

CANCELLED PER AGENCY REQUEST
4-27-2007

North Carolina
Department of State Treasurer
Retirement Systems Division

IRSP – Data Cleansing Initiative

Microfiche Conversion to Electronic Images

Scope Statement

March 16, 2007
Tracking No. TECH-003397

PREPARED BY:

NC Department of State Treasurer <http://www.nctreasurer.com>

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Scope Statement

General Information:

| | |
|-------------------------------|---|
| Department/Agency: | North Carolina Department of State Treasurer Retirement Systems Division |
| Issue Date: | March 20, 2007 |
| Project Name: | IRSP – Data Cleansing Initiative Microfiche Conversion to Electronic Images Tracking No. TECH- 003397 |
| Project Sponsor: | Michael Kaess – Deputy Director Operations |
| Project Contact: | Bob Sickler |
| Contact Email: | bob.sickler@nctreasurer.com |
| Technology Services Contract: | Attachment 6 – Electronic Document Management Systems |
| Due Date for Questions: | Monday, March 26, 2007 – 5:00 p.m. |
| Due Date for Responses: | Wednesday, April 4, 2007 – 2:00 p.m. |
| Delivery Instructions: | Scope Statement Responses should be addresses to: North Carolina Department of State Treasurer Attention: Cynthia Wood, Room # 574 325 North Salisbury Street Raleigh, NC 27603 |

Written questions must be submitted by date and time specified above. Submit written questions to bob.sickler@nctreasurer.com; please put “**Tech-003397 Questions**” in the subject line of your email. Responses to the questions will be emailed to the eligible vendors on Attachment 6 of the Technical Services Contract.

Vendor must provide 2 originals and 4 copies of the proposal and 1 soft copy on a CD (in Microsoft Word and/or Excel format) to facilitate distribution of the proposal. Proposal must include an execution page signed by an authorized officer of the corporation or company.

Do not mark your entire response as “Confidential and/or Proprietary”. Only vendor information referenced in the NC Information Technology General Terms and Conditions for Goods and Related Services, Section 17, “Confidentiality” may be confidential. Acceptance of proposals for evaluation when marked confidential or proprietary, or as exempt from disclosure under N.C. Public Records laws, shall not constitute a determination by the State that any materials or information contained therein are exempt from disclosure

Proposals must be submitted to the address and by the time and closing date specified in the General Information Section above.

1. Scope Statement Purpose

The purpose of this Scope Statement is to solicit proposals from vendors for the conversion of microfiche documents to electronic images.

The Department of State Treasurer uses the EMC Documentum Application Xtender Suite of products for document imaging and electronic workflows in the Retirement Systems Division

2. Project Background

The Retirement Systems Division (RSD) within the Department of State Treasurer (DST) of the State of North Carolina is responsible for administering the statutory retirement and fringe benefit plans, as authorized by the General Assembly of North Carolina, which cover the State's public employees. The retirement systems administered are:

- Teachers' and State Employees Retirement System
- Local Governmental Employees' Retirement System
- Consolidated Judicial Retirement System
- Legislative Retirement System.

Other programs administered by the Retirement Systems Division include:

- Firemen's and Rescue Squad Workers' Pension Fund
- Public Employees' Social Security Agency
- Disability Income Plan
- Legislative Retirement Fund
- National Guard Pension Plan
- Teachers' and State Employees' Death Benefit Trust
- Supplemental Retirement Income Plan
- Registers of Deeds' Supplemental Pension Plan
- Contributory Death Benefit for Retired Members.

Retirement System facts and figures include:

- North Carolina's retirement system is:
 - 24th largest plan in the world
 - 13th largest plan in the US
 - 9th largest public plan in the US
- Has over 600,000 members comprised of
 - 490,000 active employees
 - 190,000 annuitants
- Has over \$70 billion in assets
- Processes following volume of annual transactions:
 - 244,000 telephone calls

- 6,600 e-mails
- 18,000 refunds
- 5,000 purchases of service
- 11,000 retirements.

The Retirement Systems Director and his immediate staff are responsible for the overall general operation of the Division and to carry out the policies and directives of the State Treasurer and the governing boards of the various systems, funds, trusts, and plans. They provide assistance to legislators and committees of the General Assembly, including: the drafting of proposed legislation and the acquisition of actuarial notes for introduced bills; response to news media inquiries; action and administrative appeals by individual members of the retirement systems; a working relationship with associations and organizations of employees and employers; and information to State departments, agencies, institutions and local governments.

3. Project Purposes and Objectives

As part of the IRSP Project, The Retirement Systems Division (RSD) is currently in the process of conducting an audit of service credit counts for active members in the Retirement Data Base. The purpose is to insure “clean” individual service data is available in the new ORBIT system at life-cycle points when accurate service data is important. The audit involves checking documents stored in an Integrated Document Management System (IDMS), as well as older documents stored on microfiche that were not initially converted to electronic images.

Retrieving documents stored on microfiche is a very time consuming process. In order to streamline this review process the RSD needs to convert the microfiche documents to electronic images that can be retrieved via the EMC Documentum AX System.

The purpose of this Scope Statement is to accomplish the following deliverables. The awarded vendor shall:

- Create an inventory of all microfiche to be converted.
- Create a written procedure for handling and processing the microfiche, i.e.; check-out, check-in and inventory tracking.
- Convert 9,198 microfiche. The fiche is separated by year and system. We have 2012 for the Local system; 7008 for the state system; and 178 for LEO system. Each system is identified by a unique 2-digit number. The fiche are from 1966 to 1996 forward. Each fiche has 16 frames across and 13 rows down. We request that a document be generated for each row of 16 frames (except the last row which only has 15 frames with the last frame as an index of the fiche). Each document will therefore have 16 pages for a total of 1,913,184 pages of microfiche (COM) to electronic images (PDF) in accordance with the DST Document Conversion Assessment Process (Appendix A) on page 15.
- Provide indexing to reflect 4-digit year and 2-digit system code only plus a random number.

- Provide project management services.
- Deliver the converted images on CD's.

4. Vendor Proposal Requirements

Vendor proposals must be straightforward, clear, well organized, easy to understand, and concise. They must contain the following seven sections. No other sections should be submitted. Proposals should be submitted with tabs delineating each of the sections. The minimum font size should be 12 on 8.5 x 11 papers. Proposals should be double spaced type for major contents (inserts of charts, matrices, tables, graphs, etc. may have smaller type and spacing, but must be readable and clear).

1. Table of contents.
2. Statement of no conflict of interest - Vendors must certify that neither they, nor any of their personnel who may provide services under any awarded contract, have a conflict of interest: As defined or described in NC General Statute § 14-234; and that vendor (including past or present staff) has not participated in prior work with the State that would bias the work of this project and/or create real or perceived questions regarding the veracity, integrity or trustworthiness of the work, including findings and recommendations. Also the vendor (including past and present staff) has no preexisting disposition on any finding or recommendation that comes from a vested interest in any particular technology, service or product or an emotional investment in the project or its results.
3. Corporate background and experience - This section shall include information on the vendor's corporate organization (history, size, financials etc.), experience and skills regarding the vendor's track record, reputation and past performance that indicate the capabilities for the successful completion of this work. A minimum of three references for projects of similar scope and size, or other projects indicating the vendor's past performance, experiences and capabilities to do this work must be provided with project description (accompanied by an explanation of how it relates to this project), cost, and other pertinent information. Contact person(s), with telephone numbers and e-mail addresses must be provided for each reference.
4. Project approach - This section must describe the objectives of the project, the methodology or approach for performing the project, the deliverables resulting from the work, the person-days involved in the work and the schedule/timetable for completing the project. Explain in detail how each deliverable will be accomplished. For each deliverable, also include a correlating percentage of the person-days involved in the work to complete the deliverable. The use of subcontractors is allowed pursuant to Paragraphs 4 and 5 of the General Terms and Conditions for Goods and Services, but must be described in the project approach. The responsibility of the vendor must be unequivocally described in the project approach.

5. Project personnel staffing and vendor organization for completing this project -This section must include a description on the proposed staffing, responsibilities and organizational structure for accomplishing this project. Names and qualifications of proposed staff must be provided.
6. Costs -This project requires a total not-to-exceed bid amount. The cost schedule must include two items:
 - A. **Not to exceed bid amount.** This amount will be used in the evaluation criteria in selecting the awarded vendor (see Section 8).
 - B. **Cost per converted page.** This rate will apply to all work efforts, regardless of type or complexity. No limitations on or variations of the cost per converted page will be accepted (such as tiered rates or maximum/minimum number of converted pages).
7. Deliverables/Payment Schedule – Payments will be tied to the submission of acceptable deliverables. The State will determine the acceptability of all deliverables. A schedule must be provided with the deliverables, the timing for submitting the deliverables to the State, and the expected payment (per the work effort expected to be expended for each deliverable per the project plan). This section also must contain a description of each deliverable.

5. Timetable/Schedule

Vendor selection and award is anticipated to take from one to two weeks after all proposals are received. The awarded vendor must begin work within four (4) weeks of award of the contract. The project is expected to begin in April, 2007 with completion no later than June 30, 2007. The awarded vendor shall prepare and submit status reports to the DST Project Manager on a weekly basis.

6. Project Committee

The Project Committee will be responsible for the overall direction and management of the endeavor. The Committee will address and resolve issues, problems and challenges as they arise. Members will include:

- Michael Kaess – Deputy Director Operations
- Nancy Fierke – IT Liaison Manager
- Bob Sickler – Applications Development Manger
- Michael Costanzo – Project Supervisor – Integrated Document Management Systems

7. “Best Value” Procurement

It is the intent to award this contract to a single overall vendor. The evaluation and vendor selection process will be based on “best value” in accordance with NCGS §143-135.9 and Section 8 of this document. The particular procurement methods used are selected so as to result in the best buy for the State in terms of the functions to be performed. Competitive Best Value Procurement allows the use of alternate competitive purchasing techniques in addition to low price analysis in the selection of supply sources determined to represent best value.

A tradeoff/ranking method of source selection will be utilized in this procurement. The evaluation committee may request written clarifications of any offer received. However, the State in its sole discretion may refuse to accept in full or partially the response to a clarification request given by any vendor. Vendors are cautioned that the evaluators are not required to request clarifications; therefore, all offers should be complete and reflect the most favorable terms. Evaluation methodology shall be in accordance with Title 9 of the NCAC Subchapter 06B, Section.0302, or the corresponding section of any future NC Administrative Code, and Section 8 of this document.

The State may elect to conduct negotiations with one or more vendors and make requests of vendors as may be necessary or proper for best and final offers. Final ranking of responses and award of the contract will be made after the State reviews all bids and completes its evaluation, or if negotiations are conducted, and all rounds of Best and Final Offers have concluded. An award will be made to the vendor with the most advantageous offer.

8. Evaluation Criteria

The Project Committee will evaluate proposals and determine the awarded vendor. At its option, the Project Committee may request oral presentations with any or all vendors for the purpose of clarification or to explain the materials presented in any part of the proposal. The process used by the Project Steering Committee includes the principles listed above and the criteria listed in the table below and by applying the associated weight.

| Evaluation Criteria | Section of Vendor Proposal | Evaluation Weight |
|--|----------------------------|-------------------|
| 1. Vendor strengths, capabilities and experience, including corporate background, references, past and current projects, financials, performance history, etc. | Section 4 #3 | 10% |
| 2. Description of work, including objectives, approach, deliverables, organizational structure, staffing qualifications, schedule/timetable, etc. | Section 4 #4, 5 and 7 | 40% |
| 3. Cost A. Not to exceed bid amount – The not to exceed bid amount is the cost that will be used in the evaluation of vendor responses. B. Single hourly rate – The single hourly rate cost is not evaluated as part of these criteria, but it will be a condition of the resulting contract with the selected Vendor. | Section 4 #6 | 50% |

9. Additional Terms and Conditions

- 1) **Supplement:** The additional terms and conditions set forth herein shall supplement the General Terms and Conditions for Goods and Related Services in ITS-000748. In the event of a conflict between this Supplement and the General Terms and Conditions, or any other document, the order of precedence shall be determined by the State's solicitation document(s).
- 2) **Invoices, Payment:** Upon execution of this Agreement, the Vendor shall submit to the Agency invoices based on the Deliverables/Payment Schedule in Section 4 #7 above and, upon approval by the Agency, receive payment within thirty (30) days. If this Contract is terminated, the Vendor is required to complete a final accounting report and to return any unearned funds to the Agency within sixty (60) days of the Contract termination date. All payments are contingent upon satisfactory performance of the invoiced items and fund availability. In addition to the Payment Terms of the General Terms and Conditions, the following terms shall apply:
 - a) Invoices for partial delivery of any Deliverables or for the number of work hours expended without acceptance of the associated Deliverables may be submitted no more frequently than monthly, shall reflect all work performed, and shall be subject to a Retainage of twenty five (25%) percent of the unit costs therefore.
 - b) Invoicing for work performed of a continuing nature and for an identified Deliverable shall reflect the pro-rata completion of the work associated with the Deliverable

reduced by any amount previously invoiced and paid and further reduced by a Retainage of ten (10%) percent of the unit costs therefore.

- c) Invoicing for unanticipated work, as described herein, shall not exceed ten (10%) of the total costs identified by the Contract, and shall be submitted in conformance with (b) above.
- d) Upon completion of a work authorization, task, or Deliverable, and acceptance by the State, Vendor shall submit an invoice for the full charges applicable reduced by the amount previously invoiced and paid.
- e) Notwithstanding any other term herein, progress payments shall not exceed ninety (90%) percent of the Contract amount prior to the satisfactory completion of the Contract and acceptance of the Deliverables by the State.

3) Reports: The Vendor shall provide weekly status reports to the DST Project Manager. Status reports will include at a minimum a discussion of project progress, problems encountered and recommended solutions, identification of policy or management questions, and requested project plan adjustments.

4) Project Management: All project management and coordination on behalf of agency shall be through a single point of contact designated as the agency Project Manager. Vendor shall designate a Vendor Project Manager who will provide the single point of contact for management and coordination of Vendor's work. All work performed pursuant to this Contract shall be coordinated between the agency Project Manager and the Vendor Project Manager.

5) Meetings: The Vendor is required to meet with agency personnel, or designated representatives, to resolve technical or contractual problems that may occur during the term of the Contract. Meetings will occur as problems arise and will be coordinated by agency. The Vendor will be given reasonable and sufficient notice of meeting dates, times, and locations. Face to face meetings are desired. However, at the Vendor's option and expense, a conference call meeting may be substituted. Consistent failure to participate in problem resolution meetings as demonstrated by two (2) consecutive missed or rescheduled meetings), or to make a good faith effort to resolve problems, may result in termination of the Contract.

6) Confidentiality of Data and Information:

- a) The Vendor shall protect the confidentiality of all information, data, instruments, studies, reports, records and other materials provided to it by the State or maintained or created in accordance with this Agreement. No such information, data, instruments, studies, reports, records and other materials in the possession of Vendor shall be disclosed in any form without the prior written consent of the State. The Vendor will have written policies governing access to and duplication and dissemination of all such information, data, instruments, studies, reports, records and other materials.
- b) All project materials, deliverables, including software, data, and documentation created during the performance or provision of services hereunder is the property of the State

of North Carolina and must be kept confidential or returned to DST, or destroyed with an acceptable certification of destruction provided to DST, or designee. Proprietary vendor materials shall be identified to the State by vendor prior to use or provision of services hereunder and shall remain the property of the vendor. Derivative works of any vendor proprietary materials prepared or created during the performance of provision of services hereunder shall be subject to a perpetual, royalty free, nonexclusive license to the State.

7) **Personnel, Facilities, And Records** – Unless otherwise provided by the Agency, the Vendor shall furnish all necessary personnel, services, and otherwise perform all acts, duties and responsibilities necessary or incidental to the accomplishment of the tasks specified in this Agreement. The Vendor shall be legally and financially responsible for its personnel including, but not limited to, any deductions for social security and other withholding taxes required by State or federal law. The Vendor shall be solely responsible for acquiring any equipment, furniture, and office space necessary for it to comply with this Agreement. The Vendor shall not substitute key personnel assigned to the performance of this contract without prior written approval by the Agency's Contract Administrator. The individuals designated as key personnel for purposes of this contract are those specified in the Vendor's proposal.

8) **Unanticipated Tasks:** In the event that additional work must be performed that was wholly unanticipated, and that is not specified in this Contract, but which in the opinion of both parties is necessary to the successful accomplishment of the contracted scope of work, the procedures outlined in this article will be followed. For each item of unanticipated work, Vendor shall prepare a work authorization in accordance with the State's practices and procedures.

a) It is understood and agreed by both parties that all of the terms and conditions of this Contract shall remain in force with the inclusion of any work authorization. A work authorization shall not constitute a contract separate from this Contract, nor in any manner amend or supersede any of the other terms or provisions of this Contract or any amendment hereto.

b) Each work authorization shall comprise a detailed state Statement of the purpose, objective, or goals to be undertaken by Vendor, the job classification or approximate skill level or sets of the personnel required, an identification of all significant material then known to be developed by Vendor's personnel as a Deliverable, an identification of all significant materials to be delivered by the State to Vendor's personnel, an estimated time schedule for the provision of the services by Vendor, completion criteria for the work to be performed, the name or identification of Vendor's personnel to be assigned, the Vendor's estimated work hours required to accomplish the purpose, objective or goals, the Vendor's billing rates and units billed, and the Vendor's total estimated cost of the work authorization.

c) All work authorizations must be submitted for review and approval by the procurement office that approved the original Contract and procurement. This submission and approval must be completed prior to execution of any work

authorization documentation or performance there under. All work authorizations must be written and signed by Vendor and the State prior to beginning work.

d) The State has the right to require Vendor to stop or suspend performance under the "Stop Work" provision herein.

e) Vendor shall not expend Personnel resources at any cost to the State in excess of the estimated work hours unless the procedure below is followed:

i) If, during performance of the work, the Vendor determines that a work authorization to be performed under this Contract cannot be accomplished within the estimated work hours, the Vendor will be required to complete the work authorization in full. Upon receipt of such notification, the State may:

(1) Authorize the Vendor to expend the estimated additional work hours or service in excess of the original estimate necessary to accomplish the work authorization, or

(2) Terminate the work authorization, or

(3) Alter the scope of the work authorization in order to define tasks that can be accomplished within the remaining estimated work hours.

f) The State will notify Vendor in writing of its election within seven (7) calendar days after receipt of the Vendor's notification. If notice of the election is given to proceed, the Vendor may expend the estimated additional work hours or services.

9) Conflict Between Terms In Technical Services Contract – In the event of any conflict between the terms set forth herein and the terms set forth in Exhibit 3 of the Technical Services Contract (ITS-000748), the terms set forth herein shall prevail.

10) Vendor Utilization of Workers Outside U.S. - In accordance with Executive Order #60, the Vendor must detail in the bid response, the manner in which it intends to utilize resources or workers. The State of North Carolina will evaluate the additional risks, costs, and other factors associated with such utilization prior to making an award for any such Vendor's proposal. The Vendor shall provide the following for any proposal or actual utilization or contract performance:

a) The location of work performed under a state contract by the Vendor, any subcontractors, employees, or other persons performing the contract and whether any of this work will be performed outside the United States

b) The corporate structure and location of corporate employees and activities of the Vendors, its affiliates or any other subcontractors

c) Notice of the relocation of the Vendor, employees of the Vendor, subcontractors of the Vendor, or other persons performing services under a state contract outside of the United States

- d) Any Vendor or subcontractor providing call or contact center services to the State of North Carolina shall disclose to inbound callers the location from which the call or contact center services are being provided

10. Execution of Scope Statement

By signing the below, the Offeror certifies that:

This Scope Statement Response was signed by an authorized representative of the Offeror;

This Scope Statement Response was not derived through any acts of collusion as Stated in NCGS 147-33.100;

The Offeror agrees to all the mandatory terms and conditions and agrees to pay the 2% administrative fee to ITS per Section I, Paragraph B of the ITS Technical Services Contract; and

The Offeror agrees to abide by all State CIO Policies, Standards and Procedures and in addition, adhere to the Statewide Technical Architecture.

Therefore in compliance with the foregoing Scope Statement and subject to all terms and conditions of the ITS Technical Services Contract, including all exhibits, the undersigned offers and agrees to furnish the services set forth in the Scope Statement if the Scope Statement Response is accepted by the State.

Failure to execute/sign scope statement response prior to submittal shall render it invalid. Late bids are not acceptable.

| | | | |
|---|-------|-----------------------------------|-------------------|
| BIDDER: | | FEDERAL ID OR SOCIAL SECURITY NO. | |
| STREET ADDRESS: | | P.O. BOX: | ZIP: |
| CITY & STATE & ZIP: | | TELEPHONE NO: | TOLL FREE TEL. NO |
| TYPE OR PRINT NAME & TITLE OF PERSON SIGNING: | | FAX NUMBER: | |
| AUTHORIZED SIGNATURE: | DATE: | E-MAIL: | |

Acceptance by Agency is contingent upon the Statewide IT Procurement Office's approval of the Agency's recommendation of award. This contract was approved for award by the Statewide IT Procurement Office on _____, 2007.

ACCEPTANCE OF SCOPE STATEMENT RESPONSE

If any or all parts of this scope are accepted, an authorized representative of the Department of State Treasurer shall affix their signature hereto and this document along with the provisions of the Technical Services Contract shall then constitute the written agreement between the parties. A copy of this acceptance will be forwarded to the successful offeror(s).

FOR DEPARTMENT OF STATE TREASURER USE ONLY

Offer accepted this ____ day of _____, 2007, as indicated on attached certification or purchase order by _____ (Authorized representative of the Department of State Treasurer).

APPENDIX A

Document Conversion Assessment Process

Criteria for Quantity Assessment

Quantity assessment refers to the activities designed to determine if complete conversion of media to electronic format for use with the ApplicationXtender repository has occurred.

Unlike the quality assessment criteria where deficiencies in individual documents do not necessarily discount an entire converted batch, **any failure to match a selected document from source media to the converted sample will invalidate an entire batch**. Recognizing that some documents will not be converted due to poor quality source media, it is the assumption that any omission of documents from conversion is a result of systemic error unless omitted documents are specified prior to quantity evaluation.

Criteria for Quality Assessment

Complete Page

A converted image will be viewed to ensure that the entire page was transferred into electronic format. This assessment will see if photo conversion equipment was not properly centered on microfiche images. There are three possible measures: a complete page, some omission not affecting readable area, and omission impacting visible area.

The evaluator will declare a "Complete Page" when an image reproduction includes all margin text, document borders, and any other printing of non-substantive content typically residing within the ends of a page.

Evaluators will rate a document as "Some Omission not Impacting Visible Area" when marginalia is cutoff in the electronic image as compared to the original media and the omitted marginalia is not relevant to the content of a document. This could include page borders, barcodes, or form names that typically appear outside the readable area of the document.

A document will be rated as "Omission Impacts Visible Area" when content critical to understanding the relevancy of the document was not transferred in the conversion to electronic media. This could also indicate the omission of a critical piece of the document such as signature or a notary seal that does not impact the understanding of a document but could call into question its authenticity in the event of reproduction.

Index Values

The index values attached to a document will be evaluated on the basis of accuracy and completeness. The evaluator will assign one of three ratings to the document and the document will fail if any required index field is omitted or incorrect. While an omission or error in a non-required index field will not automatically invalidate a converted document batch, widespread index errors may reflect a systemic error in an automated index process and may be cause for batch rejection. This evaluation will occur only after exceptions in the indexing process have been raised and resolved.

Text Quality

The evaluator will assess the quality of the document text in the electronic image on a 5-point scale. If all of the document text is crisp and legible and the entire content area of the document can be read without difficulty, the document image will be awarded a five. If less than 20% of the document is legible, words and letters are blurred and out of focus, and background images obscure text, the document will be awarded a one. Special attention should be given to the analysis of colored text, especially writing in red and blue pencil on audit files. Adding machine tapes should also be carefully assessed for legibility.

Intermediate scale values will be applied on a subjective basis by the evaluators; however, inter-rater reliability will be used to prevent spurious evaluation from disqualifying documents. When scoring a document, especially if the evaluator will rate the text quality below three, the evaluator should consider the original source and not penalize the conversion for inadequacies in the source media.

Image Quality

The evaluator will assess the quality of the document text in the electronic image on a 5-point scale. If all document images, including handwriting, signatures, and notary or other stamping is clearly visible and un-obscured; the document will be awarded a five. If all images are blurred and indistinguishable or text has interfered with the image in a manner not present on the original document, the evaluator should award the document a one. Intermediate scale values will be applied on a subjective basis by the evaluators; however, inter-rater reliability will be used to prevent spurious evaluation from disqualifying documents. When scoring a document, especially if the evaluator will rate the image quality below three, the evaluator should consider the original source and not penalize the conversion for inadequacies in the source media.

Skew

The evaluator will assess the display angle of the electronic image to look for skewing on a 5-point scale. If an electronic image is presented in perfect horizontal or vertical alignment where top and bottom same-side corners of the image sit on an un-angled line, the evaluator will assign the document a 5. If the document is turned 10 or more degrees to the right or left such that an electronic document appears crooked in screen presentation, the evaluator will assign the document a one. Intermediate scale values will be applied on a subjective basis by the evaluators; however, inter-rater reliability will be used to prevent spurious evaluation from disqualifying documents.

Noise

The evaluator will assess the document image for stray dots, streaking and lines, uneven shading, or splotches on the document image not transferred from the original document. The evaluator will rate document "noise" on a five-point scale. If the document is free of extraneous markings and electronic image is a clear reproduction of the source document or microfilm/microfiche image, the evaluator will assign the document a five. If the document image is speckled or streaked and contains "noise" in the reproduction not present in the original image at a level that interferes with the readability of the document, the evaluator will assign the document a one. Intermediate values are assigned on a subjective basis by the evaluators and inter-rater reliability will be used to validate ratings.

Protocol for Assessment

In the interest of saving time, DST may combine quality and quantity evaluation methodologies into a single sample.

Delivery of Converted Documents

Each CD or DVD-ROM that is delivered to DST will be assigned a conversion batch number. The documents and index information must be provided on CD in a manner suitable for loading into ApplicationXtender.

Original media must also be returned at the same time the batch is delivered for comparison purposes. With the return of the media, the vendor must provide information on microfiche in the batch that was unable to be converted to electronic format due to a bad original conversion or degradation on the film. The vendor must also provide a list of all converted documents that could not be indexed and these documents will not be considered in the assessment for the batch. These documents will be considered with a batch at a later time when they are delivered after indexing issues are resolved.

The Application Development Team will query the ae_seq table in the TEST AX repository for the last used DocID value and record this information. The documents on the supplied CD-ROM/DVD will be loaded into the AX TEST repository and the ae_seq table will be queried for the last used DocID value. When the initial value is subtracted from the latter value, this will supply the number of documents that were added to the repository.

Selection of Sample

The initial sizing estimates for the IRSP Data Cleansing project that 1,913,184 pages will be converted to electronic format for use in the document repository. The initial sizing estimates presume a document page image uses approximately 40K of storage space. From this assumption, on a 700 MB CD-ROM it is expected that 17,500 images exist on the disc. On a 4.7 GB DVD-ROM, it is assumed that 117,500 document images exist on the disc.

The number of document pages in a batch that must be sampled will be determined using the following formula.

$$\text{Sample Size} = 384 / (1 + 383/\text{Number of Document Pages})$$

Given the volume of pages available, approximately 384 pages from each CD or DVD need to be examined to provide a 95% confidence level that all document pages have been converted correctly. If smaller batches are supplied, the formula can be applied to reduce the sampling size.

Using the number of documents determined by the load into AX, a sample frame is conducted. At random, 700 documents will be selected from the set of documents added in the batch import. Random document IDs will be selected through the use of an automated tool, most likely Microsoft Access.

From the set of selected document IDs, a random page number between 1 and 30 will be selected in a similar fashion to the document ID. In some cases, the page number assigned to a document will exceed the number of pages in a document. The excess selection of documents is to provide for this occurrence; however, quality sampling on a batch will terminate at the 384th document page that is evaluated.

It is recognized that this is not truly a random sample, in that all document pages beyond the 30th page have a null probability of selection. Despite this limitation, the sampling methodology should be robust enough to provide an accurate assessment of the document batch.

Quality Evaluation

Each batch will be evaluated by two users. The users will open AX on machines with identical monitors and the Access DB responsible for tracking evaluation. The Access DB will present a form similar to the paper form in Appendix B on page 20.

A saved query in the AX TEST system will retrieve all of the documents in the sample for the batch. The user will be presented the documents in DocID order and will open each document and navigate to the page as instructed on the Access screen. If the document page does not exist, the user will indicate that on the Access form and new document and page will be drawn from the sample for evaluation.

The user will fill in the evaluation fields according to the criteria described earlier in this document. If the user indicates that a page in a document image is cutoff impacting the readability of the document or that the document indexing is incorrect, the document will be flagged for re-conversion.

Once the user has evaluated 384 document pages, the Access DB application will indicate to the user that batch evaluation is complete.

Rating Reliability

For each document that is rated with a two or lower in any category by a single rater, the ratings of the one tester are compared with the other tester. If both testers score a document with a value of two or lower within the same category, the document is flagged for re-conversion.

In the following example:

| | Text Quality | Image Quality | Skew | Noise |
|---------|--------------|---------------|------|-------|
| Rater 1 | 3 | 3 | 2 | 2 |
| Rater 2 | 2 | 5 | 3 | 4 |

While Rater #1 has evaluated the document poorly on skew and noise, since Rater #2 did not score the same document with a 2 or lower in the same categories, the document is accepted, despite the 2 awarded by Rater #2 in Text Quality

In this example:

| | Text Quality | Image Quality | Skew | Noise |
|---------|--------------|---------------|------|-------|
| Rater 1 | 3 | 3 | 2 | 2 |
| Rater 2 | 5 | 5 | 1 | 4 |

Rater #1 has evaluated the document poorly on skew and Rater #2 has concurred, providing an even lower rating in the same category. The document will be flagged for re-conversion.

Distribution of Results

If a conversion batch is declared complete, a summary report of all the documents rejected will immediately be supplied to the vendor and the Retirement Systems Division management. In the event the document is rejected due to appearance problems (not indexing problems), some of those documents will be spot-checked against the original media.

If 95% of the sampled documents pass the evaluation, they will be loaded into the PRODUCTION AX repository. In the event that more than 5% of the sampled documents are rejected, the entire batch will be withheld from importation into the production environment and analyzed for general patterns. Pending the outcome of the evaluation, the Dept. of State Treasurer Project Manager, in consultation with Retirement Systems Division management, may request that the entire batch be re-converted.

In-Process Documents

The methodology for quantity control outlined in this document is not to be construed to apply to conversions of in-process documentation. This document will be revised to address issues related to in-process document conversion once a more comprehensive analysis is conducted.

Appendix B

Sample Rating Form

| | |
|--|-------------------|
| Reviewer Name _____ | Review Date _____ |
| Conversion Batch Number _____ | |
| Document Number (AX DOCID) _____ | |
| Document Page Number _____ | |
| Evaluation | |
| Is the Page Complete? | |
| <input type="checkbox"/> Complete Page | |
| <input type="checkbox"/> Some Omission not Impacting Visible Area | |
| <input type="checkbox"/> Omission Impacts Visible Area (Document is Rejected) | |
| Are the Index Values Complete and Accurate? | |
| <input type="checkbox"/> Yes | |
| <input type="checkbox"/> No, but only in non-required field | |
| <input type="checkbox"/> No and Required Fields ARE Impacted (Document is Rejected) | |
| Text Quality | |
| <input type="checkbox"/> (5) – All Document Text is Legible | |
| <input type="checkbox"/> (4) | |
| <input type="checkbox"/> (3) | |
| <input type="checkbox"/> (2) | |
| <input type="checkbox"/> (1) – Less than 20% of the Document Text is Legible | |
| Image Quality | |
| <input type="checkbox"/> (5) – All Document Images are Visible | |
| <input type="checkbox"/> (4) | |
| <input type="checkbox"/> (3) | |
| <input type="checkbox"/> (2) | |
| <input type="checkbox"/> (1) – All images are blurred and indistinguishable | |
| Skew | |
| <input type="checkbox"/> (5) – The document is perfectly straight | |
| <input type="checkbox"/> (4) | |
| <input type="checkbox"/> (3) | |
| <input type="checkbox"/> (2) | |
| <input type="checkbox"/> (1) – The document is turned more than 10-degrees on the horizontal | |
| Noise | |
| <input type="checkbox"/> (5) – There are no stray marks on the document image | |
| <input type="checkbox"/> (4) | |
| <input type="checkbox"/> (3) | |
| <input type="checkbox"/> (2) | |
| <input type="checkbox"/> (1) – Stray marks and streaks interfere with the legibility of the document image | |