Aerospace Corporation: Records Retention Policies

Final Project Report

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1   Scope and Purpose of IS

Purpose of the system -- Aerospace Corporation (like any business) needs an effective process for storing, accessing and destroying a wide variety of business records. This project focuses on the policies for how long each type of record should be retained (collected into what is known as the retention schedule), and providing a simple and effective way to lookup the policy in effect for any given type of record. The purpose of the system is to store the records retention policies in a logical and expandable database. This policy information will be used by the Record Retention department staff and will eventually be integrated with a new records tracking system next year. Thus, the IS developed in this project manages information related to categories of records or *record types*; the new records tracking system to be acquired next year will manage tracking information related to the records themselves.

Business Process -- The *records retention process* includes the activities needed to effectively manage corporate records: defining retention policies for how long records should be kept, storing and managing the records, providing access to the records, and destroying the records at the appropriate time. The business goals of records retention at Aerospace Corporation include minimizing the cost of storing records, minimizing the time to access records, and maximizing the benefit received from the records.

Role of IS in To-be Business Process -- One role of the IS is to provide automation: an efficient way to record, maintain and communicate the retention policies to all those involved in the records retention process to help ensure effective management of records. The other role of the IS is to act as an enabler: involving the legal department attorneys, functional department managers and record owners in the records retention process. This will be done by including them in definition and approval of policies input into the IS, review of policies in the IS whenever records are tagged for destruction, and identifying policies in the IS that need revision.

Business Case: Although many records can and should be destroyed after only a few years, managers and attorneys in the company have felt uncomfortable doing so and request retention of ten years or more. The primary reasons for this include lack of understanding of retention policies and lack of understanding of the costs associated with keeping records indefinitely. These costs include both storage overhead and legal risks. A clarified and well-communicated records retention policy is a key enabler that will allow the company to significantly reduce its costs and legal risks.

Who are users -- The users are the staff of the Records Retention department, the managers of the company's functional departments and some record owners. Each *department*, e.g. Finance, has several department managers, each responsible for an *office*, e.g. Payroll. Users outside the Retention Department will either read printouts of reports generated by the system or download the database to review the policies directly. For example, the Legal Department will receive a hardcopy report of the complete retention schedule. The Records Retention staff has extensive records experience, a moderate comfort level with PC technology, and very limited experience with database technology. Motivation factors include limitations of the current system (lack of flexibility, missing information), lack of understanding and appreciation of records management outside the Records Retention department, unclear retention policies (causing excessive storage periods), potential cost savings, and desire to understand and reduce legal risks.

2   Challenges and Risks Faced

2.1   Challenges

This project offered several challenges. First, was understanding the concepts, terminology and processes involved in records management. This challenge was addressed by studying materials provided by Kay Wade that explained standard industry concepts and terminology and by exploring suggested Internet websites of various records-related organizations (see Bibliography). We also obtained permission from Xerox Corporation to study their records retention process documentation as a benchmarking exercise and were allowed to provide them to the client for benchmarking purposes.

A second challenge was understanding the record retention and policy process which is performed over a period of years. This made it more difficult to piece together the different parts of the process into a unified model. This challenge was addressed by going through several iterations of revisions with reviews by the client.

Other challenges included bringing various members of the team through the learning curve of using MS Access, ARIS, and basic process and data modeling skills.

2.2   Possible Risk Factors

The client plans to use the IS to convince functional department managers to buy-in and adhere to a strict records retention policy—a change from current management practice. There is a risk that the client has unrealistic expectations for the IS. The USC team needs to help the client clarify the IS role in relation to her role in convincing managers about the new practice.

There was also an implementation risk due to not having MS Access '97 available in the department at the start of the project. This created the risk of possibly not being able to obtain the application in time for final implementation. This risk was mitigated by planning to use a laptop for demonstration and training purposes and temporarily implementing the system in a nearby office which had MS Access '97. The actual result was that MS Access '97 was installed after training but just before final implementation began.

3   Methodology and System Development Life Cycle

Our methodology consisted mainly of interviews with Kay Wade and Ted Podgorski focused on the as-is business process and the role of the IS in the to-be business process. We used contextual inquiry as we received a department tour from Ted Podgorski. Kay Wade provided the team with several documents providing background on the field of records management and the future plans for records and document management at Aerospace Corporation.

The team used a prototyping life cycle to enable the client the get an early view of the IS and provide feedback on requirements. This approach also enabled the team to develop its specification, modeling and MS Access skills early in the project.

Total meeting time: 10 hours 30 minutes.

Date	Duration	Participants	Methods	Topics
9/23/98	90 min	K Chan, B Ciccone, K Sun, K Wade	Interview	Overview, Aerospace records management, project schedule
9/30/98	150 min	K Chan, B Ciccone, K Sun, K Wade, T Podgorski, L Burgess	Contextual inquiry	Aerospace RM processes, retention policies/procedures, as-is/to-be IS
10/26/98	120 min	K Chan, B Ciccone, K Sun, K Wade, T Podgorski	Interview	Naming the business process, as-is and to-be processes
11/5/98	90 min	B Ciccone, K Sun, K Wade, T Podgorski	Interview	Review of to-be process, metrics, and plans for implementation and training
12/11/98	90 min	B Ciccone, K Sun, K Wade, T Podgorski	Interactive and hands-on	Training on use of the IS
12/2/98	90 min	B Ciccone, K Sun, K Wade, T Podgorski	Interactive and hands-on	Installation of IS; training in installation process; follow-on general training

4 Brief Overview of As-Is

The Records Retention Process involves receiving records to be managed by the Retention Department, calculating a retention period for which the record should be kept and storing the records. Periodically, the records are reviewed to identify those whose retention date has passed and therefore should be destroyed. These records are handled by obtaining the required approvals for destruction of the records and sending them to a subcontractor for incineration.

In the Record Storage Process the retention date is calculated using a 3-ring binder notebook (the retention schedule) of policies that specify the number of years each type of record is to be kept. This notebook is kept in the Retention Department and is generally not available to or referenced by others in the corporation.

In the Record Review Process records identified for destruction are reviewed by the Legal and functional department record owner to approve destruction of the record.

The As-Is models are provided in Appendix A: As-Is Process Diagrams.

5 Changes Needed in As-Is

Common problem encountered in the as-is process include out-of-date retention policies, disagreement about whether to destroy records, lack of agreement on the business rules that influence retention periods. The following changes in the as-is process were suggested to improve the process.

1. Change in information system: Add retention policies database (MS Access) to replace outdated retention policies manual (3-ring binder).

Reason for change: The Retention Department currently uses an outdated retention policies manual in the form of a 3-ring binder for determining the retention date for each record submitted to the department. However, this outdated manual has several limitations: a) the retention policies are outdated and not approved by the current legal department and department functional managers, b) it is large, bulky, and understandable only by the staff of the Records Retention department, and c) it is difficult to revise. An IS containing retention policies in the form of an MS Access database is needed to overcome these limitations, streamline the approval, review, and revision process, and enable the Retention Department, legal department and functional departments to have shared involvement in the process.

Feasibility assessment: Design and implementation of the new IS can be accomplished with the help of the USC IS team. Maintenance of the IS can be accomplished with the help of the Aerospace Corporation IS department. This change is incorporated as a key component of the To-Be business process. THIS CHANGE IS FEASIBLE AND WAS IMPLEMENTED.

2. Change in process: Periodic review of Records Retention Policies using report generated from IS. (Not featured in As-Is business process.)

Reason for change: One of the primary causes of requests for extension of retention date beyond the scheduled retention date is that record owners disagree with retention policies. Regular review of retention policies would allow these agreements to be negotiated in advance, greatly reducing the negotiation process that occurs when each record is tagged for destruction. Another cause of requests for extension of retention date is changes in business rules. Periodic reviews of policies would allow functional managers to incorporate new business rules as policy revisions.

Feasibility assessment: The Retention Department is confident that they can obtain support for periodic policy reviews following the initial negotiation and approval of new retention policies. These periodic reviews require the Retention Staff to schedule and initiate periodic (yearly) discussions with the Legal Department and the functional department managers to identify any policies that need revision. THIS CHANGE IS FEASIBLE AND WAS IMPLEMENTED.

3. Change in process: Document retention scheduled review also requires records retention policy review. In As-Is process, documents were reviewed without considering changes in policy.

Reason for change: Another cause for requests for extension is that record owners are not aware of policies or do not have access to the documented policy that relates to the document tagged for destruction. Providing the policy for review along with the request to destroy the record enables better communication with the document owner and gives the document owner the opportunity to bring up any changes in business rules that support a policy change. This process change will reduce the number of requests to extend the retention date.

Feasibility assessment: The new IS will allow the Retention Department staff to produce a hardcopy of the appropriate retention policy relating to the document tagged for destruction. This policy can be sent with the form used for obtaining approval from the document owner and the legal department. THIS CHANGE IS FEASIBLE AND WAS IMPLEMENTED.

4. Change in process: Increased communication options. Email was added.

Reason for change: The increased frequency of policy reviews implied by the other process changes create the need for a more streamlined way of communicating between the Retention Department, the Legal Department and the functional department managers. Email would provide a convenient way to communicate changes and obtain approvals.

Feasibility assessment: Email is broadly available at Aerospace Corporation. THIS CHANGE IS NOT FEASIBLE AND WAS NOT IMPLEMENTED.

5. Change in organization: Create a virtual team for the records of each department office, consisting of representatives from the Retention Department, the Legal Department and the functional department office. Each team would have incentives to minimize costs and maximize value obtained from the records for that functional department.

Reason for change: This change would introduce more teamwork between the Record Retention, Legal and functional departments. The would create even greater shared involvement by the affected groups, while creating the need to communicate information such as storage costs, number of requests for retention date extensions, and number of record accesses.

Feasibility assessment: This change has two requirements. First, an information system must provide the virtual teams with metrics on storage costs, accesses, and other data for that specific department office. This data may or may not be available from the new record tracking system being acquired. Second, management must support the time, effort and incentives to create and reward the teams. It is not clear that management will provide this support. THIS CHANGE IS NOT FEASIBLE AND WAS NOT IMPLEMENTED.

6. Change in information system: Provide faster lookup and more accurate policies when storing records

Reason for change: In the as-is process, when a record is requested to be stored, members of the record retention department will review the requested record, compare against the record retention policy in a 3-ring binder and determine what type of record it is and what retention policy it goes by. The record retention staff will then assign the retention date for that record. This as-is process has many manual judgements involves, and therefore can introduce many human errors.

In the to-be scenario, the current retention policies will reside in the IS, so record retention staff will easily search for the retention policy associated with the record in question. This new IS will reduce the possibility for human error. The members of the record retention department will be freed from tedious table look-up responsibilities and be able to channel their time to their primary responsibilities that utilize their area of expertise.

Feasibility assessment: This change will be feasible because it addresses the immediate problem that record retention staffs have spent too much resource to keep track of the up-to-date retention policies. This change is localized to the record retention department, which is also the primary benefactor of this change. This is an incremental change, since the business process of storing records remains the same. THIS CHANGE IS FEASIBLE AND WAS IMPLEMENTED.

7. Change in process: Eliminate retrieving, copying and reviewing records when disposing of them

Reason for change: In the as-is process, when a record is to be destroyed, members of the record retention department will again review the record and send the record to the record originator and the legal department for approval before the destruction of the record. This is to ensure that the useful record was not destroyed by mistake. This process is very troublesome and requires communication among different parties every time when a record is to be stored. This may lead to coordination problem, too.

In the to-be scenario, there IS will store the most current record retention policies that every department have agreed upon, so the need to retrieve, copy, and send the record to the originators and the legal department for verification will be eliminated. This new IS will reduce the costly time overhead for interdepartmental communication, releasing staffs of various functional departments to focus on their primary responsibilities. It will minimize unnecessary coordination problems and communication errors. It will streamline the process of record destruction, and avoid keeping documents for extended period of time. This will in turn saves storage overhead and minimizes possible legal risks.

Feasibility assessment: This change will be feasible because it is supported by diverse groups within the Aerospace Corporation. Every department and record retention staff can benefit from it. It addresses the immediate problem that various departments have spent too much time on the record retention effort. It also solves the problem that record retention staffs have spent too much resources interfacing with other departments to verify the usefulness of the records. This will streamline the business process of record destruction. The risks involved with this change is low, as long as the retention policies stored in the IS are agreed upon by all departments. THIS CHANGE IS FEASIBLE AND WAS IMPLEMENTED.

6   Specs for To-Be IS

Metrics of success for IS for use as acceptance criteria --

- Information system is able to store and report on distinct retention policies for all functional departments and offices (~ 10 departments, each with ~5 offices = 50).

- Information system is capable of storing retention policies for all functional departments in the company (~ 600 policies).

- Information system enables locating a policy for a given record type within 2 minutes and enables revising a policy for a given record type within 5 minutes.

- Information system is delivered by 11/30/98 and all implementation, training, and questions and issues raised by the client are resolved by 12/7/98.

Metrics of success for project --

- Value to the business process: 95% of records maintained by the Retention Department are destroyed according to the new policies defined in the information system (or are approved exceptions).

- Value to the business process: Improved communication with record owners results in less than 10% of records requiring an extension of retention date before destruction. This addresses the problem in the as-is process where record owners attempt to negotiate extending retention date due to lack of knowledge about policy or lack of participate in the policy creation process.

- Time: The times needed to a) apply the new policy to a particular record, and b) identify records to be destroyed are improved by 50%.

- Cost: The project is completed with a client time commitment of less than 4 hours per week.

- Cost: Elimination of unneeded records results in freeing at least 10% of records storage space.

Functional Specifications

Tasks to be performed by humans and IS in To-be business process:

- Enter departments, offices and record types: IS will enable the Retention Department staff member to enter or revise the names of all departments, offices and record types.

- Enter record types in use by an office in a department: IS will enable the Retention Department staff member to enter the list of record types actually in use for each office in each department. Retention policies relate to a type of record.

- Enter retention policies: IS will provide a list of record types actually in use by an office in a department to enable the Retention Department staff member to enter, revise or delete a retention policy for each record type in that office (Retention Schedule Worksheet).

- Summarize retention policies: IS will provide a summary of retention policies for all record types in use by an office in a department to enable the Retention Department staff member to discuss the policies with a functional manager and identify revisions needed in the retention policies (Draft Retention Schedule).

- Retention policy approval report: IS will provide a report containing the policy for a single record type in use by an office in a department; this report will enable the Retention Department staff member to a) obtain signature approvals for the policy, and b) obtain approval to destroy a particular record of that type when the retention date has passed (Final Retention Schedule).

Interface with other systems -- The IS shall be self-contained and will not be required to interface with other systems. However, in the future, the Retention Department plans to incorporate the retention policies developed with this IS into a soon-to-be acquired electronic records tracking system. Also, a data field called *Category* will be used by a future electronic document management system.

Usability (understandability, learnability, operability) -- The IS shall provide user interface features that will enhance usability: a) drop-down menus for multiple-choice data values, and b) push buttons for queries and reports.

Maintainability (changeability, stability, testability) -- The IS shall provide for the following maintenance functions: a) ability to add new departments and offices, b) ability to add new record types, and c) ability to revise policies. Modification of policy structure such as changing or adding policy fields will require MS Access development skills. Developers with these skills are available in the IS department of Aerospace Corporation.

Portability (adaptability, installability, replaceability) -- The IS shall be easily installed on any MS Windows 95/NT system having MS Access 97. The IS will be delivered in the form of an MS Access database file which can be downloaded to any number of PCs.

Business rules to consider -- The IS shall enable creation and maintenance of retention policies, which themselves are specifications of business rules. Their primary purpose is to enable computation of a date after which a record can be destroyed, taking into account any legal,

business, and management requirements. However, no record is actually destroyed without approval of the record owner and attorneys in the legal department. This rule prevents destruction of a record that is needed for a current or future project or for a legal action.

Hardware/Software

The IS will be used as a standalone application on standard PCs running Windows 95 and MS Access 97. The client will have two system configuration options--one for initial use and one for possible future use:

- IS can be installed on a single PC and Retention Department users will share that PC; users outside the Retention Department will review policies through the use of hardcopy printouts and provide input in meetings with the Retention Department staff and by email.

- Future: IS can be distributed in the form of an MS Access master database file which is maintained by the Retention Department and stored on a file or web server for download to any system running Windows 95 and MS Access 97; the Retention Department will be responsible for communicating to all secondary users which version of the master database file is in effect.

Implementation (training, packaging, roll-out, installation restrictions in time and skills)

- Client requires a user manual and training for the use of the information system.

- The implementation must consist of a self-contained MS Access 97 file; no other PC or system modifications must be required.

- Use of the IS for data entry, data modification, and report generation must not require MS Access development skills; client must identify a source of MS Access development skills for modification of policy structure, data entry forms and reports.

Data Items	Notes
Record Type	Each policy relates to a type of record
Schedule No.	A policy number is referred to as a schedule number (as in a retention schedule for each type of record)
Category	A categorization of records to be used in a future records mgmt system
Office of Record	Functional office that owns a particular type of record
Retention (User)	The minimum number of years of retention for that record type that is recommended by the functional office; this period incorporates business rules
Retention (Legal Office)	The minimum number of years of retention for that record type that is recommended by the Legal dept.
Retention (Law/Reg)	The minimum number of years of retention for that record type that is recommended by law
Years Retention: Office, Center, Total	a) the number of years that the record will be stored in the functional office, b) the number of years that the record will be stored in the Retention Department, and total (a + b)
Access	Which employees will have access to the record
Location	Where in the Retention Department the record is stored
Function/Remarks	Comments

Table 1: Information Requirements

Report	Notes
Retention Schedule Worksheet (of Department X)	Listing of all fields for all records of a specified department (see Table 1: Information Requirements); will be used as a worksheet for developing portions of the retention schedule
Draft Retention Schedule (of Department X)	Listing of specified fields for all records of a specified department; fields include Record Type, Schedule No., Office of Record, Location, Retention (Final); space should be provided for signatures (Office of Record, Records Management, General Counsel); will be used to document temporary agreement, pending final agreement
Retention Schedule	Form listing specified fields for one record of a specified department; fields include Record, Schedule No., Office of Record, Location, Retention (Final); there will be a separate form for each type of record; the collection of forms will constitute the corporation's official retention schedule. space should be provided for signatures (Office of Record, Director, Records Management, General Counsel)

Table 2: Reporting Requirements

7   Testing

7.1   Testing Plan

Both Alpha and Beta tests will be performed for the IS. The USC-IS team will conduct the Alpha test; the client will participate in the Beta test.

7.1.1   Alpha Testing

Objectives

The Alpha testing performed on the IS will confirm if the individual functional specification and IS success criteria are met.

Each of the following IS functions will be tested:

- Entry of category type, policy periodic review, access type, department and office of record for each retention policy into the IS database.

- Entry and revision of record retention policies into the IS database.

- Summarization of record retention policies in the forms of "Draft Retention Policy" and "Record Retention Worksheet".

- Generation of approval report in the form of "Retention Schedule".

Test Scenarios

Test scenarios will be executed and verified. The test scenarios will represent typical, critical and abnormal use of the system. Enough detail will be included to allow the tester to execute the test, compare expected results with actual results and report any differences.

Four different test scenarios will be examined to verify the functional specifications:

- Populating Database: Test entries will be added for each of the following IS entities: Category Type, Policy Periodic Review, Access Type, Department and Office of Record.

- Populating Policies: Test policies will be added, and their attributes are assigned with test types.

- Generating Summary: Draft Retention Policy and Record Retention Worksheet will be generated to reflect new changes.

- Generating Approval Report: Retention Schedule will be generated to reflect new changes.

Data Collection Plan

The data will be collected by examining reports produced by the IS.

Expected Results

Reports generated are expected to display new policies that are added to the database. It would show that each of these policies are associated with new test category, periodic review, access type, department and office of record.

7.1.2   Beta Testing

Objectives

The Beta testing performed on the IS will be loosely protected. The client will be encouraged to run through the entire to-be business process and utilize the IS in functions wherever it is relevant.

The following business process steps will utilize the IS:

- Confirm need to review policy

- Edit Policy Database

- Generate Documents and Reports

Each of the following IS functions will be tested:

- Entry of category, periodic review, access type, department and office of record into the IS database.

- Entry of record retention policies into the IS database.

- Summarization of record retention policies in the forms of "Draft Retention Policy" and "Record Retention Worksheet".

- Generation of approval report in the form of "Retention Schedule".

Test Scenarios

Test scenarios for beta testing will simply be the to-be process. The tester will be asked to execute the to-be process with simulated data.

Data Collection Plan

The data will be collected by summaries and reports, a form of system printouts, in additional to the observation of users.

Expected Results

The IS is expected to enhance key functions of the to-be business process. The functional specifications of the IS are to be met or exceeded. And the metric of success for the IS and the project should be met.

It is expected that the reports will enhance communication with the Legal Department and functional department managers. This will be measured by interviewing the participants and asking how many times the reports were used and what types of uses they were utilized for.

7.2   Results of Testing

7.2.1   Results of Alpha Test

The following is the results of the alpha test:

1. MTC is met for all tasks.

2. Data Integrity is verified.

3. The GUI enhancements are suggested.

4. The RRPIS rejects abnormal data, such as wrong data type.

5. The exact test scenarios are executed twice with the same results.

7.2.2   Results of Beta Test

The clients find the RRPIS user-friendly, and commented favorably on its features. The following three changes are requested:

1. The "Schedule number" field should be able accept alphanumeric numbers.

2. The "Year Retention (Total)" field should be calculated automatically as the sum of "Year Retention (Center)" and "Year Retention (Office)".

3. An addition field, "Year Type" should be added. This new field is an attribute to the Record Policy. The retention reports should show the year type attribute.

8   Training

8.1   Training Plan

Training for the new IS and new business process are required for the Retention Department manager and Retention Department staff.   Training will be accomplished by both an informal training session and a user guide.

Informal Training

The client has limited experience with MS Access and is not familiar with the final version of the IS. An informal training session is necessary to flow down information from the developers to the users of the system.

The Informal Training will be delivered in the form of a demo of the IS. The demo will provide a description of system features, an overview of the benefits expected from the new IS and business process, step-by-step instructions for the most common and critical functions of the IS, and how to use the IS within the context of the new business process. The IS demo will provide in-depth and explicit information about the GUI and specific functions of the IS. The trainers (USC team) will request feedback and make observations to identify improvements needed in the IS before final installation and delivery. Future flow-down sessions will be available to cover any new features added to subsequent software releases.

The trainers will deliver the demo, switching to the laptop PC to demonstrate system functions as they are mentioned in the demo. The participants will also have the opportunity for "hands-on" practice during the demo and to step through the User Guide.

8.2   Results of Training

The informal training was given on 12/2/98 to K Wade and T Podgorski for 75 minutes. The RRPIS was demonstrated for the first time. They were trained on its features at the same time. The training session was a success. The clients liked the GUI and the specific functions of the IS. They believe it met the requirements of the Record Department. Throughout the training, attention is paid to explaining the limitations of the IS. Additionally, attendants were strongly encouraged to obtain MS Access training, so that they can customize the IS. In the end of the training session, participants were encouraged to practice what they have just learned. An opportunity is available for them to ask questions and provide feedback.

The changes discovered in beta testing will be incorporated into the RRPIS. These are minor changes that do not require extensive rework of the RRPIS. No formal training session is needed to cover these changes. The Quick Start Guide will reflect the new enhancements and will be available to future primary users and beneficiaries.

8.3   User's Guide

A User Guide, in the form of a Quick Start Guide, will be available to the clients after the training. This Quick Start Guide will contain a step-by-step run-through of all the major functions of the IS and a brief description of each of the screens within the to-be process. Beneficiaries who use the reports generated by the IS will use the Quick Start Guide as source of reference and help. Users who are not available to take the training session will have access to the Quick Start Guide, too, for JIT training.

For complete User's Guide see Appendix C: User's Guide.

9   To-Be Process and Organization Model

The To-Be models are provided in Appendix B: To-Be Process Diagrams.

9.1   To-Be Organization

The Records Retention Process of the Aerospace Corporation primarily affects the Records Department, but the other areas in the company, like the Legal Department and other Departments, are external players that submit records and record policies into the process.

The IS allows the Records Retention Process to be realized. It is managed by the Records Department. The records staff is responsible for IS.

The records staff responsibilities include the following duties.

1. The records staff maintains the IS by updating the database of record policies.

2. The records staff conveys the policies to the Legal Department and various Aerospace departments who review the policies directly and make suggestions to update the database.

3. The records staff processes incoming records with information in the IS.

9.2   ERD and IS Integration

The ERD consists of the Record Policy entity in which the other entities (Department, Office of Record, Periodic Review (Year), Year Type, Category Type, and Access Type) act as attributes. The Record Policy entity lists record policies and their description.

The IS integrates the entities of the ERD. New record policies are entered into the IS through the Edit Records screen on the Switchboard. The Edit Records screen shows all of the ERD entities. Each entity contains valuable information that describes record policies. After record policies are added, information may be sorted and displayed according to the requirements of the To-Be Records Retention Process.

9.3   To-Be Records Retention Process

How ERD and UI screens facilitate the to-be process:

Adding and Reviewing Record Policies

When new policies are added to the IS, the Record Policy entity must be populated. Before that can happen, all entities must be entered. All of these entities act as attributes of the Record Policy entity. The Edit Policy screen mimics the ER Diagram.

IS: Click on Edit Policy.

The IS allows the records staff to constantly monitor the record policies for relevancy. The records staff periodically checks the policy review date. The IS maintain dates on when the Record Policy was last updated. Records that should be reviewed after a specified time period will show up. The information can be sorted on Department, Office of Record, Record Type, and All Records.

IS: Click on Review Policy | Policies due for Periodic Review.

If this method is inadequate, the IS allows the records staff to search for records based on the date of last update.

IS: Click on Review Policy | Year of Last Update.

Then the Records Retention Worksheet is generated which allows the records staff to confirm whether the Policy Review Process is warranted.

In the Policy Review Process, the involved departments, Legal and other Departments, are notified of the policy review with the Draft Retention Schedule document that contains the record policies. The information can be sorted on Department, Office of Record, and Record Type. Signatures are required to permit any policy changes. Any recommended changes are updated in the Edit Policy screen.

IS: Click on Display Policy | Draft Retention Schedule.

After the preliminary change of the record policy, final approval is required. The Retention Schedule report is generated and sent to Legal and other Departments. After their responses are received, the policy change is approved.

> IS: Click on Display Policy | Retention Schedule.

Processing Incoming Records for Storage

After the Records Department receives a new record, it must be stored in the Record Storage Process. The records staff assigns a policy and retention date to the record. The retention date provides the date when the record should be destroyed after a specified time frame. The Retention Schedule Worksheet shows the retention date which is calculated in this document. The retention date is stored in the record tracking system, another IS used by the Records Department.

> IS: Click on Display Policy | Retention Schedule Worksheet.

The records staff constantly monitors the records retention date of the stored records in another IS. After the retention date of the stored record has been reached, the record and its policy should be reviewed. The record is reviewed in the Record Review Process.

In the Record Review Process, a copy of the Draft Retention Schedule is sent to Legal Department or other Departments. They will decide whether to destroy or keep the record.

> IS: Click on Display Policy | Draft Retention Schedule.

The policy may be outdated so it should be reviewed concurrently. The records staff needs to confirm whether to review the policy or not.

> IS: Click on Display Policy | Retention Schedule Worksheet.

After the decision to review the policy has been made, the Policy Review Process begins. This process is described in the previous section.

10   User Testimonials and Final Client Signoff

The clients appreciate the RRPIS. They consider it to be very user friendly. They are confident that they would have no problem using it. Our client also feels we learned much about the record retention process, which is demonstrated by our product, the RRPIS.

For complete user testimonials and final client signoff see Appendix D: User Testimonials.

11   Lessons Learned

1. Scope of the IS project

During the development phase of the RRPIS, there was some confusion about how much functionality was required of the IS project. We were unsure about the number of functions required and how ambitious we have to be for our clients.

The scope of the IS project was debated in great length. This delayed any resolution about the functionality of the IS. In the end, the unrealistic features, such as "on-line help", were omitted.

Fortunately, since our clients were not too demanding, we were able to construct an IS that met all of the needs of our clients without complicated features.

2. Scope of the business process and definition of the five models

It is important to understand the business process and know the proper method to construct a business process. It is inefficient to not properly define and limit the business process since the project may endure numerous revisions that could delay the project.

We had to change our models several times. Each time, the changes were significant. Long hours were required to update the models.

3. Management of Client Relations

The clients had many time constraints. It was difficult to arrange meeting times. Our initial plan of weekly meeting was never realized. Many meetings were postponed. The schedule was pushed back.

The clients had difficulty in resolving how the IS shall look and what features should be included. We had to make a decision for them and hope our guesses are right.

4. Obtaining client signoffs

Client signoffs were not utilized until the end of the project. The client provided some guidelines in our meetings. The client is supportive and uncritical of our work.

Initially, our group presented K Wade our Memo #1 for review. She reviewed our documents and agreed that we understood the record retention process. Subsequently, our meetings consist of interviews where we learn much about her business processes. We attempted to understand how her requirements could be met in the limited time frame of the class.

Final client signoff is provided in Appendix E: Final Client Signoff.

5. Use of prototype to help visualize ideas

Much of the ideas were generated after the initial version of the RRPIS was created. The prototype helps us to visualize ideas.

6. Preparation of the demo

The first impression that our clients to the RRPIS is based on the demonstration of the prototype. Additional time in preparing the delivery of the demo would have enhance this impression. Larger monitor and faster computer would certainly help.

12 Bibliography

The Association of Records Managers and Administrators

http://www.arma.org/hq/

National Association of Government Archives and Records Administrators

http://www.nagara.org/

Technical Publications from the Government of Australia

http://www.aa.gov.au/AA_WWW/AA_Publications/ITWC.html

Corporate Memory in the Electronic Age (Govt. of Australia)

http://www.aa.gov.au/AA_WWW/ProAssn/ACA/Corpmenw.htm

Electronic Recordkeeping Websites

http://www.records.nsw.gov.au/erk/websites/websites.htm#PADI

State of Virginia resources

http://www.vsla.edu/records/

http://www.vsla.edu/records/electronic/electron.html

DOD 5015.2-STD (Dept. of Defense standard on recordkeeping)

http://jitc-emh.army.mil/recmgt/

13   Appendix A: As-Is Process Diagrams

Aerospace Context Diagram (As-Is)

Record
Owner

Send instructions for
record disposition

Send record
for storage

Send notification when
record retention date is
triggered

Send new policies

Attorney

Records
Retention Process

Send instructions for
record disposition

Send new policies

Department
Manager

Send notification when
record retention date is
triggered

Send record for
destruction

Vendor

As-Is Records Retention Process

New Records are processed here.

NOTE: Retention Date is stored
in the record tracking system
(another IS used by the Records Dept).

New Policies are processed here.

Legal / Dept submits
new records.

New Record Received

Periodically Check Record Retention Date

Records Staff

New Policy Received

Legal / Dept submits
new policies.

Record Storage Process (As-Is)

Retention Date Triggered

Add New Policy

Records Staff

Record Policy

Policy Added

Record Review Process (As-Is)

Record Storage Process - As-Is Business Process

NOTE: Records are documents
to be stored and managed
by the Records Department.

Record Policy → Assign Policy to Records — Records Staff

Policy Assigned

Record Policy → Assign Retention Date — Records Staff

Retention Date Assigned

Store Records — Records Staff

Documents Stored
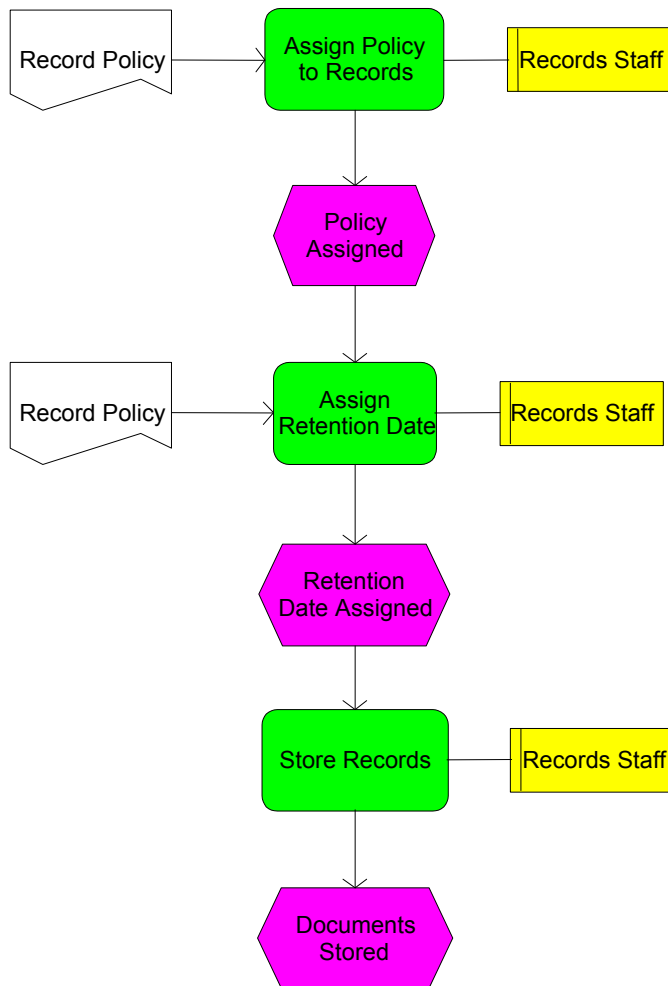
NOTE: By default, records should
destroyed when the retention date
triggered unless exceptions are

Record Review Process - As-Is Business

NOTE: Copy of
record sent with
notification

Record Policy → **Sent Notification to Legal / Dept** — **Records Staff**

XOR

XOR operator

Record Destruction Not Approved   **Record Destruction Approved**

Records Staff — **Extend Retention Date**   **Send Document to Vendor for Destruction** — **Records Staff**

Retention Date Extended

Records Retention Process - As-Is Function Model

```
                          ┌──────────────────┐
                          │     Manage       │
                          │Document Processing│
                          └──────────────────┘
                                   │
        ┌──────────────────────────┼──────────────────────────┐
        ▼                          ▼                          ▼
┌──────────────┐         ┌──────────────────┐         ┌──────────────┐
│   Process    │         │  Process Records  │         │   Process    │
│ New Records  │         │for Scheduled Review│        │ New Policies │
└──────────────┘         └──────────────────┘         └──────────────┘
```

- **Manage Document Processing**
  - **Process New Records**
    - Assign Policy to Records
    - Assign Retention Date
    - Store Records
  - **Process Records for Scheduled Review**
    - Periodically Check Record Retention Date
    - Sent Notification to Legal / Dept
    - Extend Retention Date
    - Send Document to Vendor for Destruction
  - **Process New Policies**
    - Add New Policy

As-Is Organization Model

```
        ┌──────────────┐
        │  Aerospace   │
        │ Corporation  │
        └──────┬───────┘
               │
               ▼
        ┌──────────────┐
        │   Records    │
        │Retention Dept.│
        └──────┬───────┘
               │
      ┌────────┴────────┐
      ▼                 ▼
┌──────────┐      ┌──────────┐
│ Records  │      │ Records  │
│  Staff   │      │ Manager  │
└──────────┘      └──────────┘
```

14   Appendix B: To-Be Process Diagrams

Aerospace Context Diagram (To-Be)

Review policies

Record Owner

Send instructions for record disposition

Send record for storage

Send notification when record retention date is triggered

Send new or revised policies

Attorney

Records Retention Process

Department Manager

Send instructions for record disposition

Send new or revised policies

Send notification when record retention date or policy review date is triggered

Send notification when policy review date is triggered

Send record for destruction

Vendor

To-Be Records Retention Process

NOTE: Retention Date is stored
in the record tracking system
(another IS used by the Records Dept).

New Records are processed here.

New Policies are processed here.

Legal / Dept submits
new records.

Legal / Dept submits
new policies.

New Record Received

Periodically Check Record Retention Date

Records Staff

Records Staff

Record Policy

Periodically Check Policy Review Date

New Policy Received

Record Storage Process

Retention Date Triggered

Records Retention Worksheet

Add New Policy

Records Staff

Record Policy

Review Records

Review Policies

Policy Review Date Triggered

Policy Added

AND operator

Record Review Process

OR operator

Record Policy

Confirm Need for Policy Review

Records Staff

Records Retention Worksheet

Policy Review Required

Policy Review Process

NOTE: Records are documents
to be stored and managed
by the Records Department.

Record Storage Process - To-Be Business Process

```
┌──────────────┐      ┌──────────────┐      ┌──────────────┐      ┌──────────────┐
│   Records    │      │              │      │ Assign Policy│      │ Records Staff│
│  Retention   │─────▶│ Record Policy│─────▶│  to Records  │──────│              │
│  Worksheet   │      │              │      │              │      │              │
└──────────────┘      └──────────────┘      └──────────────┘      └──────────────┘
                                                    │
                                                    ▼
                                            ╱──────────────╲
                                            │    Policy     │
                                            │   Assigned    │
                                            ╲──────────────╱
                                                    │
                                                    ▼
┌──────────────┐      ┌──────────────┐      ┌──────────────┐      ┌──────────────┐
│   Records    │      │              │      │    Assign     │      │ Records Staff│
│  Retention   │─────▶│ Record Policy│──────│Retention Date │──────│              │
│  Worksheet   │      │              │      │              │      │              │
└──────────────┘      └──────────────┘      └──────────────┘      └──────────────┘
                                                    │
                                                    ▼
                                            ╱──────────────╲
                                            │   Retention   │
                                            │ Date Assigned │
                                            ╲──────────────╱
                                                    │
                                                    ▼
NOTE: Retention Date is stored    ┌──────────────┐      ┌──────────────┐
 in the record tracking system    │ Store Records│──────│ Records Staff│
(another IS used by the Records Dept).└──────────────┘   └──────────────┘
                                                    │
                                                    ▼
                                            ╱──────────────╲
                                            │  Documents    │
                                            │   Stored      │
                                            ╲──────────────╱
```

Record Review Process - To-Be Business Process

NOTE: By default, records should be
 destroyed when the retention date is
triggered unless exceptions are allowed.

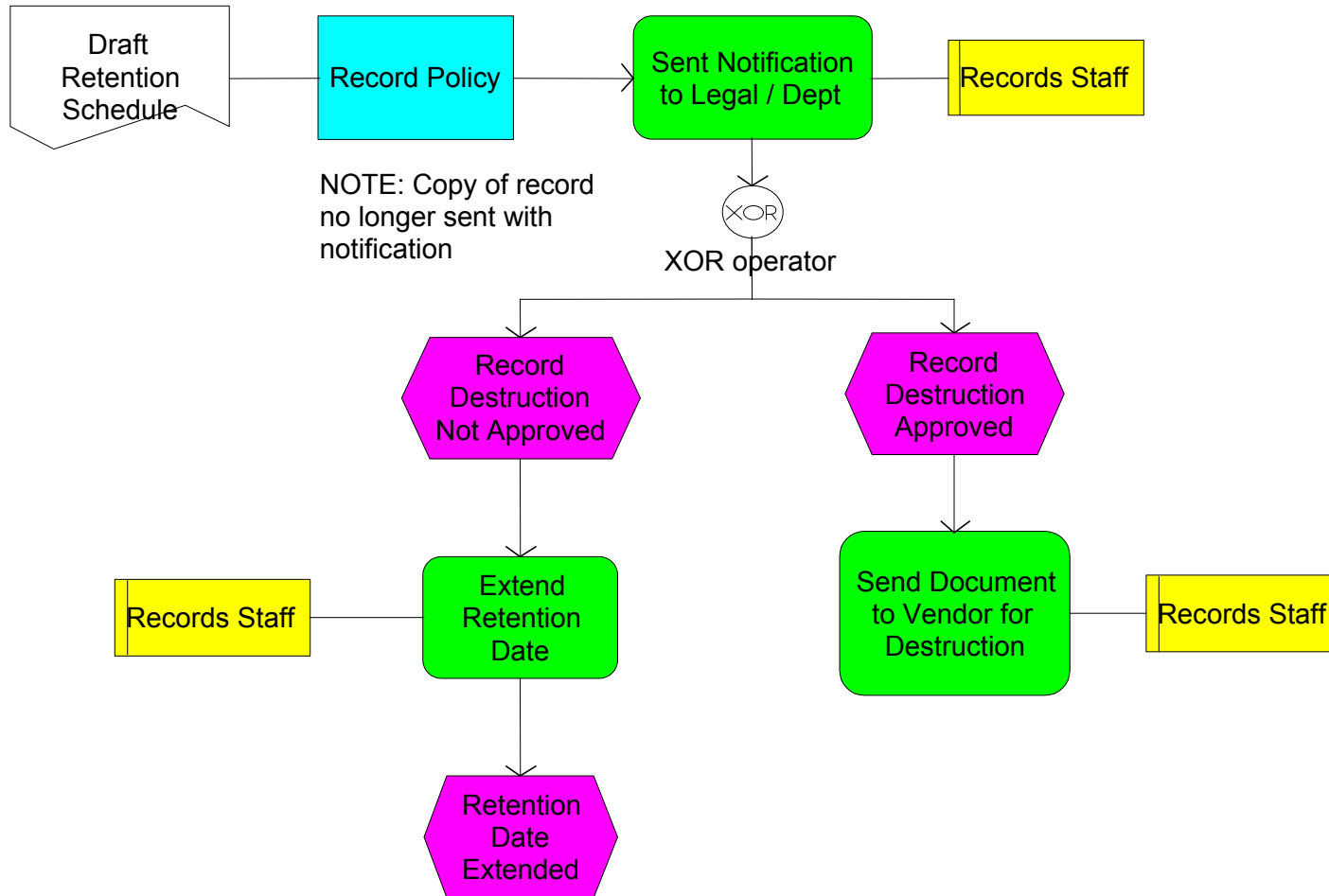Draft Retention Schedule → Record Policy → Sent Notification to Legal / Dept — Records Staff

NOTE: Copy of record
no longer sent with
notification

XOR

XOR operator

Record Destruction Not Approved

Record Destruction Approved

Records Staff — Extend Retention Date

Send Document to Vendor for Destruction — Records Staff

Retention Date Extended

Policy Review Process - To-Be Business Process

Draft Retention Schedule → Record Policy → Sent Notification to Legal / Dept → Records Staff

OR operator

Policy Changes Recommended   No Changes Recommended

Record Policy ← Revise Policy ← Records Staff

Policy Revised

Record Policy → Obtain Approvals from Legal / Dept ← Records Staff

Retention Schedule

Policy Approved

Records Retention Process - To-Be Function Model

```
                                    ┌──────────────────┐
                                    │      Manage       │
                                    │ Document Processing│
                                    └──────────────────┘
        ┌──────────────┬──────────────┴──────────────┬──────────────────┐
        │              │                              │                  │
┌───────────────┐ ┌─────────────────┐ ┌───────────────┐ ┌───────────────┐
│    Process     │ │  Process Records │ │    Process     │ │    Process     │
│  New Records   │ │for Scheduled Review│ │  New Policies  │ │ Policy Revision │
└───────────────┘ └─────────────────┘ └───────────────┘ └───────────────┘
```

- Process New Records:
  - Assign Policy to Records
  - Assign Retention Date
  - Store Records

- Process Records for Scheduled Review:
  - Periodically Check Record Retention Date
  - Sent Notification to Legal / Dept
  - Extend Retention Date
  - Send Document to Vendor for Destruction

- Process New Policies:
  - Add New Policy to Database

- Process Policy Revision:
  - Periodically Check Policy Review Date
  - Periodically Check Record Retention Date
  - Confirm Need for Policy Review
  - Sent Notification to Legal / Dept
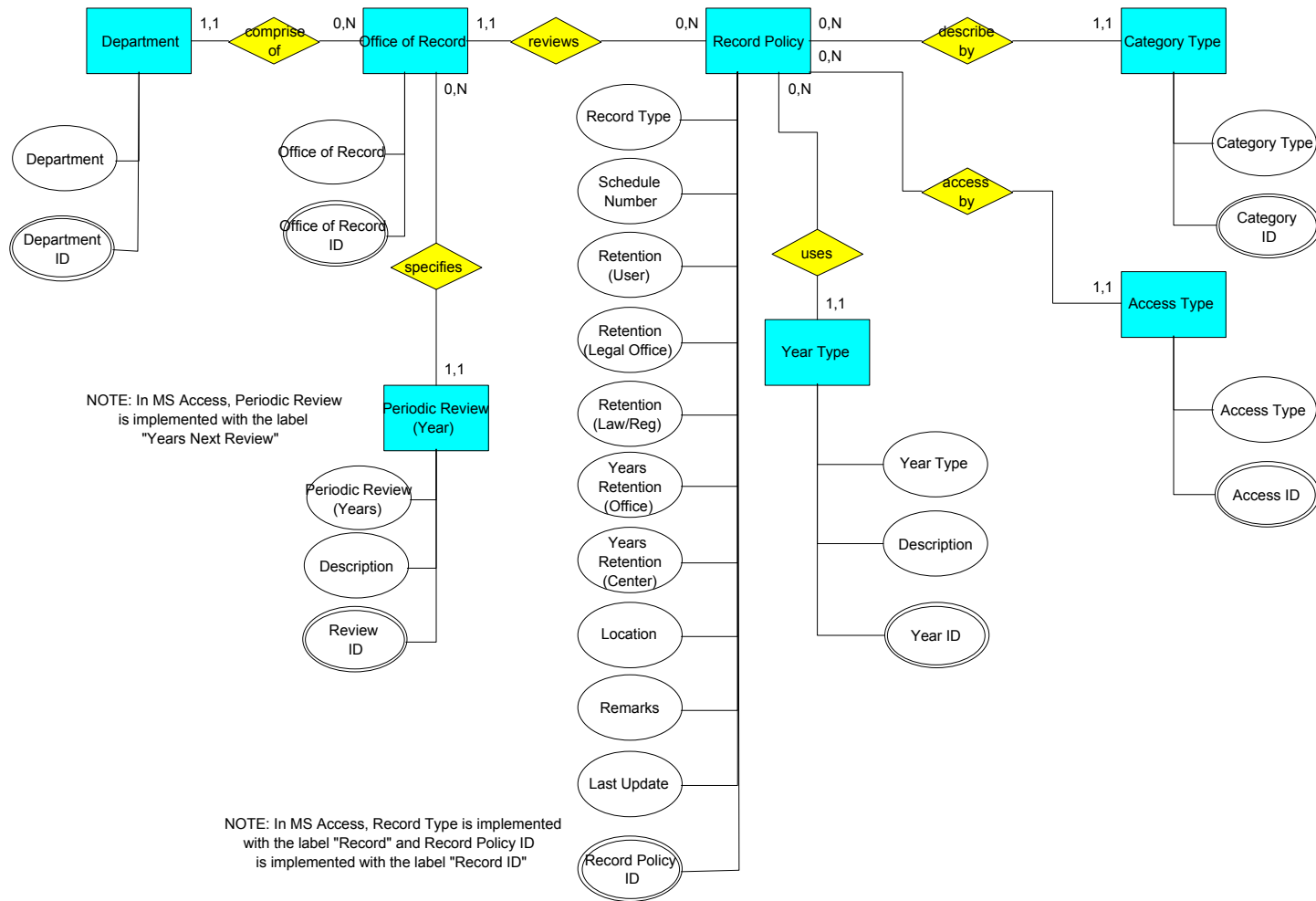 - Revise Policy
  - Obtain Approvals from Legal / Dept

To-Be Organization Model

NOTE: (1) The Record Policy attributes include all of the entities
and their attributes. The entities include Department, Office of Record,
Periodic Review (Year), Category Type, Access Type, and Year Type.
(2) The Records Retention Process generates reports that comprise
of the Record Policy attributes. The reports generated include the
Retention Schedule Worksheet, the Draft Retention Schedule,
and the Retention Schedule.

To-Be ER Diagram

Department —1,1— comprise of —0,N— **Office of Record** —1,1— reviews —0,N— **Record Policy** —0,N— describe by —1,1— **Category Type**

Department

Department ID

Office of Record

Office of Record ID

0,N
specifies

0,N
0,N

0,N
uses

1,1

Year Type

access by

1,1

Access Type

NOTE: In MS Access, Periodic Review
is implemented with the label
"Years Next Review"

1,1
Periodic Review (Year)

Periodic Review (Years)

Description

Review ID

Record Type

Schedule Number

Retention (User)

Retention (Legal Office)

Retention (Law/Reg)

Years Retention (Office)

Years Retention (Center)

Location

Remarks

Last Update

Record Policy ID

Year Type

Description

Year ID

Category Type

Category ID

Access Type

Access ID

NOTE: In MS Access, Record Type is implemented
with the label "Record" and Record Policy ID
is implemented with the label "Record ID"

15   Appendix C: User's Guide

RRPIS
Records Retention Policy Information System
Quick Start Manual

Introduction
This Quick Start Manual allows you to get acquainted with the most important functions of RRPIS, the Records Retention Policy Information System.

User Guide Conventions
RRPIS is developed as a Microsoft Access97 database program for Windows 95, 98, and NT. To understand the program, familiarity with Access97 is preferable.

RRPIS Installation
To install RRPIS:
1. Start the Windows operating system, if necessary.
2. Right click on **Start**.
3. Click on **Explore**.
4. Click on the **My Documents** folder.
5. Click on a folder or create a new folder (Click on **File** | **New** | **Folder**).
6. Copy **RRPIS** into the folder.

RRPIS Startup
To start RRPIS
1. Move the mouse pointer to RRPIS.
2. Double click on **RRPIS**.

Or
1. Open Access97
2. Click on **File** | **Open Database**
3. Open folder where RRPIS is located.
4. Click on **RRPIS**.
5. Click on **Open**

RRPIS will now start up.

RRPIS Switchboard

When you start up RRPIS, the switchboard will automatically open. This screen will contain the items that manage the records retention policies.

If the switchboard does not start up automatically, select **Forms,** then double-click on **Switchboard**.
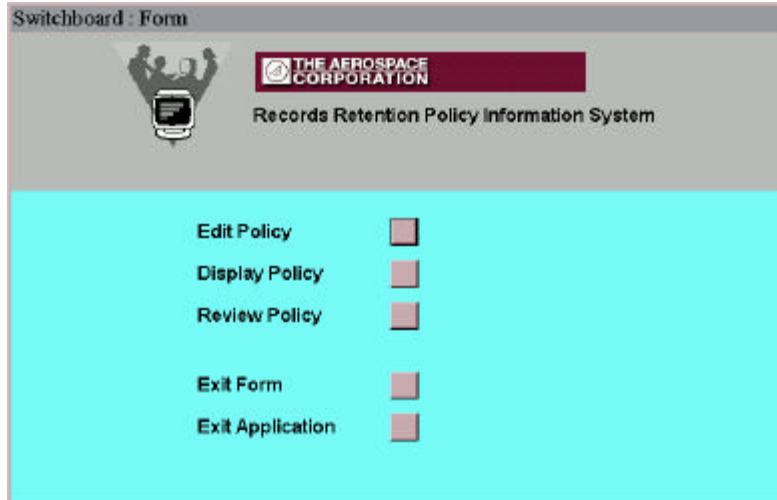
The switchboard shows five buttons. The Edit Policy button allows you to edit or add information into the RRPIS. The Display Policy button allows you to view the information in three different formats. The Review Policy button allows you to sort the policies in a specified time frame. The Exit Form button closes the switchboard. The Exit Application button closes RRPIS and exits from Access97.

Edit Records

The Edit Records form allows you to add and edit information in the RRPIS.
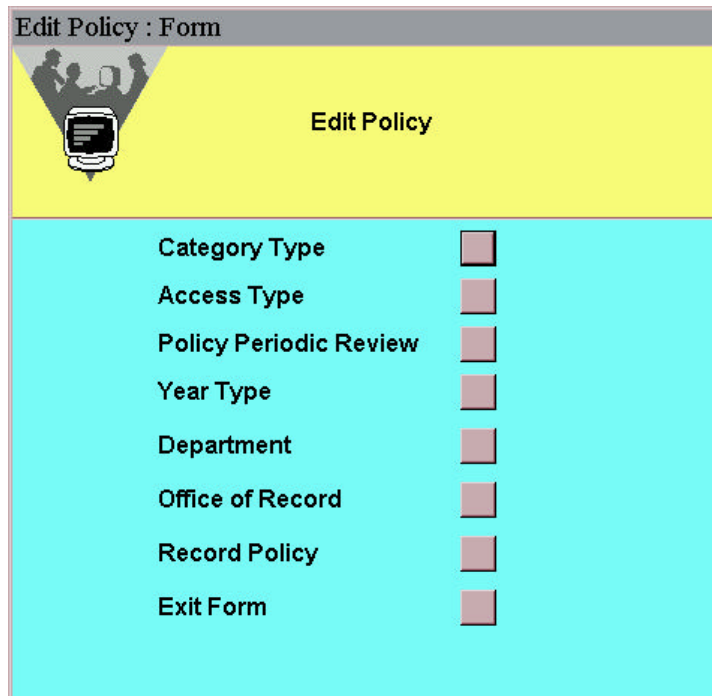
Category Type

When the **Category Type** button is clicked, the category types may be added or edited. Category type describes the type of records in general terms like correspondence, administrative record, etc.

Access Type

When the **Access Type** button is clicked, the access types may be added or edited. Access type specifies which employee has access to the record policy.

Policy Periodic Review

When the **Policy Periodic Review** button is clicked, periodic review may be added or edited. Each office of record behaves as an individual organization that determines the periodic reviews of its record policies. This form standardizes the most commonly utilized time frames.

Year Type

When the Year Type button is clicked, year type may be added or edited.

Department

When the **Department** button is clicked, departments may be added or edited.

Office of Records

When the **Office of Records** button is clicked, the office of records may be added or edited. The department and periodic review fields must be selected.

Each office of records belongs to a department and each office of record behaves as an individual organization that determines the date of its policy reviews. For example, the Accounts Payable office belongs to Accounting. It may require its record policies to submit to 2-year periodic reviews. (The next periodic review date is calculated by adding periodic review to the date of the record policies' last update.)

Records Retention Policy

When the **Record Policy** button is clicked, record policies may be added or edited. The form shows the fields that must be entered. All of the fields should be entered.

Record Retention Policy

Record ID	1
Record Type	Accounts Payable Invoices
Office of Record	Accounts Payable of *Accounting*
Schedule Number	1224
Category	Correspondence
Year Type	C
Retention (User)	5
Retention (Legal Office)	5
Retention (Law/Reg)	5
Years Retention (Office)	5
Year Retention (Center)	2
Access	Depositor Only
Location	Los Angeles
Remarks	
Last Update	10/21/96

Record: 1 of 11

Display Policy

The Display Policy form allows the record policies to be displayed in different reports that include the Record Retention Worksheet, the Draft Retention Schedule, and the Retention Schedule.

Generate Report : Form

Display Policy

Retention Schedule Worksheet

Draft Retention Schedule

Retention Schedule

Exit Form

Record Retention Worksheet

The Record Retention Worksheet is utilized for reviewing record policies and developing the retention schedule. The worksheet can show all of the records or it can be sorted by department, office of record, record policy, or category.

Draft Retention Schedule

The Draft Retention Schedule provides a temporary record policy agreement with space for signatures. The record policies can be sorted by department, office of record, or record policy.

Retention Schedule

The Retention Schedule constitutes the corporation's official retention schedule with space for signatures. The schedule can be sorted by department, office of record, or record policy. It shows one record policy per page.

Review Policy

The Policy Review section allows the record policies to be sorted based on their last update. The sorting function is both automatic and manual. The periodic review is automatic. The #years ago and actual year is manual.

Policies due for Periodic Review
Record policies that are ready to be reviewed after a predetermined time will appear on the report. The periodic review is directly tied to the office of records in the office of record form.

It calculates the date of the next periodic review by adding the years from the Office of Record form with the last update on the Record Retention Policy form. When the next policy review date falls within 90 days of the current date, the record policy appears on the report. Record policies are sorted by department, office of record, and record policy.

Year of Last Update
With this feature, record policies may be searched for the year they were last updated. The exact year or year interval may be selected. This feature is convenient if you are not sure which record policy to look for but desire to look for old record policies.

16 Appendix D: User Testimonials

In addition to comments collected during demonstrations, training and installation sessions, the following questionnaire was used to collect addition client feedback and user testimonials.

```
AEROSPACE RETENTION HIERARCHY

Client Survey

Please answer the questions with completion. Avoid one
word or one-sentence answers.

Rank Legend: 1-Very Dissatisfied, 2- Dissatisfied, 3-
Neutral, 4-Satisfied, 5-Very Satisfied

1. Do you feel the students understand your business
and wishes for the IS (information system)?
Rank__5___, Comments:

   In addition to studying the material they were
   given, the students clearly did quite a bit of
   independent research on records management. They
   have a good grasp of the need for records
   management and for the problem we are trying to
   solve.

2. Have they been responsive to your ideas?
Rank__5___, Comments:

   Yes, they have asked questions, listened carefully
   to the answers, and then carefully tailored their
   program to take this information into account.

3. Do you feel your time has been well-spent thus far?
Rank__5___, Comments:

   They have developed a program to automate tasks
   that would otherwise have taken a great deal of
   time and effort on our part.

4. Do you feel you can use the IS for your business
activities? Rank__5___, Comments:

   Yes, we can and will use the program.  Developing a
   validated retention schedule is the key to good
   records management, so this program will assist us
   in an activity that is central to our operation.
```

5. What specifically do you feel has gone right?
Rank__5___, Comments:

   Team members have come up to speed quickly on a
   field that is entirely new to them. They have done
   their homework and have developed a product that
   promises to be very useful.

6. Are there any concerns you have that were not
addressed? Rank___0__, Comments:

   No

7. Overall, what was your impression of your
experience with the students? Rank___5__, Comments:

   This has been a very positive experience. We have
   a useful new program that was developed with a
   minimum level of effort from our own staff. It's
   hard to beat that combination. The team members
   were also very understanding about my schedule
   problems, that must have impeded their progress.
   It was a pleasure to work with them.

8. Any additional comments?

   I'm delighted we had the opportunity to participate
   in this program.

17   Appendix E: Final Client Signoff

Final Approval Agreement

This agreement is made on _____, 1998 in El Segundo, California by and between Kevin Chan, Bert Ciccone, and Kenneth Sun, hereinafter referred to as the "IOM 533 Consulting Group" and Kay Wade of the Aerospace Corporation.

This agreement ends the business relationship between the IOM 533 Consulting Group and the Aerospace Corporation.

The work is finished to the satisfaction of the Kay Wade in the delivery of the Records Retention Policy project report and the information system.

The IOM 533 Consulting Group assumes no liabilities and obligations in the use of the materials.

DATED: _____   _____

                                  IOM 533 Consulting Group

DATED: _____   _____

                                  Kay Wade, Manager

                                  The Aerospace Corporation