retained in active and inactive status and provides authorization for a final disposition of the records series by destruction or permanent retention.

4) Disposition

Disposition is the eventual, scheduled end of records' existence. Disposition includes both destruction of records that are scheduled to be destroyed when no longer needed, and permanent preservation of those records to be preserved as state archives.

5) Record series

Records that are related to a single function or purpose, and that are often filed together because they relate to that purpose, comprise a record series. For example, accounts receivable records (or components thereof) may comprise a record series with which commission minutes are not typically filed, since the latter records relate to a separate purpose.

Each of the Section 25 requirements will be addressed, in turn, in successive report sections.

I. State Agency Records Retention Schedules

Senate File 2088 Section 25 requires an “inventory of state agency records as well as agency records retention and disposition schedules.”

State executive and legislative branch agencies have been required since 1975 to provide for management of state agency records. Current records management responsibilities of state executive and legislative branch agencies are described at Iowa Code Chapter 305 “State Archives and Records.” The Department of Transportation, the Board of Regents and institutions under the control of the Board of Regents, are exempt from provisions of Iowa Code Chapter 305, but must provide their own records management rules. Currently, however, the Board of Regents participates in state records management activities under a 28E agreement with the Department of Cultural Affairs.

Records retention schedules (indicated in Iowa Code Chapter 305 as “Records retention and disposition schedules”) are formal statements of the routine length of time for which agencies have need of records and how long those records must be preserved once records’ active use has ended. A records retention schedule governs routine disposition of inactive records, taking into account due consideration of the administrative, legal, fiscal and historical needs for records.

A. State agency records scheduling process

Responsibility for determining the minimum length of time records are needed for administrative, legal and fiscal purposes lies with the state agency maintaining those records in performance of its official functions. The State Archivist, additionally, appraises state agencies’ records to determine their possible historical value. Records retention schedules are authorized by the State Records Commission after consultation with the Department of Cultural Affairs, in which department the State Archives and Records Program, under the charge of the State Archivist, provides records management advice and instruction to state agencies.

Records retention schedules take into account the record “life cycle” that begins with records’ creation and continues through records’ final disposition. A record’s “active” period begins with creation and continues until matters to which the record pertains have been closed or completed. After completion of those matters, the record’s “inactive” period begins, during which period the record is retained for potentially ongoing or recurring administrative, fiscal and legal needs. Records’ use during the inactive period is typically infrequent, occurring in response to reopened matters, verifications of past actions, corrections of past actions, etc. Once the inactive period has been completed, records disposition occurs. For most records, the scheduled disposition action is destruction, whereas a smaller portion (estimated 3-5%) of records are scheduled to be preserved permanently (i.e., “without end”) as state archives due to the records’ historical value.

Records retention schedules serve to

- 1) legally authorize routine, appropriate disposition of inactive, no longer needed records,
- 2) ensure that records are kept for as long as needed,

- 3) reduce recordkeeping expense incurred by unnecessarily retaining no longer needed records, and
- 4) inventory records as evidential and information resources for state government and citizens.

B. Method used to address SF2088 report requirements concerning agency records scheduling

Towards the end of obtaining information required under SF2088 Sec. 25, the State Archives and Records Program (Department of Cultural Affairs) requested information from state agencies concerning the status of records retention scheduling by those agencies. Responses obtained from the agencies described their known records retention scheduling needs.

A list of all records retention schedule currently authorized by the State Records Commission was distributed to state agency records officers. Fifty one agencies that had designated agency records officers were requested to report any records they maintain for which disposition is not already governed by existing records retention schedules. A copy of the list is available at the State Records Commission website (http://www.iowasrc.org/SR_manual/retention-schedules.pdf).

Responses from 46 of the 51 agencies initially surveyed were received, representing a 90% response rate. To this group of respondents 5 additional responding agencies were added, thus 51 agencies responded to the request for information. Agency responses received can be grouped into four response categories:

- 1) 49% of responses received (25 of 51 responses) indicated that all records of the agency are governed by currently authorized retention schedules.
- 2) 23.5% of responses received (12 of 51 responses) indicated that more time is needed by the agency to determine retention scheduling needs.
- 3) 23.5% of responses received (12 of 51 responses) indicated that outstanding schedule needs have been identified by agency.
- 4) 4% of received responses (2 of 51 responses) acknowledge receipt of the request, but did not supply the requested information.

C. Certain records retention scheduling needs are apparent from the responses received from state agencies.

- Although 49% of responding agencies indicated that existing records retention schedules are adequate to govern disposition of records maintained by those agencies, many of those same agencies indicated that refinements to existing schedules are needed where agency needs for the pertinent records have changed.
- 23.5 % of responding agencies identified either specific records series or broad classes of records for which schedules must yet be developed.
- Another 23.5 % of responding agencies indicated that more time is needed to inventory records and develop adequate records retention schedules.
- 4% of responding agencies did not indicate specific or general scheduling needs. Only two agencies comprise this class of respondents. One office sought clarification of the applicability

of Iowa Code Chapter 305 to that office. One office also indicated that the request was being forwarded to appropriate agency staff, however the request remained unanswered as of the report deadline.

It is apparent from the responses obtained that work is yet needed to obtain complete records retention scheduling across state government. Comments offered by respondents point to the need for instruction of state agency personnel (through state agency records officers) in the reasons for, and methods of, records management. Comments from this survey also point to the following conclusions:

- There is a lack of awareness on the part of some agencies concerning Iowa Code requirements for records management. Although agency personnel are certainly concerned for keeping records adequately to meet agency business needs and are acutely aware of their agency records storage space limitations, they are not always aware of the entire state records policy indicated by Chapter 305.
- Some agency records officers do not understand the purpose of, responsibility for, or basic methods of records retention scheduling. There is a need for agency instruction in scheduling and also in records management methods, tools and procedures.
- Some agencies have either not designated records officers or have not reported to SARP agency those agency personnel designated to take charge of agency records management responsibilities. That agency personnel are sometimes also unaware of their agencies' designated records officers has also long been apparent. Inquiries from agency personnel who have sought records management advice, but who were unaware of their own agencies' designated records officers, are not uncommon.
- A widespread perception exists that records retention scheduling is only intended to obtain storage at records center, rather than for determination of actual needs for records and authorization for records disposition. Some respondents indicated the belief that their agencies had no records retention scheduling needs since they do not routinely send records to be stored at the records center.
- A widespread perception also exists that electronic recordkeeping eliminates any need for record retention scheduling or for records management in general. Some agency respondents indicated belief that records management is needed only for hard copy records.

D. Ongoing work towards addressing agency records management information needs

The Department of Cultural Affairs, through the State Archives and Records Program (SARP) under the charge of the State Archivist, provides records management advice and instruction to state agencies under provisions of Iowa Code Chapter 305. That many state agency records officers and personnel have need of training and procedural information in order to perform agency records management responsibilities is apparent from the

responses received SARP will continue to offer that advice and instruction, especially in light of the informational needs made apparent through this process.

Instruction of agency records officers in records management concepts, practice and responsibilities is crucial for successfully carrying out state of Iowa records management policy, however SARP staff is limited due to reductions in force. SARP will continue to work with agencies to address identified scheduling and other informational needs, beginning with identified respondents. It is SARP's intention to offer instruction at appropriate intervals to agency records officers in order to raise awareness of agency records management responsibilities and to make clear the role of the agency records officer.

SARP will also request the State Records Commission's support, where needed, to raise agency awareness of records management responsibilities, and also to find means needed to effectively carry out state records management policy.

II. Historical Records Appraisal

Senate File 2088 Section 25 requires an assessment of “agency records identified as having permanent historical value by the state records commission.”

Archives are that portion of state government records that have “. . . sufficient historical, research, evidential, or informational value to warrant permanent preservation. . . .” (Iowa Code Sec. 305.2). Certainly, *any* record *may* offer some historical interest. However, identification and selection of a portion of the overall body of state government records to be preserved as archives provides for preservation of a cohesive, useable archives collection, and also allows preservation resources to be used effectively to the greatest benefit. Historical records appraisal decisions, thus, identify specific classes of records for preservation, whether in their entirety or in part, as state archives. Typically, 3-5% of the overall records of state government might be identified as state archives.

Determination of the historical value of state government records is related to the agency records retention scheduling process, but has separate ends. In records retention scheduling, determination of the initial three records values, administrative, legal and fiscal values, is primarily the recordkeeping agency’s responsibility. Historical value is the fourth record value examined in appraising records for records scheduling purposes. Determination of historical value of records is identified in Iowa Code Sec. 305.4 as the responsibility of the State Records Commission. The State Archivist, on behalf of the Commission, performs historical records appraisal to identify those records that are to be preserved as state archives.

Agency scheduling proposals forwarded for State Records Commission authorization afford the State Archivist insight into the types of records maintained by state agencies, and thereby opportunity to appraise state agency records for possible historical value. Records found to have sufficient historical value to warrant preservation as state archives are preserved *permanently* (i.e., “without end”).

Permanent preservation of records, of course, is typically longer than needed to meet agencies’ business needs for records, although such preservation certainly comprehends agencies’ long term recordkeeping needs. Above and beyond the individual agencies’ business needs, thus, preservation of archives affords 1) documentation of the historical development of state government policy and practice, and 2) documentation of historical activities within the territorial jurisdiction of the state government. Agency executive correspondence, minutes of state boards and commissions, General Assembly bill files, and Adjutant General Civil War military reports are some examples of records preserved as state archives.

Records identified for preservation as state archives are transferred to the physical and legal custody of the Archivist at appropriate times under the records’ governing records retention schedules. The State Archivist provides for preservation of the archives, and also provides for ongoing access by both state government and citizens to those archives.

The report of schedules provided by the State Records Commission¹ includes all classes of state government records that are presently scheduled for permanent preservation as state archives.

A. Identified problems

In review of information reported from state agencies concerning the status of records scheduling, and in review of historical appraisal activities by the State Archivist, certain needs are made apparent concerning identification, acquisition and preservation of state government records as state archives:

- Many agency personnel have expressed belief that archives are simply agency records “stored” on agencies’ behalf. Greater awareness of the State Archivist authority to assume custody of, assure preservation of, and provide access to state archives is needed.
- Many agencies do not routinely forward to the State Archivist those records identified for preservation as state archives. Awareness that the state archives function is public policy is needed. Awareness by state agencies that state archives remain available for public and agency use, with due respect of lawful access restrictions, is also needed.
- Some agency personnel have expressed a belief that the state archives are preserved primarily as historical objects, rather than as evidential and informational resources. Increased awareness is needed of the evidential and informational value of state archives to state agencies and to constituents.

Additionally, certain historical records appraisal and scheduling needs are apparent:

- Revision of certain existing retention schedules governing records to be preserved as state archives is needed. Some schedules presently call for permanent preservation of records that may not be needed to preserve an adequate documentation of historical state government policy and practice, and do not add significantly to the documentary record of Iowa history. Appropriate reappraisal may result in some preservation resources being freed for application to more significant, historically valuable records.
- Records identified for preservation as state archives may, according to historical values identified therein, be preserved either in their entirety or in part. Review of records series preserved as state archives may allow objective sampling of some records series, rather than preserving those records series in their entirety, to use preservation resources to adequately preserve archival evidence of state government policy and practice among those records.
- The present scheduling process, in which agencies advise of scheduling activities, certainly affords the state archivist opportunity to appraise individual series of records on those occasions. Some agencies, however, may propose schedules only when offsite storage space is sought. More comprehensive examination of the relationships among state agency records,

¹ URL: http://www.iowasrc.org/SR_manual/retention-schedules.pdf

for identification and preservation of the most historically significant records in light of state agency functions would be very useful. However, the present SARP staff level precludes undertaking comprehensive appraisal of entire state agencies' records inventories.

B. Plan for addressing needs

Instruction offered to agency records officers will include emphasis on state archivist authority to preserve and provide access to records identified as state archives. The legal status of the state archives must be emphasized, as well as the availability of the archives for agency and citizens' use.

Individual agency scheduling proposals will continue to be reviewed, as at present, for possible historical value of records.

Reappraisal of some existing state archives holdings is being undertaken. Some state archives holdings have already been identified for which historical reappraisal will be useful, and some input concerning agencies' business needs has already been sought for comparison with archival needs. If reappraisal results in non permanent, rather than permanent, retention of some records series, agencies' need for those records will determine the length of retention.

Solicitation of the transfer from state agencies to State Archivist custody of those records identified for preservation as state archives is to be undertaken. Agency awareness of the need to preserve those records may be raised if reminders of scheduled transfer are forwarded to agencies.

III. SF2088 Recommendations for Electronic Recordkeeping Conversion

Senate File 2088 requires “recommendations for the creation, storage and retention of state agency records in an electronic format.”

A. Present status of electronic recordkeeping by state agencies

A substantial portion of, if not most, state government records are currently created electronically. Electronic technology is typically used to create correspondence, reports and most other documents that comprise state government records. Additionally, agency electronic business systems are used to effect transactions with constituents and also to generate documentation of agency actions.

That a significant portion of electronically created records is also printed to paper for hard copy maintenance, however, is evident by the annual volume (over 6000 cubic feet) of transfers of hard copy state agency records to the state records center. Even though electronic technology is used to generate much of state government record matter, agencies create, receive from outside sources and maintain a substantial volume of traditional, hard copy records.

Currently, inactive state agency records that are scheduled for eventual destruction (i.e., non permanent records) are retained either on agency premises, or transferred to the state records center to be held on behalf of the agency, until the records’ scheduled destruction. “Agency premises” includes state server space used by agencies: disposition of non permanent records that are maintained electronically on state servers is managed entirely by the agencies to which those records belong (without transfer to the state records center). Occasionally records in portable electronic media formats (i.e., CD-ROM, DVD, etc.) are included among agency records transferred to the records center, however maintenance of the electronic content of those formats is entirely the responsibility of the originating agency.

Records that are to be preserved as state archives, on the other hand, are transferred upon inactivity to the custody of the state archivist for permanent preservation. The state archivist, however, is not presently able to routinely preserve and provide access to archives that have been created and maintained electronically, due to lack of resources to do so. Therefore the majority of state archives holdings to present are in hard copy formats. Electronic records to be preserved as state archives are currently left on agency server space until such future time as the state is able to provide for consistent electronic state archives preservation.

Despite the volume of records maintained in hard copy, agencies report that they increasingly use electronic document management systems to manage digitally created (i.e., “born digital”) documents pertaining to agency business. In some agencies, additionally, correspondence, applications, filings, etc. received from constituents in hard copy form are scanned upon receipt for inclusion in agency electronic record keeping systems.

The benefits of electronic document management systems and electronic record keeping systems are contingent, first, on the agency business needs to be supported by electronic record keeping. Cost-benefit analysis by any agency considering conversion of record keeping systems from traditional “hard copy” systems to electronic

record keeping systems will determine the likely efficiencies and service improvements to be obtained by such conversions.

B. Criteria for conversion

Conversion of hard copy records to electronic formats is sometimes proposed as a means to reduce needed physical storage space, and thereby cost, for inactive records. Certainly, electronically formatted records require less physical storage space than is needed to store the equivalent amounts of hard copy paper records.

However, electronic record keeping systems also afford other benefits, such as enhanced access to record content, reduced staff time to retrieve records, improved regulatory compliance, interoperability with other record keeping systems, etc. Regardless of the benefits that are sought through record keeping system conversions, such conversions can incur considerable cost.

In order to demonstrate probable economies to be obtained through conversion of hard copy recordkeeping systems to electronic systems, records management literature emphasizes certain criteria that must be taken into account.

A National Archives and Records Administration (NARA) document, "Analysis of Costs and Benefits for ERM/ERK Projects,"² although intended for federal agencies' use, affords generally applicable considerations for electronic recordkeeping. The NARA document emphasizes certain factors to be included in any cost-benefit analysis of electronic recordkeeping system conversion:

Non recurring costs

- Personnel salaries and benefits
- New hardware purchase
- New software purchase
- Software customization
- User training
- Consultant services
- Pilot testing and backfile records conversion

Recurring costs

- Personnel salaries and benefits
- Hardware maintenance, upgrade, replacement
- Software licenses, maintenance, upgrade
- Ongoing training
- Consultant services
- Records storage and migration costs

² <http://www.archives.gov/records-mgmt/policy/prod8.html>

In comparing cost considerations, the NARA document also proposes 23 possible benefits that may be obtained through electronic recordkeeping systems. The document lists a number of possible tangible (cost reduction) and intangible (service enhancement, compliance, records integrity, etc.) benefits for consideration. The benefit of such conversions is, of course, contingent on agency business needs, thus cost benefit analysis relative to agency business needs would be needed.

C. Types of Conversion

Traditional, hard copy record keeping systems are based on a structure of information recorded in static documents. Memoranda, transactional documents, reports, etc. are individually created, then maintained as discrete documents within a filing structure that facilitates locating and retrieving record content when needed. If information in a static document is superseded, a new document is typically created to record the corrected information, or an identifiable annotation to the original document is made.

Some digital record keeping systems replicate traditional, hard copy record keeping by grouping individual, static documents in an electronic file structure, often with text search capabilities for locating informational content among the respective documents. Due to the fact that information in electronic records can be changed without those changes being apparent to record users, protections may be implemented to assure that electronic documents are changed only with authorization, and that authorized changes are traceable. Digitally created record documents can be managed electronically from the time they are created through their final disposition. Hard copy versions of some documents may be created for correspondence or other purposes, but the electronic original record may serve as the official record.

Other digital record keeping systems, furthermore, depart from traditional static document record keeping, utilizing instead a central database of record information from which an array of reports and other documents can be generated as needed. In such systems, the database content itself is central, and can be updated as needed. Protection from unauthorized changes is afforded through the system, and authorized changes are traceable. Authorized users are able to generate reports and other needed documents for as long as data remain in the database.

Three types of conversions from analog record keeping systems to electronic record keeping systems can be considered: digital imagery, digitally created documents management, and business specific electronic recordkeeping systems.

1. Digital imagery

Electronic scanning to create digital images of existing hard copy records can be used to manage records. Once image quality control is assured, original hard copy records can be destroyed and the digital images preserved, instead, for as long as the records are scheduled to be retained. This is analogous to microfilm reformatting of static, analog documents.

Scanned document images can be arranged in digital folders that simply reflect the original hard copy filing system, or included in electronic document management systems (EDMS) that afford more extensive indexing, content search and management capabilities. Some agencies report they are currently scanning hard copy correspondence, applications, filings, etc. received from constituents for inclusion as active records matter in agency EDMS.

Proposals to reduce inactive records storage space through scanning typically call for hard copy record content to be scanned once active use of records has ceased. Such proposals do not eliminate hard copy records creation, but target inactive storage space cost reduction. Additionally, retroactive records scanning may target enhanced retrieval of record content. In considering such proposals, costs must be considered for both initial records scanning and storage of the resulting digital images.

a) scanning costs must also include document preparation (i.e., staple removal, arranging hard copy documents), actual scanning, indexing or text search processes, and all related process design and planning factors.

b) storage of digital images, includes not only the cost per unit of data to store, but also maintenance of the digital files created by scanning for as long as the recorded information is to be preserved, as well as any needed staff, training, equipment, and software needed to digitally store.

Presuming digital data typically equivalent to the informational content of the 1 cu. ft. box of office files is approximately 5 megabytes (the data amount may be greater where complex drawings, photographs or maps, rather than text, are present in file), the digital data could be stored on server space at \$.43/year, whereas storing the hard copy box of records in records center storage space would cost \$4.75/year.

However, the initial cost of converting already existing hard copy records can be considerable. Records imaging industry literature suggests, for estimating purposes, a currently estimated basic cost of \$.10 per scanned page with optical character recognition (OCR) text search capability. The literature also emphasizes that the actual cost will vary according to the amount of records preparation needed, the amount of digital data produced and the degree of indexing and text search needed, among other cost factors arising from process technical needs.

Using a currently estimated basic scanning cost, scanning the contents of a 1 cubic foot box of records (approximately 2/3 of a letter size file drawer) with OCR capability would cost \$250 (i.e., 2500 pages @\$.10 = \$250/box).

The cubic foot box of hard copy records can be stored at the records center for \$4.75/year. The equivalent data can be stored on server space for \$.43/year³. Using the difference these storage rates, \$4.32, the hypothetical cost recovery period for replacing the box of scanned office records with digital data would be 58 years. An analysis of the benefits to be obtained relative to the costs of scanning may, of course, obtain different recommendations for different record series, according to the frequency of need for information and the complexity of information needed from those respective records.

³ Report by Department of Administrative Services – Information Technology Enterprise, *Response to the Legislative Oversight Committee Questions Related to Electronic Document Storage and Retention*. 18 October 2005

Records management literature emphasizes that the initial cost of scanning is typically expensive, thus the cost must be carefully considered relative to the benefits to be obtained. Certainly, current practice by some agencies in scanning hard copy correspondence received from outside sources for inclusion in the agency's central EDMS may obtain enhanced information retrieval as a needed benefit. A case might also be made for retroactively scanning only those existing hard copy records that are frequently used when the cost to convert those records would enhance record retrieval and service to constituents. Existing hard copy records that are infrequently used, however, might simply be allowed to remain in hard copy storage until expiration of their scheduled retention periods.

2. "Born digital" electronic documents management

Digitally created record documents can be maintained from creation through disposition through use of electronic document management systems (EDMS). Such "born digital" records, of course, require no conversion from hard copy for electronic maintenance, and can be managed directly through the EDMS from the time they are created, rather than only once active use has ceased. Hard copy records from outside sources can also be scanned upon receipt for importation to the EDMS, thereby reducing need for alternative hard copy filing systems.

Copies of digital documents may be printed to paper when needed, but the electronic version may be deemed official. However, agency business needs will dictate when the electronic version will adequately meet those business needs, and when a hard copy print is actually needed.

It is important to remember that record documents maintained in an EDMS must be managed for efficient retrieval, collocation with other records pertaining to like agency functions, and for appropriate length of retention and disposition when documents are no longer needed. Simply placing electronic documents in an EDMS without implementation of appropriate retrieval and retention protocols will eventually result in accrual of a mass of no longer needed electronic records that unnecessarily consume server space.

Properly speaking, EDMS are not electronic recordkeeping systems for management of entire records series or other record groupings unless specifically designed and configured as such. They are certainly, however, tools that may be used in association with either manual or electronic recordkeeping systems to retain, provide access to and eventually dispose of records maintained in performance of agency functions.

Expanded use of EDMS by state agencies could obtain enhanced and faster records retrieval, due to text search and indexing, in support of their official state functions. Insofar as records are effectively managed in electronic formats, reductions in needed physical storage space for inactive records could result. To obtain such efficiencies, nevertheless, records management protocols must also be applied systemically to EDMS content, not only in order to control physical storage space needs, but also to assure access to record content for as long as needed, and to provide for disposition of no longer needed records.

3. Business purpose specific Electronic Records Keeping Systems (ERKS)

Electronic Records Keeping Systems (ERKS) typically offer a range of transactional functionalities and report capabilities while maintaining a continually updated central database of record information in support agency business processes. Static documents can be generated from the ERKS upon need, and an EDMS may be associated with the ERKS to control static documents received from outside sources or otherwise maintained by the agency. ERKS systemic records structure and functionalities may also permit reengineering, not only of record keeping systems, but of entire business processes, to fully exploit the dynamic recordkeeping capabilities offered by the ERKS.

The cost of an ERKS, in which a database of continuously updated record information is maintained, through which business transactions are processed and program documentation is generated, will vary according to the specific business needs to be addressed by the ERKS. The cost of this class of recommendation cannot be quantified for general state government applicability, since ERKS applications are developed to support specific business functions. ERKS should certainly be considered, though, due to the possible benefits to be obtained where agency-specific business needs (or business needs in common among multiple agencies) are identified. In addition to records storage capability, ERKS offer capabilities for refinement and enhancement of business processes themselves due to extensive data manipulation functionalities available through ERKS applications.

Among the three types of recordkeeping conversions discussed, above, several outcomes affecting ability to obtain possible efficiencies through recordkeeping conversion, as well as to provide ongoing access to records, are foreseeable:

- 1) Non permanently valuable hard copy records for which scanning to digital formats may obtain cost effective retrieval or storage benefits
- 2) Non permanently valuable hard copy records for which scanning to digital formats may not obtain cost effective retrieval or storage benefits, thus records should be retained in original hard copy formats
- 3) Non permanently valuable records that are created electronically (i.e., "born digital"), thus additional reformatting is not needed
- 4) Permanently valuable records for which reformatting from analog to digital formats is not to be recommended for preservation but, if reformatting is undertaken for enhanced information retrieval, long term preservation needs must also be met. This may require preservation of hard copy original records or creation of an analog preservation format simultaneously with reformatted electronic records
- 5) Permanently valuable "born digital" records in static document record keeping systems for which reformatting to analog formats will facilitate preservation
- 6) Permanently valuable "born digital" records in dynamic electronic record keeping systems for which ongoing electronic maintenance of the electronic recordkeeping system is to be recommended, unless components adequate for archival purposes are identified and determined able to be reformatted to a static, analog format. (ex.: identify specific reports to be generated at appropriate intervals to document status of record information in recordkeeping system)

Determination and application of the outcomes, above, should follow from cost benefit analysis of the specific business functions supported by recordkeeping.

Conversion to electronic recordkeeping does not obviate the need for applied records management principles. Records in any format must be effectively managed for efficiency in creation, maintenance, retrieval and eventual disposition, as well as assurance of records integrity and availability for use by both government and citizens.

D. Additional State Archivist considerations

All records, regardless of their length of retention, must be able to be retrieved from storage and made available for use, for as long as the records are to be preserved.

Provision of access to electronic records to be preserved for long periods of time (effectively, those records retained longer than 5 to 10 years) requires consistent, ongoing application of resources to assure data preservation. The technical needs for preservation of electronic records to make them available for use by human beings are more exacting than the needs for preservation of analog, "hard copy" records.

Unlike most records, archives are to be preserved permanently (i.e., without end). Therefore, archival record formats must outlast technical obsolescence of recordkeeping systems or must be routinely, consistently reformatted before technological system obsolescence occurs. Ability to migrate recorded information from superseded systems to new systems must be assured in order to preserve and provide access to electronic records.

Records having permanent value as state archives are already being created and maintained in electronic recordkeeping systems, thus measures to assure their preservation must be implemented. Proposed recordkeeping system conversions may also result in other records of permanent value being created and maintained in electronic formats, thereby increasing the need for assuring preservation of electronic archives.

E. State Archivist's recommendations: records to be preserved *permanently* (i.e., without end) as *state archives*:

1. If records are originally maintained in hard copy, records should not be recommended for reformatting from hard copy to electronic imagery unless an analog preservation format is also preserved (either the original analog format or through reformatting to a preservation format, such as microfilm). An electronically reformatted version may certainly often provide enhanced access to records, however it is not recommended as archival preservation format.
2. If records are digitally managed in an EDMS, records should also be scheduled to be reformatted from the electronic version to an analog preservation format at an appropriate time after those

records become inactive. Until that time, thorough protection of data comprising permanently valuable records in the EDMS must be afforded.

3. If records are maintained in an ERKS, records should be designated for continued maintenance in the ERKS, with as thorough ongoing data protection as can be achieved, including
 - a) Planning for preservation maintenance of content in the ERKS throughout the ERKS application's effective life.
 - b) Planning for complete ERKS system and content migration when the ERKS is replaced.
 - c) Due to the dynamic record keeping structure of the ERKS, extensive analysis of the record content and system functionalities will be needed to determine if content can be adequately selected for analog preservation reformatting.

IV. Implementation Needs

Implementation of effective archives and records management controls relating to electronic records, whether those records are created digitally from the outset or converted to digital formats from existing hard copy records, will entail certain needs. Needs for standards and protocols, staffing, training, equipment and software acquisition, must all be met to assure both effective use of electronic recordkeeping and appropriate management of electronic records.

- The State Archivist's authority to direct selection of electronic records that will be maintained permanently, and to reject permanent preservation of non permanently valuable electronic records, must be able to exercised effectively. The State Archivist must also be able to direct the protection of such records, and to provide appropriate, direct access to the record content.
- Information Technology Enterprise collaboration and support of the any digital recordkeeping initiatives will be needed, not only for provision of service, but also for developing protocols to support the respective missions of the recordkeeping agencies and of SARP.
- Simultaneous analog preservation is appropriate for permanently valuable electronic records until effective protocols for electronic preservation are developed and implemented. In addition to electronic recordkeeping costs, provision of funding to preserve in analog formats those records that are to be preserved permanently is needed.
- *If* records of permanent value are to be maintained in digital formats without simultaneous preservation of an analog preservation format (for ex., in an ERKS or EDMS without simultaneous analog preservation reformatting), the State Archivist must have authority to require ongoing maintenance by agencies of data comprising those records and also to direct the protocols that will assure data maintenance.
- SARP staffing will require 4 additional FTEs in order to effectively preserve archives that are created by state agencies both digitally and in hard copy formats, and to provide records management advice and instruction to state agencies.
 - A digital archives specialist under State Archivist authority is needed to implement preservation of digitally formatted archives, including design of records management protocols to be met by any agency recordkeeping systems.
 - Two additional archivists for historical records appraisal, acquisition, preservation and associated archives processes are needed.
 - A records management specialist to advise and instruct agency records officers in policy and procedures is needed.
- Additionally, support staff and additional staff among the state agencies will also be needed for any conversion initiatives undertaken

- Regardless of any electronic system proposed for adoption, the state must consider agency personnel and records officer training needs that may result from procedural changes needed to effectively implement recordkeeping system changes
- Acquisition and implementation of any electronic recordkeeping conversions will incur costs. Cost benefit analysis will be needed to justify the need for such conversions, and records management needs must be included in that analysis.