

A. Levin
MVB6715

NUCLEAR REGULATORY COMMISSION

Licensing Support System

Advisory Review Panel

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of Meeting.

The Licensing Support System Advisory Review Panel (LSSARP) will hold a meeting on April 14 and 15, 1994, at the Yucca Mountain Site Characterization Project Office, Conference Room 202, 101 Convention Center Drive, Las Vegas, Nevada. The entire meeting will be open to the public pursuant to the Federal Advisory Committee Act (Pub. L.94-463, 86 Stat.770-776).

The Nuclear Regulatory Commission (NRC) established the LSSARP in 1989 to provide advice and recommendations to the NRC and to the Department of Energy (DOE) on topics, issues, and activities related to the design, development and operation of an electronic information management system known as the Licensing Support System (LSS). This system will contain information relevant to the Commission's future licensing proceeding for a geologic repository for the disposal of high-level radioactive waste. Membership on the Panel consists of representatives of the State of Nevada, a coalition of effected units of local government in Nevada, the National Congress of American Indians, a coalition of organizations representing the nuclear industry,

DOE, NRC and two other agencies of the Federal government which have experience with large electronic information management systems.

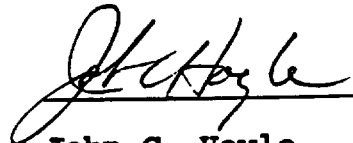
The meeting will begin on April 14, 1994 at 9:00 a.m. and conclude at 5:00 p.m. If additional time is needed, the meeting will reconvene at 8:30 a.m. on April 15, 1994 and conclude at approximately Noon. The primary agenda for the meeting will consist of a presentation by the NRC and continuation of discussion by the Panel of the modified approach for the design and operation of the LSS which was proposed by the NRC and discussed initially at the Panel's October 1993 meeting.

Interested persons may make oral presentations to the Panel or file written statements. Requests for oral presentations should be made to the contact person listed below as far in advance as practicable so that appropriate arrangements can be made.

For further information regarding this meeting contact John C. Hoyle, Office of the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555: telephone 301-504-1968.

Dated:

March 18, 1994



John C. Hoyle

Advisory Committee Management Officer

AGENDA

LSSARP MEETING APRIL 14-15, 1994

Thursday, April 14

- 9:00 Opening Remarks (John Hoyle, NRC, Panel Chairman)
- 9:15 Briefing by LSS Administrator
(Moe Levin, LSSA/NRC)
- 10:15 BREAK
- 10:30 Briefing on LSS Administrator's Audit Program
(David Drapkin, LSSA/NRC)
- 12:00 LUNCH
- 1:30 Committee Discussion
- 5:00 Adjourn

Friday, April 15

- 8:30 Review, Discussion of Open Issues
- 9:30 DOE Presentation (Dan Graser, DOE)
- Capture of DOE Documents
 - Status of InfoSTREAMS Development
- 10:00 Header Subgroup Report (Kirk Balcom, Nevada)
- 10:15 Use of LSS on Pilot Project Basis
(Mal Murphy, Nye County)
- 10:45 Future Agenda Discussion

LSSA AUDIT PROGRAM

Presented by:

DAVID S. DRAPKIN

**DIRECTOR, LSS SUPPORT AND OVERSIGHT SERVICES
OFFICE OF INFORMATION RESOURCES MANAGEMENT
U.S. NUCLEAR REGULATORY COMMISSION**

**MEETING OF THE LICENSING SUPPORT SYSTEM ADVISORY REVIEW
PANEL**

**APRIL 14, 1994
LAS VEGAS, NEVADA**

**LSSARP PRESENTATION
APRIL 14, 1994**

OUTLINE/AGENDA

- **PURPOSE OF PRESENTATION**
- **CONTEXT OF AUDIT PROGRAM WITHIN LSSA COMPLIANCE ASSESSMENT PROGRAM**
- **PURPOSE AND GOALS OF AUDIT PROGRAM**
- **OVERVIEW OF LSSA AUDIT PROGRAM**
- **STANDARDS AND REQUIREMENTS DOCUMENTS**

OUTLINE/AGENDA (continued)

- **GENERIC AUDIT TYPES**
- **GENERIC AUDIT METHODOLOGY**
- **SPECIFIC LSSA AUDITING ACTIVITIES**
 - **PARTICIPANT LSS-RELATED PROGRAM MANAGEMENT**
 - **DOCUMENTARY MATERIAL PROCESSING OPERATIONS**
- **AUDIT PROGRAM COSTS**

PURPOSE OF PRESENTATION

- **GIVE FURTHER DETAILS OF THE LSSA'S CONTROL OF THE OPERATION, MAINTENANCE, AND CONTENT OF THE LSS VIA THE PROPOSED LSSA AUDIT PROGRAM**
- **EMPHASIZE THE LSSA'S OVERSIGHT ROLE RELATED TO DOE DESIGN, DEVELOPMENT, OPERATION, AND MAINTENANCE OF THE LSS**
- **PROPOSE LSSARP PARTICIPATION IN LSSA AUDITS OF DOE'S LSS OPERATIONS**

**CONTEXT OF AUDIT PROGRAM WITHIN LSSA
COMPLIANCE ASSESSMENT PROGRAM (CAP)**

THE LSSA'S MANDATE IF ALTERNATIVE 3 IS ADOPTED

- **ENSURE INTEGRITY OF LSS DATABASE**
- **EVALUATE AND CERTIFY PARTICIPANT COMPLIANCE**
- **OVERSEE DOE DESIGN, DEVELOPMENT, OPERATION AND MAINTENANCE TO ENSURE COMPLIANCE**

**CONTEXT OF AUDIT PROGRAM WITHIN LSSA COMPLIANCE
ASSESSMENT PROGRAM (CAP) (continued)**

**THE PROPOSED LSSA CAP APPROACH CAN BE SEPARATED INTO FOUR
PRIMARY COMPONENTS:**

- **LSSA REVIEW OF PROGRAM MANAGEMENT DOCUMENTS AND
INFORMATION**
- **LSSA QA FACILITY**
- **LSSA AUDIT PROGRAM**
- **LSSARP OBSERVATION OF LSSA AUDITS OF DOE'S
DEVELOPMENT, OPERATION, AND MAINTENANCE**

PURPOSE OF AUDIT PROGRAM

- **HELP ENSURE DATABASE INTEGRITY**
- **EVALUATE COMPLIANCE WITH LSS RULE**
- **EVALUATE PARTICIPANT COMPLIANCE WITH *LSS PARTICIPANT COMMITMENTS***
- **PROVIDE DIRECT LSSA OVERSIGHT OF DOE'S OPERATION AND MAINTENANCE**
- **PROVIDE INPUT FOR CERTIFICATION OF PARTICIPANT COMPLIANCE**

GOALS OF THE AUDIT PROGRAM

THE LSSA WILL BE ABLE TO DETERMINE:

- **PARTICIPANT ABILITY TO MEET COMMITMENTS**
- **EFFECTIVENESS OF PARTICIPANTS' DOCUMENT PROCESSING OPERATIONS**
- **ACCURACY AND COMPLETENESS OF PARTICIPANTS' LSS DOCUMENTARY MATERIAL**
- **EFFECTIVENESS OF DOE'S OPERATION AND MAINTENANCE OF THE LSS**

OVERVIEW OF LSSA AUDIT PROGRAM

- **PERIODIC AUDITS OF DOE LSS DEVELOPMENT**
- **SEMI-ANNUAL AUDITS OF DOE OPERATION AND MAINTENANCE**
- **START-UP REVIEW TO EVALUATE PARTICIPANT DOCUMENT PROCESSING OPERATIONS**
- **SEMI-ANNUAL AUDITS OF EACH PARTICIPANT DOCUMENT PROCESSING OPERATION**
- **INTERIM FOCUSED AUDITS**

OVERVIEW OF LSSA AUDIT PROGRAM (continued)

- **AD HOC (UNANNOUNCED) AUDITS**
- **ONGOING REVIEW OF REQUIRED PARTICIPANT REPORTS AND DOCUMENTATION**
- **AUDIT REPORTING**
- **LSSARP PARTICIPATION THROUGH OBSERVATION OF LSSA AUDITS**

STANDARDS AND REQUIREMENTS DOCUMENTS USED IN AUDITING PROGRAM

- **LSS RULE**
- **LSS PARTICIPANT COMMITMENTS** — STANDARDS
- **LSSA GUIDANCE ON THE FORMAT AND CONTENT OF PARTICIPANT COMPLIANCE PROGRAM PLANS**
- **LSS PARTICIPANT COMPLIANCE PROGRAM PLAN**
- **LSS PARTICIPANT MATERIAL SUBMISSION PLAN**
- **LSS PARTICIPANT CERTIFICATIONS**
- **LSSA PROCESSING STANDARDS AND GUIDANCE**
- **NRC REGULATORY GUIDE ON THE LSS TOPICAL GUIDELINES**

LSS PARTICIPANT COMMITMENTS

LSSA IS PREPARING A COMMITMENTS DOCUMENT THAT WILL:

- **CLEARLY DEFINE PARTICIPANT OBLIGATIONS (COMMITMENTS) NECESSARY FOR AN EFFECTIVE LSS PROGRAM**
- **PROPOSE STANDARDS**
- **DEFINE METHOD OF MEASURING PARTICIPANT PERFORMANCE**

THIS DOCUMENT WILL BE RELEASED FOR LSSARP REVIEW AND COMMENT

FOUR FUNCTIONAL AREAS OF LSS PARTICIPANT COMMITMENTS

- **GROUP ONE - PROPER IDENTIFICATION OF DOCUMENT UNIVERSE, PROPER RELEVANCY SCREENING, AND TIMELY SUBMISSION OF MATERIALS**
- **GROUP TWO - PHYSICAL CONDITION OF SUBMITTED MATERIAL AND ACCURATE CODING OF THE MATERIAL**
- **GROUP THREE - PARTICIPANT MANAGEMENT REQUIREMENTS AND CONDITIONS FOR GAINING AND RETAINING ACCESS**
- **GROUP FOUR - DOE OBLIGATIONS RELATIVE TO DESIGN, DEVELOPMENT, OPERATION AND MAINTENANCE OF THE LSS**

**IN THE HANDOUT YOU WILL RECEIVE AT THE CONCLUSION OF THIS
PRESENTATION, YOU WILL FIND SEVERAL ILLUSTRATIVE
COMMITMENTS
TO SERVE AS EXAMPLES OF THE LEVEL OF DETAIL ANTICIPATED**

THE AUDIT MANAGEMENT "TEAM"

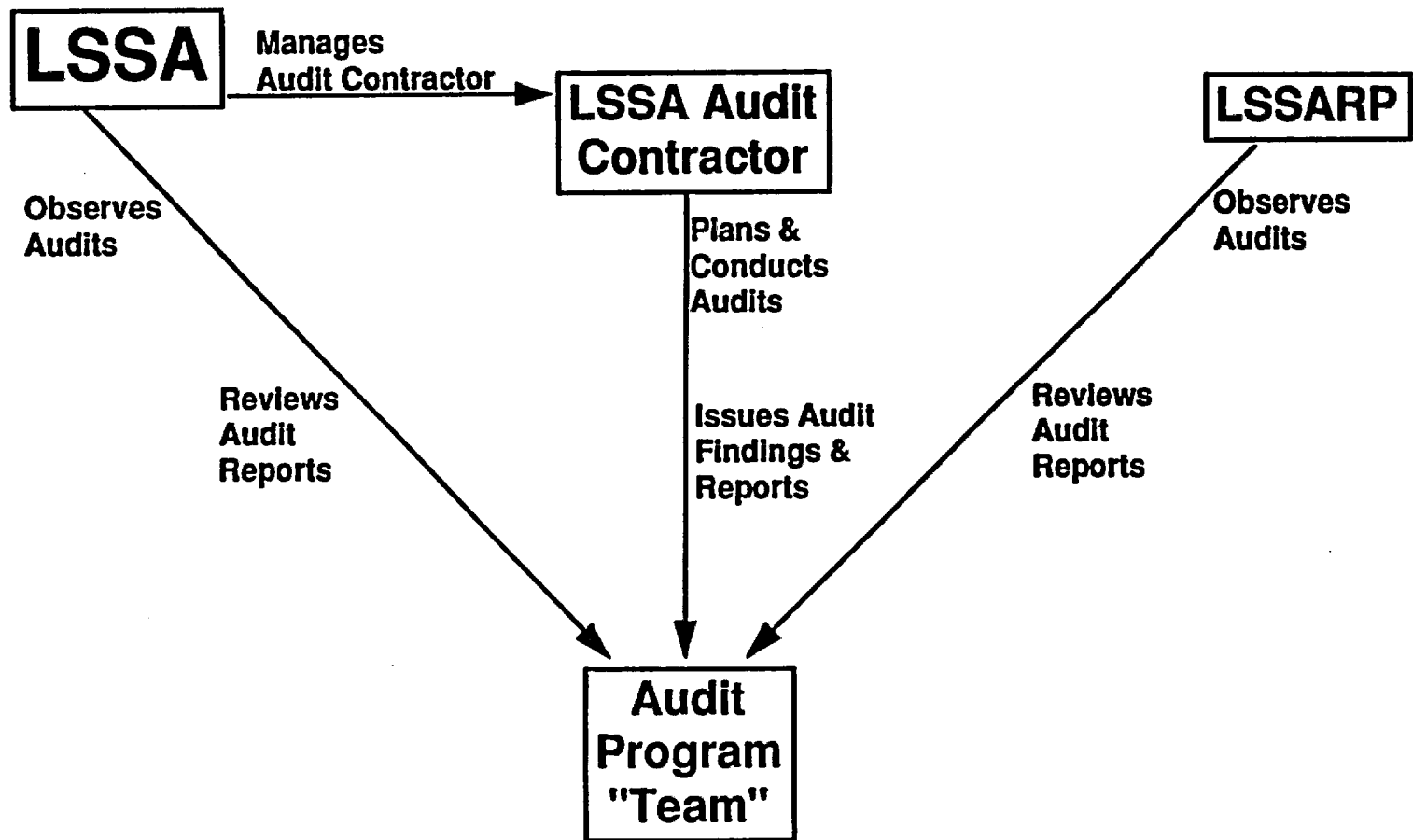


FIGURE 1

GENERIC AUDIT TYPES

A SYSTEMATIC PROGRAM OF QA AUDITS INVOLVES EXAMINING THREE PRIMARY ASPECTS OF THE PARTICIPANT'S LSS-RELATED ACTIVITIES, COVERED BY THREE TYPES OF AUDITS:

- **ADEQUACY**
- **PROCESS**
- **RESULTS**

STATISTICAL SAMPLING

- **LSSA CAP CURRENTLY DESIGNED TO REVIEW STATISTICALLY VALID, RANDOM SAMPLES OF PARTICIPANT-SUBMITTED MATERIAL**
- **SOME ON-SITE AUDITING ACTIVITIES WILL ALSO BE BASED ON STATISTICAL RANDOM SAMPLING**
- **REVIEWING A SAMPLE IS MORE COST EFFECTIVE THAN EVALUATING 100 PERCENT OF EACH SUBMISSION**
- **THE STATISTICAL VALIDITY INHERENT IN THIS APPROACH PROVIDES A REASONABLE LEVEL OF RELIABILITY IN QUALITY ASSESSMENTS**

ADEQUACY AUDIT

PURPOSE IS TO DETERMINE:

- **ARE MANAGEMENT PLANS IN PLACE?**
- **DO MANAGEMENT PLANS ESTABLISH THE NECESSARY REQUIREMENTS?**
- **DO THE OPERATING PROCEDURES ADEQUATELY DESCRIBE THE METHODOLOGY AND ASSIGN RESPONSIBILITIES AT THE APPROPRIATE LEVEL TO ACCOMPLISH THE PROCESS?**

PROCESS AUDITS

- **EXAMINE IMPLEMENTATION OF PARTICIPANT PLANS AND PROCEDURES**
- **REVIEW SHOULD INCLUDE RECORDS MAINTAINED THROUGHOUT THE PROCESS**
- **CAN COVER A BROAD RANGE OF SYSTEM ACTIVITIES OR FOCUS ON SPECIFIC AREAS**

RESULTS AUDITS

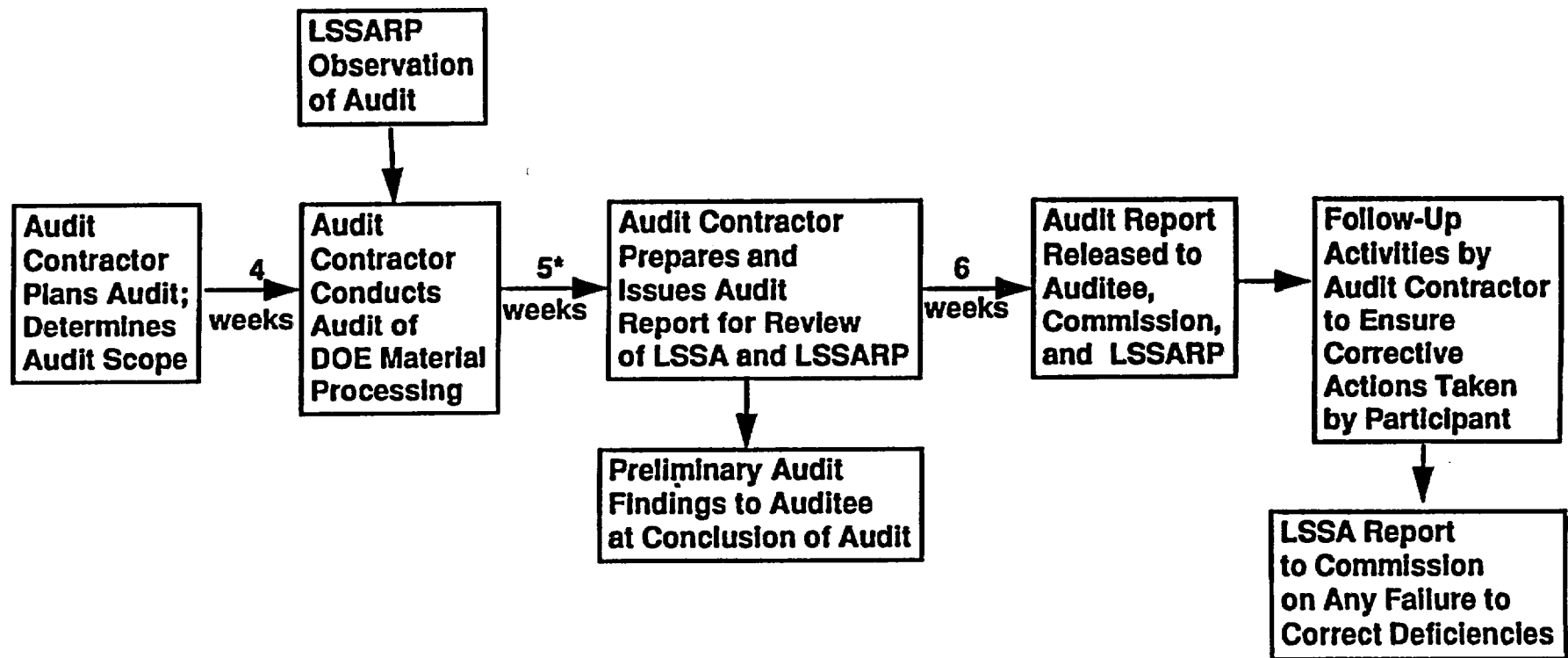
- **EXAMINATION OF THE RESULTS TO DETERMINE IF END PRODUCT IS FIT FOR ITS INTENDED USE**
- **FOCUSSES ON END PRODUCT TO ENSURE THAT THE PROCESS RESULTS ARE USABLE IN THE LSS**
- **UNDER THE CAP AS CURRENTLY CONCEIVED, NO NEED FOR ON-SITE RESULTS AUDITS OF PARTICIPANT-PREPARED DOCUMENTARY MATERIALS**

GENERIC AUDIT METHODOLOGY

THE GENERIC AUDIT METHODOLOGY INCLUDES FOUR BASIC PHASES:

- **AUDIT PLANNING**
- **CONDUCTING THE AUDIT**
- **REPORTING RESULTS**
- **FOLLOW-UP ACTIVITIES**

SAMPLE AUDIT PROCESS



*one week at each DOE site

FIGURE 2

AUDIT PLANNING

- **INITIATING AN AUDIT**
- **AUDIT PERSONNEL**
- **AUDIT PREPARATION**
- **CHECKLISTS**
- **NOTIFICATION**

CONDUCTING THE ON-SITE AUDIT

- **OPENING CONFERENCE**
- **AUDITING PROCESS**
- **CLOSING CONFERENCE**

REPORTING RESULTS

- **RECORD OF THE ENTIRE AUDIT PROCESS**
- **GENERAL DESCRIPTION OF THE AUDIT SCOPE AND OBJECTIVES, PROCEDURES, AND PERSONNEL INVOLVED**
- **DETAILED ACCOUNT OF THE AUDIT PROCESS, THE EVIDENCE OBTAINED, AND THE CONCLUSIONS DRAWN**
- **LSSARP REPRESENTATIVE IN REVIEWING REPORTING RESULTS**

FOLLOW-UP ACTIVITIES

- **FINDINGS MUST BE FOLLOWED UP WITH A DOCUMENTED CORRECTIVE ACTION PLAN**
- **FOLLOW-UP WILL INCLUDE RE-EXAMINING SPECIFIC ACTIVITIES OR MATERIALS IN QUESTION**
- **SCHEDULE FOLLOW-UP FOCUSED AUDIT**
- **FAILURE OF PARTICIPANT TO EFFECTUATE CORRECTIVE ACTION PLAN WILL REQUIRE LSSA DECISION ON ENFORCEMENT ACTIONS**

SPECIFIC AUDITING ACTIVITIES

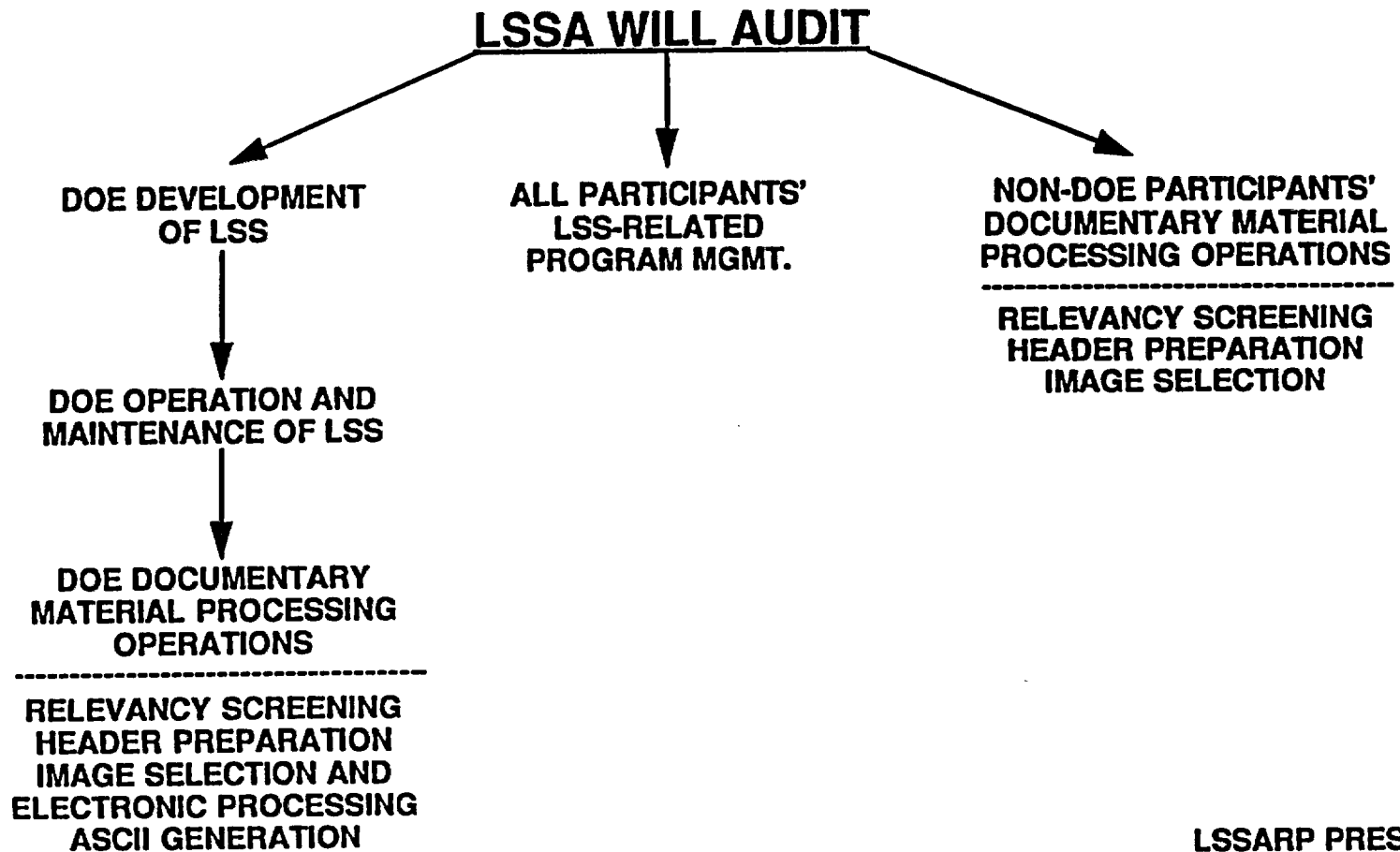


FIGURE 3

**SPECIFIC AUDITING ACTIVITIES
DOE DESIGN, DEVELOPMENT, OPERATION, AND MAINTENANCE
OF THE LSS**

- **REVIEW AND APPROVAL OF SYSTEM REQUIREMENTS BEFORE IMPLEMENTATION**
- **EARLY LSSA PARTICIPATION DURING SYSTEM PLANNING**
- **DOE'S ROLE WILL BE TO PROPOSE REQUIREMENTS, WHILE LSSA WILL SERVE IN A REVIEW CAPACITY**
- **NO ACTUAL AUDITING OF DOE'S ACTIVITIES UNTIL IMPLEMENTATION OF LSS DESIGN**
- **SEMI-ANNUAL AUDIT OF DOE'S OPERATION AND MAINTENANCE OF LSS**
- **LSSA WILL REQUEST PARTICIPATION OF LSSARP REPRESENTATIVES AS OBSERVERS AT SEMI-ANNUAL DOE AUDITS**

**DOE DESIGN, DEVELOPMENT, OPERATION, AND MAINTENANCE
OF THE LSS (CONTINUED)**

**ELEMENTS OF THE LSSA AUDIT PROGRAM THAT ENSURE EFFECTIVE
OVERSIGHT OF DOE' LSS-RELATED ACTIVITY ARE:**

- **PERIODIC AUDITS OF DOE LSS DEVELOPMENT**
- **SEMI-ANNUAL AUDITS OF DOE OPERATION AND MAINTENANCE
ONCE LSS IS IN PLACE**
- **ONGOING MONITORING OF LSS AVAILABILITY AND
FUNCTIONALITY BY LSSA QA FACILITY**
- **USING AUDIT RESULTS AS KEY TO LSSA CERTIFICATION OF
DOE COMPLIANCE WITH REQUIREMENTS OF THE LSS RULE**

PARTICIPANT LSS-RELATED PROGRAM MANAGEMENT

- **IDENTIFICATION OF POTENTIAL SOURCES OF DOCUMENTARY MATERIAL**
- **ESTIMATES OF DOCUMENTARY MATERIAL BACKLOG**
- **ESTIMATES OF DOCUMENT GENERATION RATE**
- **PRODUCTION SCHEDULE ESTIMATES (RELATED TO THE MATERIAL SUBMISSION PLAN)**
- **STAFFING**
- **TRAINING**
- **QUALITY ASSURANCE/QUALITY CONTROL ACTIVITIES, INCLUDING INTERNAL AUDITS**
- **TRACKING/COMPARISON OF PROCESSED MATERIALS TO PLANNED PRODUCTIVITY**

DOCUMENTARY MATERIAL PROCESSING OPERATIONS OF DOE

- **PART OF LSSA SEMI-ANNUAL AUDITS**
- **INCLUDE RELEVANCY SCREENING**
- **FOCUS ON THE SYSTEMS AND OPERATIONAL PROCEDURES AS THE BASIS FOR EVALUATION**
- **COMPARE PROCEDURES TO ACTUAL PROCESS TO VALIDATE ACCURACY OF PROCESS IMPLEMENTATION**
- **REQUIRE DOE TO REVIEW PROCEDURES AND PROCESSES**
- **PREPARE A REPORT FOR EACH PROCESS REVIEWED**
- **REQUIRE DOE TO SUBMIT UPDATES AND DOCUMENTATION**
- **WRITTEN CONFIRMATION OF THE CORRECTIVE ACTION IN THE FORM OF A REMEDIAL ACTION PLAN**

DOCUMENTARY MATERIAL PROCESSING OPERATIONS - NON-DOE PARTICIPANTS

- **AUDITS OF NON-DOE PARTICIPANTS WOULD BE REDUCED IN SCOPE**
- **SIX NON-DOE PARTICIPANT ENTITIES WILL SUPPLY DOCUMENTARY MATERIAL**
- **PRE-AUDIT PREPARATION SAME AS FOR DOE**
- **LSSA AUDIT TEAM WOULD CONDUCT AUDIT**
- **AUDIT TEAM CONSOLIDATES AND REPORTS RESULTS**
- **PARTICIPANTS REQUIRED TO DEVELOP A REMEDIAL ACTION PLAN**
- **REMEDIAL ACTION PLAN REVIEWED BY THE LSSA AND USED FOR FOLLOW-UP ACTIVITIES**
- **FREQUENCY OF AUDITS MAY BE INCREASED OR DECREASED**

ESTIMATED ANNUAL AUDIT PROGRAM COSTS

<u>AUDIT PROGRAM</u>	<u>APPROXIMATE DOLLARS</u>
DOE DESIGN, DEVELOPMENT, OPERATION, AND MAINTENANCE OF THE LSS	*
INFOSTREAMS	569,500
NON-DOE PARTICIPANT OPERATIONS	614,100
TOTAL	\$1,183,600

*BECAUSE INFORMATION ON THESE ACTIVITIES IS VERY INCOMPLETE, COSTING SUCH ACTIVITIES IS SPECULATIVE. NO SPECIFIC COSTS ARE IDENTIFIED IN THIS DOCUMENT FOR THOSE LSSA ACTIVITIES.

COMMENTS ON THE LSSA AUDIT PROGRAM

SHOULD BE SENT TO:

**DAVID S. DRAPKIN, DIRECTOR
LSS SUPPORT AND OVERSIGHT SERVICES
DIRECTOR'S OFFICE
OFFICE OF INFORMATION RESOURCES MANAGEMENT
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555**

COMMENTS ARE DUE NO LATER THAN MAY 16, 1994

LSSA AUDIT PROGRAM

Presented by:

DAVID S. DRAPKIN

**DIRECTOR, LSS SUPPORT AND OVERSIGHT SERVICES
OFFICE OF INFORMATION RESOURCES MANAGEMENT
U.S. NUCLEAR REGULATORY COMMISSION**

MEETING OF THE LICENSING SUPPORT SYSTEM ADVISORY REVIEW PANEL

**APRIL 14, 1994
LAS VEGAS, NEVADA**

Outline/Agenda

- **Purpose of Presentation**
- **Context of Audit Program within LSSA Compliance Assessment Program**
- **Purpose and Goals of Audit Program**
- **Overview of LSSA Audit Program**
- **Standards and Requirements Documents**
- **Generic Audit Types**
- **Generic Audit Methodology**
- **Specific LSSA Auditing Activities**
 - **Participant LSS-related Program Management**
 - **Documentary Material Processing Operations**
- **Audit Program Costs**

Purpose of Presentation

- To give the LSSARP further details of the LSSA'S control of the operation, maintenance, and content of the LSS via the proposed LSSA Audit Program
- To emphasize the LSSA's oversight role related to DOE design, development, operation, and maintenance of the LSS within InfoSTREAMS
- To propose LSSARP participation in the audit program through the attendance of representative observers at LSSA audits of DOE's LSS operations

Context of Audit Program Within LSSA Compliance Assessment Program (CAP)

The LSSA's Mandate If Alternative 3 Is Adopted

- **Ensure the integrity of the LSS database**
- **Evaluate and certify participant compliance with their obligations under the LSS rule**
- **Oversee DOE design, development, operation and maintenance of the LSS to ensure compliance with LSSA requirements**

Context of Audit Program Within LSSA Compliance Assessment Program (CAP)
(continued)

As described at the October 1993 LSSARP meeting, the proposed LSSA CAP is a multi-faceted approach to determining whether all participants are fulfilling their responsibilities under the LSS Rule and derivative LSSA guidance and standards. This approach can be separated into four primary components:

- LSSA review of program management documents and information required of participants, such as the *LSS Participant Compliance Program Plan*;
- the LSSA QA Facility, where documentary materials submitted by participants and loaded to the LSS will be reviewed by an LSSA contractor to ensure its proper preparation and timely submission;
- the LSSA Audit Program, which will involve LSSA-initiated on-site audits of each participant's LSS-related activities. Participants will be audited against their LSSA-approved Compliance Program Plans as well as against the *LSS Participant Commitments*.
- LSSARP observation of LSSA audits of DOE's development, operation, and maintenance of the LSS is proposed.

Purpose of the Audit Program

- Provides information to ensure the integrity of the LSS database, as mandated by the LSS Rule.
- Evaluates compliance with LSSA requirements and applicable standards, and identifies problems as early as possible in the process.
- Evaluates participant compliance with those responsibilities enumerated by the LSSA in the *LSS Participant Commitments* that cannot be evaluated through a quality control inspection of submitted documentary material. These include those requirements for the implementation of systems and activities with non-specific processing standards and compliance thresholds, such as:
 - program planning and scheduling
 - procedure development and control
 - handling of procurement specifications for compliance
 - interactions between the participant and the LSSA
- Provides direct LSSA oversight (with the participation of the LSSARP) of DOE's operation and maintenance of the LSS as an information storage and dissemination capability within DOE InfoSTREAMS.
- Provides input essential to LSSA's semi-annual certification of participant compliance

Goals of the Audit Program

Through the implementation of a comprehensive audit program, the LSSA will be able to determine:

- The ability of a participant's internal systems to meet commitments and provide usable results
- The effectiveness of a participant's document processing operations in meeting standards for material preparation, quality control and material submission
- The accuracy and completeness of LSS documentary material provided by each of the participants
- The effectiveness of DOE's operation and maintenance of the LSS

Overview of LSSA Audit Program

- **Periodic audits of DOE development of LSS, until the LSS is fully operational**
- **Semi-annual audits of DOE operation and maintenance of LSS once fully operational**
- **Start-up reviews of proposed programs to evaluate participant document processing operations**
- **Semi-annual audits of each participant document processing operation (including multiple sites, as appropriate)**
- **Interim focused audits, keyed to a particular area of a participant's LSS-related activities (as necessary)**
- **Ad hoc (unannounced) audits, particularly as a function of LSSA follow-up activities related to a previous audit finding**
- **Ongoing review of required participant reports and documentation**
- **Audit reporting**
- **LSSARP participation through observation of LSSA audits**

Standards and Requirements Documents

The following documents are sources of the program requirements and document processing standards against which participants will be audited for compliance:

- *LSS Rule* - forms the basis for all participant obligations related to the LSS program.
- *LSS Participant Commitments* - a document that proposes the participant responsibilities that will be examined during the compliance evaluation process
- *LSSA Guidance on the Format and Content of Participant Compliance Program Plans* - a document which describes the compliance program plan that must be developed by each participant and submitted to and approved by the LSSA prior to being granted access to the LSS.
- *LSS Participant Compliance Program Plan* - a manual developed by each participant in accordance with the *LSSA Guidance on the Format and Content of Participant Compliance Program Plans*. In the compliance program plan, the participant describes its LSS-related operations.
- *LSS Participant Material Submission Plan* - an appendix to the *LSS Participant Compliance Program Plan* that will contain a thorough analysis of all parameters affecting the eventual volume and type of material to be submitted to the LSS, and a long-range schedule for the submission of this material that supports the timely and efficient loading of the LSS database.
- *LSS Participant Certifications* - a document that details participant responsibilities found in the LSS Rule as well as those established by the LSSA under authority of the LSS Rule. Requires the participant, through its DLO, to certify agreement to those responsibilities.
- *LSSA Processing Standards and Guidance* - a manual containing detailed instructions on the proper preparation of documentary materials for submission to the LSS.
- *NRC Regulatory Guide on the LSS Topical Guidelines* - a document developed by the NRC staff to provide subject-matter guidance in identifying the documentary material that should be submitted by participants for entry into the LSS.

LSS Participant Commitments

LSSA is preparing a commitment document that will:

- **Clearly define participant obligations (commitments) necessary for an effective LSS program**
- **Propose standards**
- **Define method of measuring participant performance**
- **This document will be released for LSSARP review and comment before finalization**

Four Functional Areas of LSS Participant Commitments

- **GROUP ONE - proper identification of document universe, proper relevancy screening, and timely submission of materials**
- **GROUP TWO - physical condition of submitted material and accurate coding of the material**
- **GROUP THREE - participant management requirements and conditions for gaining and retaining access**
- **GROUP FOUR - DOE obligations relative to design, development, operation and maintenance of the LSS**

**IN THE HANDOUT YOU WILL RECEIVE AT THE CONCLUSION OF THIS
PRESENTATION, YOU WILL FIND SEVERAL ILLUSTRATIVE COMMITMENTS
TO SERVE AS EXAMPLES OF THE LEVEL OF DETAIL ANTICIPATED**

ILLUSTRATIVE EXAMPLE

GROUP 1 -- COMMITMENTS WITH SPECIFIC PROCESSING STANDARDS AND NON-COMPLIANCE REPORTING THRESHOLDS

1.A Commitment -- Document Universe Identification

All LSS participants will report to the LSSA, for their potential LSS material, the location and content of each backlog repository and each generation/acquisition source (those that exist at the time Compliance Program Plans are submitted and any that arise thereafter) and do so promptly and in accordance with LSSA guidance. These will constitute all the sources of material to be screened for Topical Guidelines relevancy.

Processing Standard

Standard: DLOs must report all existing sources of potential LSS material at the time they submit their Compliance Program Plans and subsequently report any new potential sources in a timely manner.

Rationale: To either not be aware of, or not disclose, even a single potential source could prevent significant volumes of relevant LSS material from being entered into the LSS.

Non-Compliance Reporting Threshold

Threshold: Non-compliance will be reported if, after the initial report of backlog and existing sources is finalized in the participant's Compliance Program Plan, any valid source of potential LSS material that reasonably should have been reported is identified by someone other than the responsible DLO.

Rationale: Since it is not difficult for a DLO to either identify existing sources or establish procedures to stay abreast of new potential sources of LSS material, and given the importance of full disclosure to the discovery objective of the LSS, non-compliance should be reported if any valid source of potential LSS material is overlooked or not disclosed by a DLO.

Compliance Assessment Method

After becoming aware of an undisclosed potential source of LSS material from someone other than the responsible DLO, the LSSA will ask the responsible DLO to investigate this potential source and certify to the LSSA as to whether or not it is a valid potential source of LSS material. The LSSA will perform on-site audits when deemed necessary to validate this certification. Also, as deemed appropriate, the LSSA audit staff may proactively sample other related document collections/sources for possible LSS materials.

ILLUSTRATIVE EXAMPLE

GROUP 2 -- COMMITMENTS WITH SPECIFIC PROCESSING STANDARD AND REJECTION/RESUBMISSION THRESHOLDS

2.D	Commitment -- ASCII Text Preparation
<p>DOE will produce ASCII text for the textual portion of nearly all LSS material (privileged material and probably some text imbedded in graphics will not be converted to ASCII text) in accordance with LSSA guidance. [§2.1003]</p>	
Processing Standard	
<p>Standard: The ASCII text for each page of submitted LSS material should have no more than two errors per thousand characters (99.8% accurate) when compared to the text in the corresponding digital image.</p> <p>Rationale: If there are an unacceptable number of wrong or missing ASCII characters in the processed text, then LSS users could miss some material when performing word searches against the ASCII and thereby call into question the integrity/usefulness of the LSS. Also, errors could impact a user's ability to navigate through text and from text to images.</p>	
Rejection/Resubmission Threshold	
<p>Threshold: ASCII will be rejected if more than 1% of the sampled pages either do not meet the standard or do not conform to LSSA's text conversion/format guidance, e.g., conversion of figure titles, insertion of "see image" flags, etc.</p> <p>Rationale: Given the tremendous volume of LSS material to be processed and the relatively high cost of editing converted ASCII to a high standard, it would be very costly to require that every page of ASCII meets the established standard. LSSA proposes to accept units/batches of material that have no more than 1% substandard pages. However, no page will be accepted if the text accuracy is below 90%. Pages in the LSS with substandard ASCII that prove to cause LSS users problems will be corrected to standard.</p>	
Compliance Assessment Method	
<p>Text characters from representative samples drawn from batches of material submitted by DOE will be compared to the corresponding digital image characters at the LSSA QA Facility.</p>	

ILLUSTRATIVE EXAMPLE

GROUP 3 -- COMMITMENTS WITHOUT SPECIFIC PROCESSING STANDARDS AND COMPLIANCE THRESHOLDS

3.G	Commitment -- Access to Material Not Suitable for Entry
	All LSS participants will provide access to their non-privileged LSS documentary material that is not suitable for entry into the LSS in accordance with required LSS access protocols or through entry upon land for inspection or for other purposes pursuant to §2.1020. [§2.1003]
3.H	Commitment -- DLO Certifications
	DLOs will accurately certify compliance with all LSS commitments bi-annually in accordance with LSSA guidance and on a schedule specified by the LSSA. [§2.1009]
3.I	Commitment -- Participants' Written Procedures
	All LSS participants will establish written procedures to implement their responsibilities under the LSS rule. [§2.1009]
3.J	Commitment -- Participants' Training
	All LSS participants will provide adequate training for their staff and their contractors' staff producing and/or processing LSS material. [§2.1009] Participants and their contractors who will use the LSS must be trained by an LSSA-certified instructor before using the system.
3.K	Commitment -- Reporting Requirements
	All LSS participants will submit to the LSSA: a) complete and accurate periodic reports/data pertaining to their document processing plans and activities in accordance with LSSA guidance; and, b) paper copies of any screened documentary material needed by LSSA for either quality assurance or other verification purposes. Participants will issue, to other LSS participant organizations and to the LSSA, periodic listings of all documents screened out of the universe as not relevant. These listings shall include supporting rationale as reflected in their audit trail documentation, (see Commitment 1.D -- Accountability for Screened Material).

ILLUSTRATIVE EXAMPLE

GROUP 4 -- DOE COMMITMENTS REGARDING DESIGN,
DEVELOPMENT, OPERATION, AND MAINTENANCE
OF THE LSS

4.C.2	Commitment -- Requirements for Operation and Maintenance of the LSS
	<p>DOE will develop requirements for operation and maintenance of the LSS with input from and concurrence of the LSSA. Maintenance requirements will include:</p> <ul style="list-style-type: none">- hardware maintenance- software maintenance- telecommunications maintenance- upgrades to hardware, software and other equipment- maintenance of facilities for LSS-related activities (including off-site storage) <p>Operation requirements will include specifications for :</p> <ul style="list-style-type: none">- document processing- authority file maintenance- submitter verification and change processing- system testing- technical support services- configuration management- facility management- documentation- internal controls- E-mail submission and adjudicatory document handling

Generic Audit Types

A systematic program of QA audits involves examining three primary aspects of the participant's LSS-related activities, covered by three types of audits:

- Adequacy audits of participant plans, systems, and procedures are conducted to determine their adequacy. (For example, an evaluation of DOE's plans for receiving and tracking the processing of other participants' documentary materials when submitted for electronic processing, or the examination of a participant's plans and procedures for header preparation).
- Process audits examine the implementation of the participant plans and procedures to ensure that they are being followed as intended. (For example, the on-site evaluation of the processes described above under adequacy audits to determine whether they have been effectively put in place by the respective parties).
- Results audits focus on the end product to ensure that the results are usable in the LSS, conforming to both the LSSA-established standards and the participant's established processing standards. (For example, an examination of DOE-generated images of other participants' submitted documentary materials for compliance with LSSA image standards, or the review of a participant's document headers for compliance with LSSA header preparation standards).

Statistical Sampling

- The LSSA's Compliance Assessment Program is currently designed to review statistically valid, random samples of participant-submitted material at the LSSA QA Facility.
- Some on-site auditing activities will also be based on statistical random sampling. Statistical sampling is a method commonly used for performing database quality control review of representative quantities of large volumes of material. Conclusions regarding the quality of the entire population of submitted data can be made based on the QA of the sample.
- Reviewing a sample of each InfoSTREAMS submission to determine the quality of LSS material is more cost effective than evaluating 100 percent of each submission. Whereas statistical sampling cannot provide perfectly accurate evaluations of the actual quality of reviewed material, statistical sampling does provide a mathematically sound, acceptable approach to determining the accuracy of the submitted material with a high degree of confidence and probability. The cost savings in using sampling over one hundred percent review outweigh the risks.
- The statistical validity inherent in this approach provides a reasonable level of reliability in quality assessments derived from the review and grading of the sample. This widely used approach is based on principles and formulae that establish relationships between the size of the sample and the desired reliability in the results.

Statistical Sampling (continued)

1. Sample Size Assumption - (99% Confidence Level*)

Images/Pages of Text

- An average of 20 pages per document are tested for 99% accuracy

2. Sample Sizes

Images/Pages of Text

<u>Batch Size (Pages)</u>	<u>Sample Size (Pages)</u>	<u>Rejection Level (Pages)</u>
2000 - 3000	743	10
3020 - 4000	792	10
4020 - 6000	848	11
6020 - 8000	879	11
8020 - 10,000	899	12
10,020 - 20,000	941	12
20,020 - 40,000	964	12
40,020 - 100,000	978	13

- * A primary objective of any quality control procedure that utilizes sampling is to reduce the probability of making a false rejection to within acceptable limits. Therefore, it is necessary to specify an acceptable level for the probability of a false rejection error. The smaller this probability, the larger the sample size necessary to guard against this error. The probability of false rejection is usually set between .01 (1%) and .05 (5%). One minus this probability is referred to as the confidence level for the QA review (e.g., $1 - .01 = .99$ or 99% confidence level). The chosen confidence level is factored into a statistical formula to arrive at the necessary sample size.

Sample Sizes and Rejection Levels for Quality Assurance

Adequacy Audit

Adequacy audits are audits of participant plans, systems, and procedures conducted to determine the participants' adequacy in prescribing a program that would fulfill the requirements of the LSS. The purpose of the adequacy audit is to determine in accordance with a participant's compliance program plan, whether:

- Appropriate management plans are in place for defining and implementing an acceptable system to process participant materials for submission as LSS materials
- The participant management plans establish the necessary requirements to ensure that, when carried out, the end product will be in compliance with the LSS Rule
- The operating procedures adequately describe the methodology and assign responsibilities at the appropriate level to accomplish the process.

A wide range of the participant activities are examined to make these determinations. These include:

- Organization structure
- Personnel qualifications and training
- System design
- Procedure development and control
- Document processing
- Quality control
- Corrective action

Adequacy auditing is usually performed prior to actual production by auditing development plans and prototype procedures. Such audits provide a means to identify areas of concern and correct potential problems with the participant program before errors are generated in the LSS.

Process Audits

Process audits examine the implementation of the participant plans and procedures to ensure that they are being followed as intended. These audits will examine the effective implementation of such document processing functions as:

- Screening
- Duplicate checking
- Unitization
- Header preparation
- Image and ASCII preparation.

Also included are the effectiveness of the management systems for:

- Training
- Document processing tracking and accountability systems
- Corrective actions procedures.

The process review should include a review of the records maintained throughout the process and the methods established for identifying and correcting errors.

The process audit can cover a broad range of system activities, but can also focus on specific areas.

Results Audits

- Any type of compliance evaluation should include an examination of the process results to determine if the end product is fit for its intended use and conforms to established specifications.
- The results audit focuses on the end product to ensure that the process results are usable in the LSS, conforming to both the LSSA-established standards and the participant's established processing standards.
- Under the CAP as currently conceived, there would be no need for on-site results audits of participant-prepared documentary materials, because of the intensive review of end product to be undertaken at the LSS QA Facility.

Generic Audit Methodology

The generic audit methodology includes four basic phases:

- Audit planning
- Conducting the audit
- Reporting results
- Follow-up activities

Audit Planning

Initiating an Audit

Audit Schedule:

- LSSA initiates audit based on an established audit schedule.
- Audit schedule is derived from a requirement for participant audits to be conducted on a predetermined frequency, for example, every six months, or based upon the completion of established milestones, as projected by the participants' Compliance Program Plans.
- LSSA will use the audit schedule as a guideline for the overall audit program and evaluate each scheduled audit to determine that it is appropriate, and not premature at that time.
- Scheduled audit may need to be postponed or moved up based on the participant's current performance and production schedules.

Scope and Objectives:

- Overall objectives of a participant audit are established by the LSSA, as part of the long-range plan and schedule, and are key in determining the type of audit to be conducted
- For example, an adequacy audit would be appropriate in the early stages of a participant's operation to determine if proper management controls for an acceptable program are in place
- Objective of this type of audit would include examining such program elements as organizational structure, operating procedures, personnel training programs, and other management systems necessary to fulfill the requirements of the LSS Rule
- LSSA will obtain comment from the LSSARP Audit Management Team representative on proposed audit scope

Planning Process:

- Audit team is responsible for planning the audit and clearly documenting the scope and objectives in a preliminary audit plan
- Preliminary plan includes the dates when the audit will be conducted, the location of the audit, the names of the audit team members and their assignments
- Audit plan should be specific in narrowing the scope of the audit in terms of the LSS Participant Commitments
- Audit team leader prepares the audit plan and submits it to the LSSA for review and approval prior to proceeding further with planning activities

Audit Planning (continued)

Audit Personnel

Qualifications:

- Auditors must be independent of the organization and activities being audited to ensure objectivity
- Auditors must possess sufficient education and training in the auditing process to perform in a competent and professional manner, be knowledgeable in LSS requirements and commitments, and have sufficient experience in the particular area being audited to make competent and reliable determinations. The audit team should include technical specialists skilled in document processing techniques, and management representatives qualified to assess compliance to LSS requirements. For example, an auditor of DOE's image preparation must be knowledgeable about appropriate standards for format and legibility of document images.

Team Leader Responsibilities:

- Team leader serves as the principal contact between the audited organization and the auditors
- Team leader organizes the audit, directs the conduct of the audit, communicates results throughout the process, and officially authors the final report.

Training:

- Training will include an orientation on the background of the LSS system and its purpose, the LSS Rule and its requirements, and the participant organizations and their roles in the LSS
- Auditors will be required to receive specific instruction on the LSS audit program objectives and process, which may be accomplished through a combination of training and reading assignments
- Training must include basic quality assurance principles and information on the standards and regulations applicable to the LSS system

Audit Planning (continued)

Audit Preparation

- Team Leader should initiate informal contact with the audited organization to arrange preliminary scheduling and logistics
- Informal scoping visit may be advisable to ensure that the basic objectives of the audit are communicated to the auditee and expectations are clear
- Facilities necessary for the on-site can be identified at this time
- Preparation also includes collecting relevant information and documents that cover the audited activities such as the LSS requirements documents, the audited organization's management plans and operating procedures, reports of previous audits, and documentation of any corrective actions in progress completed since the previous audit

Checklists

- Audit team members will develop detailed checklists for their assigned areas based on the documents assembled to ensure that all aspects are covered during the audit
- Checklists are designed as a guideline, but are not meant to limit the extent of the auditor's investigation in any way
- As part of checklist preparation, audit team will consider appropriate samples to be examined during the audit

Notification

- LSSA issues a formal notification to the audited organization
- LSSA's notification letter to senior management should outline clearly for the auditee what their responsibilities and involvement will be during the audit

Conducting the On-site Audit

Opening Conference

- Team leader conducts opening meeting upon arrival on-site and presents objectives of the audit
- At this time a detailed schedule for each team member should be determined to let the auditee know what areas each will be looking at and when to arrange for interviews with appropriate staff

Audit Process

- Actual process is accomplished through a combination of interviews, observations, and evaluations. The audit team will typically interview key personnel involved in LSS program management, documentary material processing, and DOE design, development, operation, and maintenance of the LSS, for example, the participant DLO. Auditees may be asked questions concerning the adequacy of their methods for distribution and control for procedures or whether the participant has made sufficient effort to verify the accuracy of its submitted materials that have been loaded to the LSS.
- The audit team will also observe and evaluate the participants LSS operations to determine whether they are operating in compliance with the *LSS Participant Commitments* and the *Participant Compliance Program Plan*.
- Audit is conducted by the LSSA contractor; however, the LSSA and LSSARP observes the conduct of the audit and reviews and comments on the audit report.
- Audit contractor must keep complete and accurate record of the audit process. This record will form the basis of the audit results.
- Once all auditing activities have been completed, the members of the Audit Management Team will meet to discuss audit findings and recommended corrective actions, if necessary.

Closing Conference

- At the conclusion of the audit, the auditee and the audit contractor will reassemble for a closing meeting, at which the audit contractor will present its preliminary findings. These findings will later be documented in the official audit report.

Reporting Results

- Compile a record of the entire audit process
- Provide a general description of the audit scope and objectives, procedures, and personnel involved
- Provide a detailed account of the audit process, the evidence obtained and the conclusions drawn
- Cover the following specifics:
 - performance period
 - materials reviewed
 - activities observed
 - persons interviewed
- Provide LSSARP representative with a section in the audit report for comments
- When finalized, distribute audit report to Commission and LSSARP

Follow-up Activities

- Findings in the audit report must be followed up with a documented corrective action plan prepared by the audited participant
- Follow-up will usually include re-examining the specific activities or materials in question to ensure that necessary corrective action has been taken
- Where an area requiring correction could compromise the integrity of the LSS, the LSSA will schedule a follow-up focused audit to assess the results of participant efforts to implement its corrective action plan
- Failure of participant to effectuate corrective action plan will require LSSA decision on enforcement actions

Specific Auditing Activities

DOE Design, Development, Operation, and Maintenance of the LSS

- LSSA will review and approve (with LSSARP advice) DOE-developed LSS/InfoSTREAMS system requirements before implementation and will oversee DOE's performance of the operations and maintenance function.
- Early LSSA participation will be required during system planning to ensure that the LSS capability is designed in such a way that it can fulfill the requirements of the LSS and avoid potential problems of LSS oversight during system operation and maintenance.
- Generally, DOE's role in this area will be to propose requirements, while the LSSA will serve in a review capacity to ensure that the proposed requirements satisfy the objectives of the LSS program.
- Actual auditing of DOE's activities is not anticipated until the implementation of the LSS design is underway. At that time, the LSSA will conduct periodic audits of DOE's system implementation.
- LSSA will audit DOE's operation and maintenance of the LSS on a semi-annual basis, as part of the semi-annual audit of DOE's LSS-related InfoSTREAMS activities.
- LSSA will request participation of LSSARP representatives as observers at the semi-annual DOE audits and plan for participation accordingly.

DOE Design, Development, Operation, and Maintenance of the LSS
(continued)

Elements of the LSSA Audit Program that ensure effective oversight of DOE' LSS-related activity are:

- Periodic audits of DOE LSS development effort to ensure that LSSA-approved requirements are implemented (e.g., quarterly design review meetings between DOE and the LSSA)
- Semi-annual audits of DOE operation and maintenance once LSS is in place to determine:
 - accuracy and completeness of data loaded to LSS by DOE, including the absence of any compromise of that data after loading
 - adherence to loading and availability schedule
 - adequacy of DOE LSS management systems
 - adequacy of DOE training and user assistance for participants
- Ongoing monitoring of LSS availability and functionality by LSSA QA Facility
- Using audit results as key to LSSA certification of DOE compliance with requirements of the LSS Rule

Participant LSS-related Program Management

Evaluated during the LSSA semi-annual audit. Included will be the following areas:

- **Identification of potential sources of documentary material**
(Participants are required to identify all sources of their potentially relevant materials, such as record repositories, program offices, and contractor record repositories)
- **Estimates of documentary material backlog**
(Accuracy of these estimates is essential to the LSSA's effective management of the timely loading of the LSS)
- **Estimates of current generation rate for new documentary material that will have to be factored into the LSS loading schedule**
- **Production schedule estimates (related to the Material Submission Plan - are the participants on-time with regard to the approved schedule of submissions)**
- **Staffing**
(Are properly qualified staff in place to better ensure a successful participant LSS program?)
- **Training**
(Have all staff been appropriately trained in accordance with a training program required of all participants by the LSS Rule?)
- **Quality assurance/quality control activities, including internal audits**
- **Tracking of processed materials**
(Are participants able to account for all materials processed?)

Documentary Material Processing Operations - DOE

- Covered in LSSA semi-annual audits
- Includes relevancy screening
- Auditing would focus on the systems and operational procedures as the basis for evaluation
- Audit would involve comparing procedures to the actual process to validate the accuracy of process implementation, including the receipt and processing of non-DOE material
- DOE would review procedures and processes to ensure that they are updated and accurate in their description of actual processing operations.
- LSSA audit team would conduct audit and prepare a report for each process reviewed, indicating the degree to which the actual process was effective in conforming to the established procedures and achieving the desired result.
- DOE would be required to submit to the LSSA updates to existing programs and procedures, and documentation relative to new or changed programs and procedures.
- Follow-up with DOE where remedial actions were required would involve written confirmation of the corrective action by the DOE processing facility in the form of a remedial action plan.

Documentary Material Processing Operations - Non-DOE Participants

- The audits of non-DOE participants would be somewhat reduced in scope in comparison to the InfoSTREAMS audits, because the non-DOE participants:
 - may choose not prepare their documentary material electronically
 - are estimated to be contributed a maximum of 10 percent of the total volume of LSS documentary
- It is assumed that six non-DOE participant entities will be supplying documentary material for input to the LSS, and that each will have one document screening/processing center.
- Pre-audit preparation would be essentially the same as for DOE audits including planning and coordination with auditor.
- LSSA audit team would conduct audit.
- Following completion of audit, the audit team will consolidate and report the results for the participant.
- Participants will be required to develop a remedial action plan to respond to any errors or discrepancies.
- The remedial action plan will be reviewed by the LSSA and used for follow-up activity by the audit team
- Depending on factors such as quantity of documentary materials processed and submitted or demonstrated ability to comply with LSSA standards, the frequency of LSSA audits of non-DOE participants would be reduced or increased.

Estimated Annual Audit Program Costs

- LSSA Audits of DOE Design, Development, Operation, and Maintenance of the LSS. Because information on these activities is very incomplete, costing such activities is speculative. No specific costs are identified in this document for those LSSA activities.

- LSS Audits of InfoSTREAMS - For the semi-annual audits, the estimate assumes an audit team comprised of four personnel spending approximately four weeks in audit preparation (covering all five sites: DOE Headquarters, DOE Yucca Mountain Project Office-NV, Sandia National Laboratories, U.S. Geological Survey, and Lawrence Livermore National Laboratory), one week at each location and approximately six weeks in coordinating raw data and preparing audit findings. A focused surveillance audit, focusing on a specific area of the InfoSTREAMS program, is estimated at 25 percent of the cost of a semi-annual audit. During the first several years of LSS operation, a requirement for at least two such audits per year is anticipated.

- LSSA Audits of Non-DOE Participant Operations. For the semi-annual audits, it is assumed that six non-DOE participant entities will be supplying documentary material for input to the LSS, and that each will have one document processing center. An audit team comprised of three personnel will spend approximately four weeks in audit preparation (covering all six non-DOE participant site), one week at each audit location, and approximately six weeks in coordinating raw data and preparing audit findings. Focused surveillance audits (for at least the first two years) may also be required for each non-DOE participant. At a minimum, one focused audit per year for each non-DOE participant would be necessary for the first two years of document processing.

Audit Program	Approximate Dollars (per year)
DOE Design, Development, Operation, and Maintenance of the LSS	*
InfoSTREAMS	569,500
Non-DOE Participant Operations	614,100
TOTAL (DOE & Non-DOE participants)	\$1,183,600

COMMENTS ON THE LSSA AUDIT PROGRAM

SHOULD BE SENT TO:

**DAVID S. DRAPKIN, DIRECTOR
LSS SUPPORT AND OVERSIGHT SERVICES DIRECTOR'S OFFICE
OFFICE OF INFORMATION RESOURCES MANAGEMENT
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555**

COMMENTS ARE REQUESTED NO LATER THAN MAY 16, 1994

**Civilian Radioactive Waste
Management System**

Management & Operating
Contractor



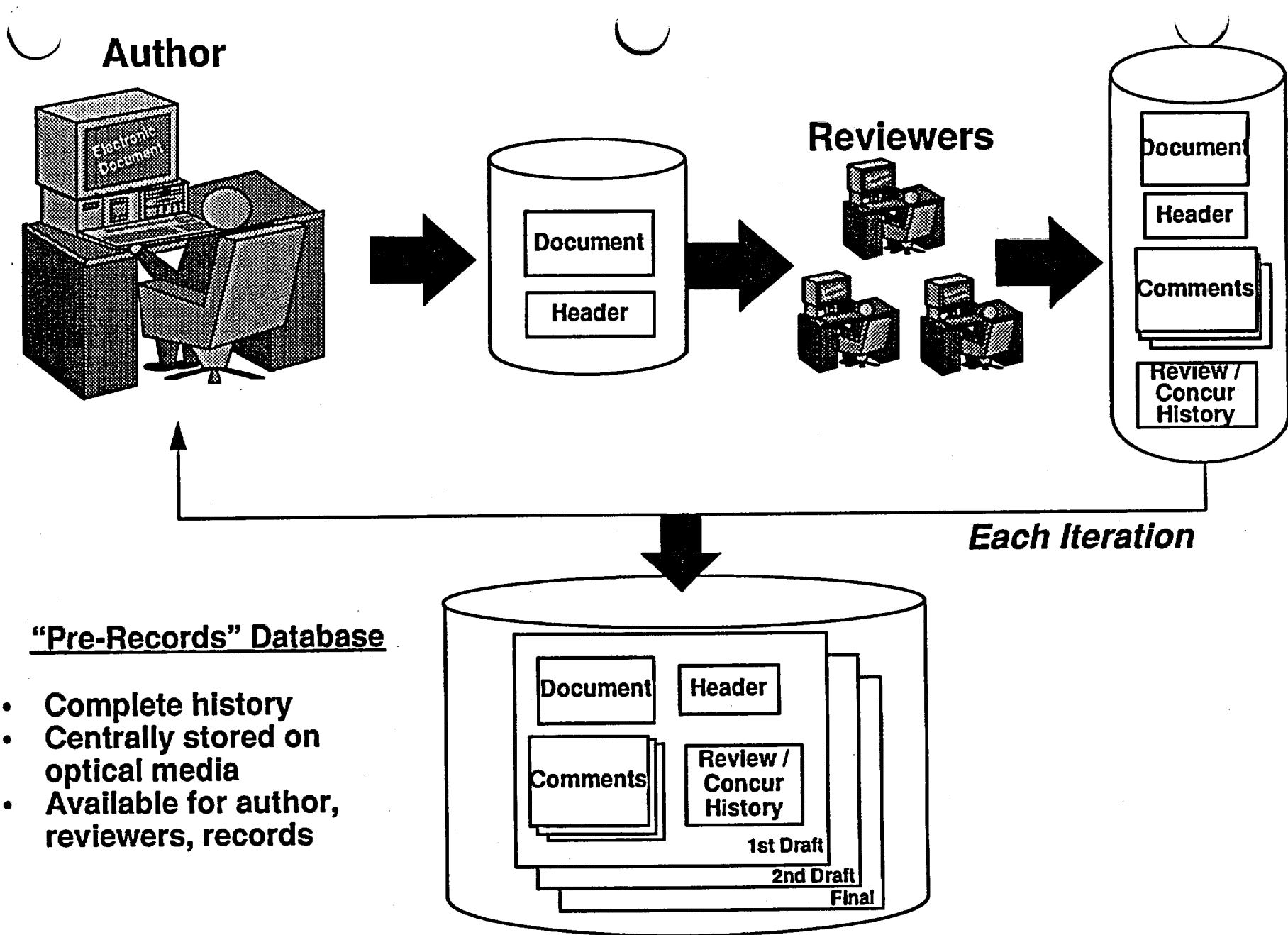
**TRW Environmental Safety
Systems Inc.**

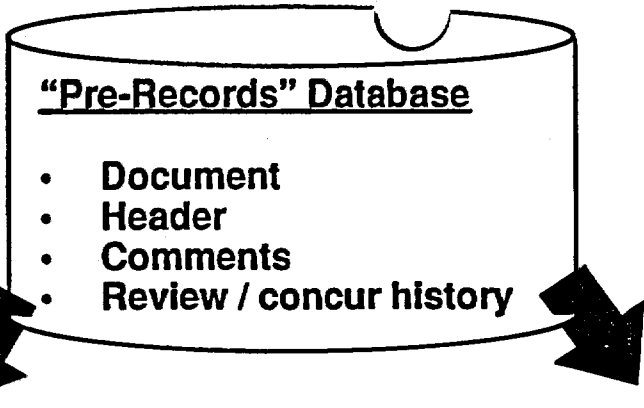
InfoSTREAMS Overview

**B&W Fuel Company
Duke Engineering & Services, Inc.
Fluor Daniel, Inc.
INTERA Inc.**

**JK Research Associates, Inc.
E. R. Johnson Associates, Inc.
Logicon RDA**

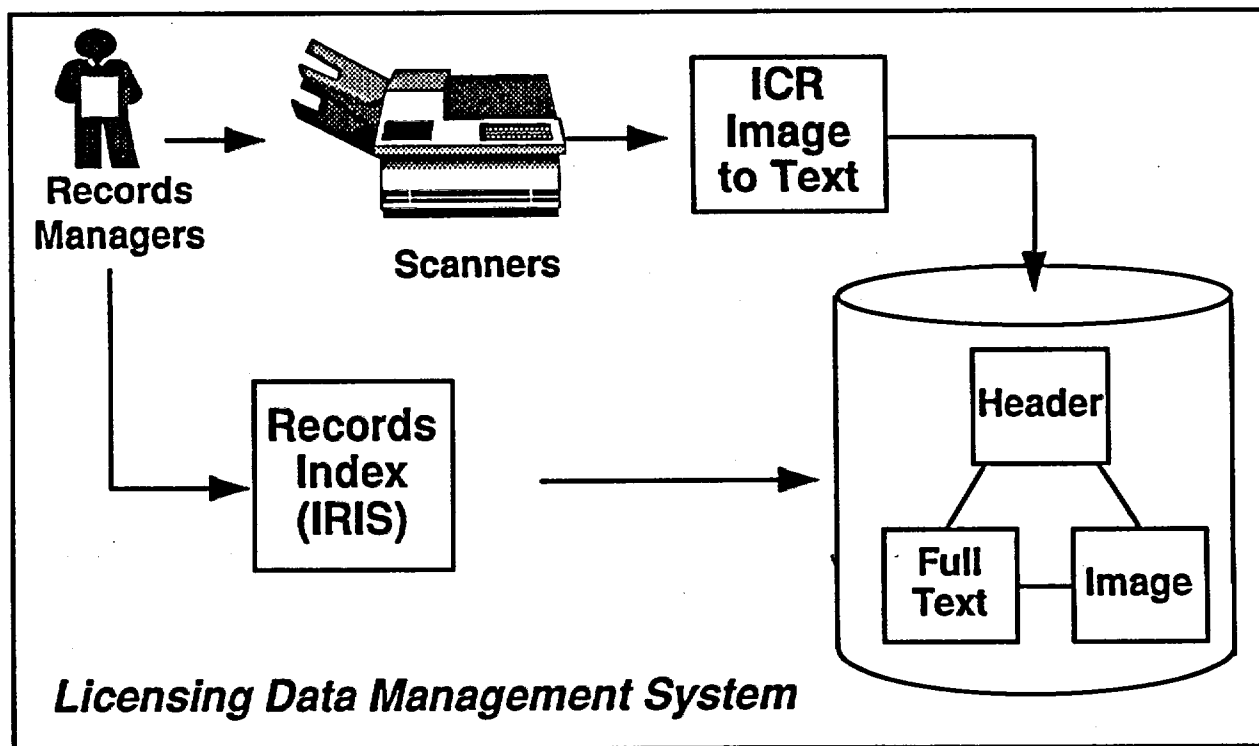
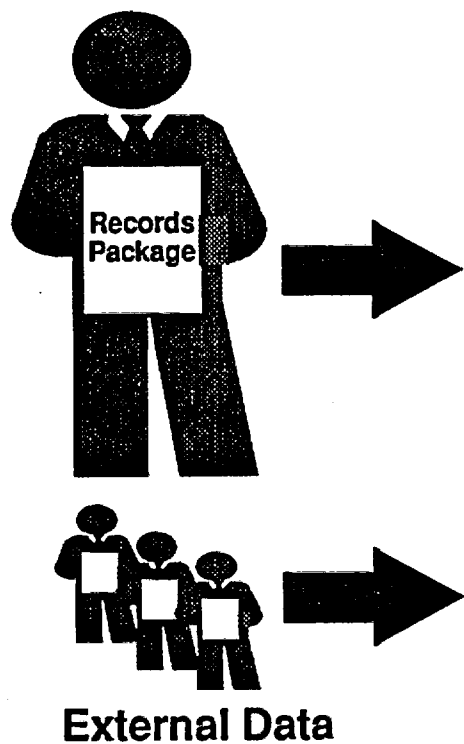
**Morrison Knudsen Corporation
TRW Environmental Safety Systems Inc.
Winston & Strawn
Woodward-Clyde Federal Services**



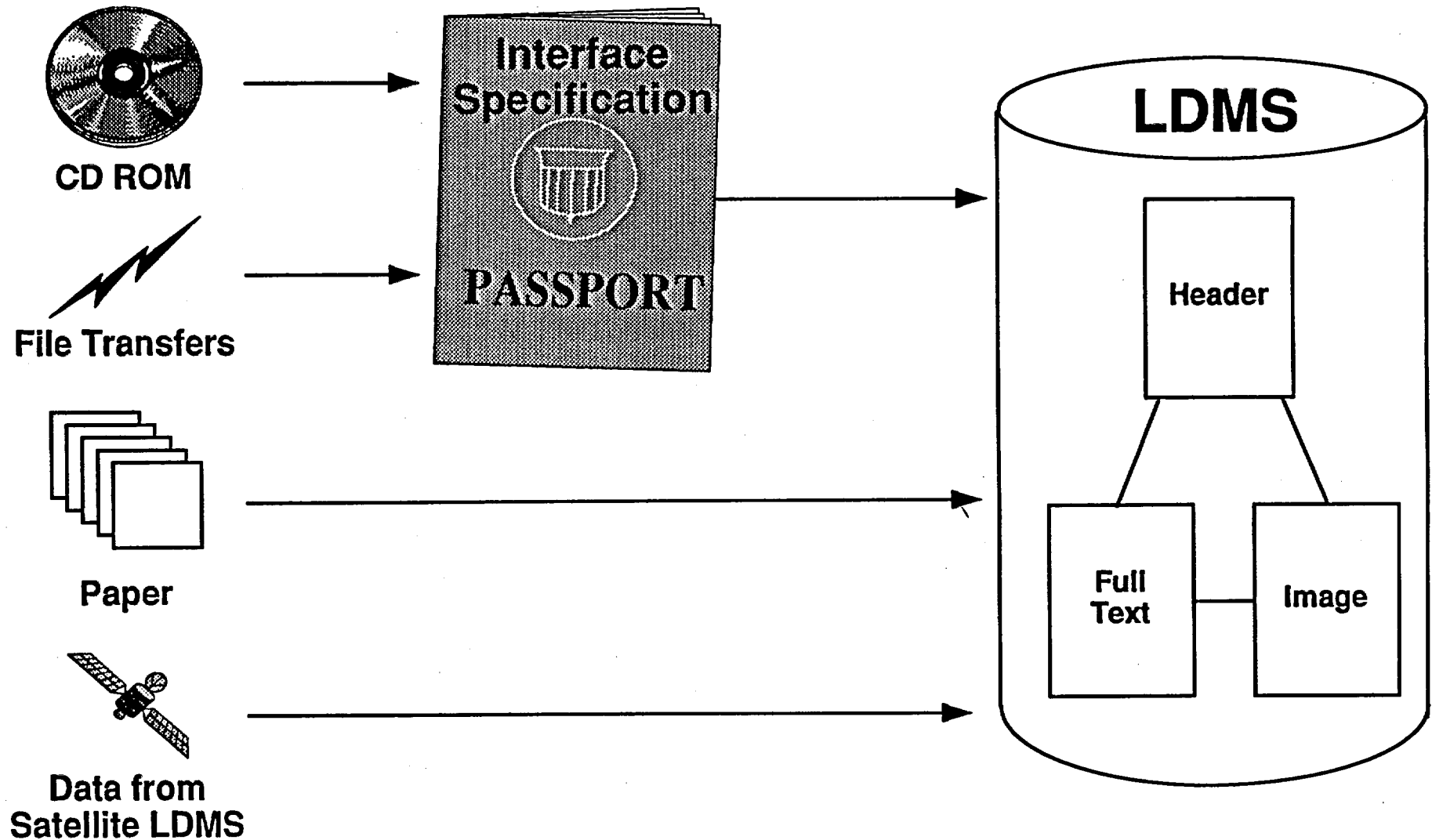


Author Submission

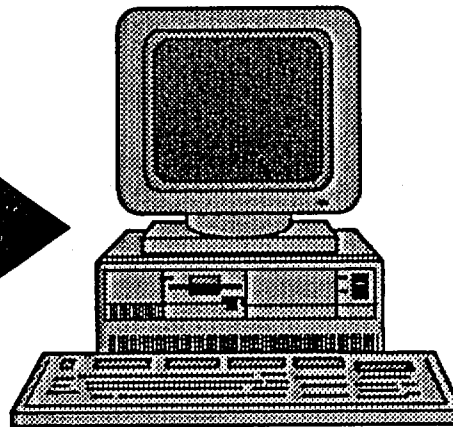
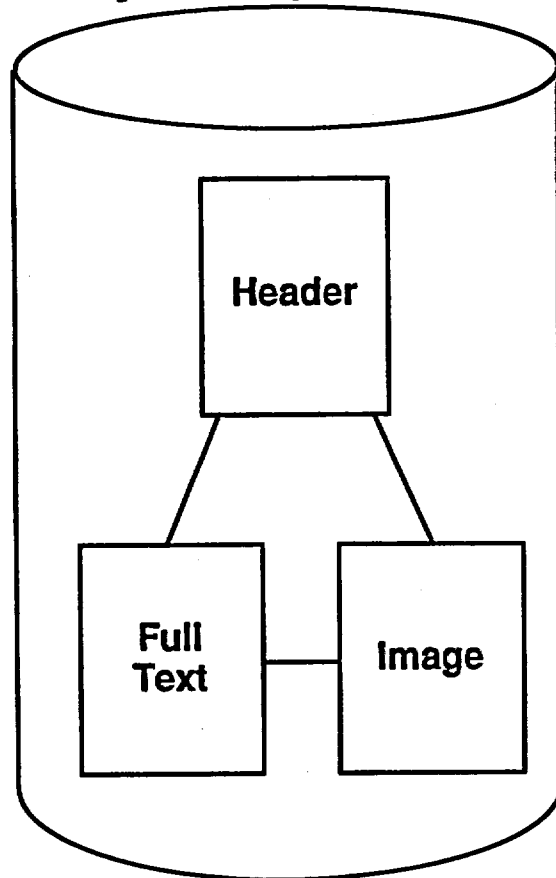
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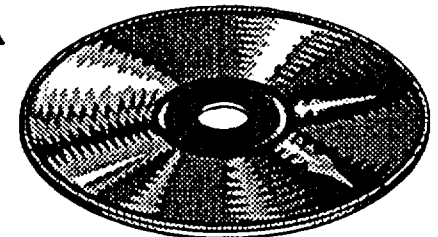
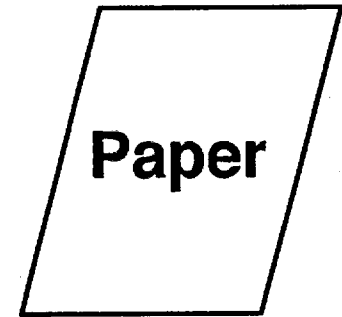
Licensing Data Management System (LDMS) Inputs



Licensing Data Management System (LDMS)

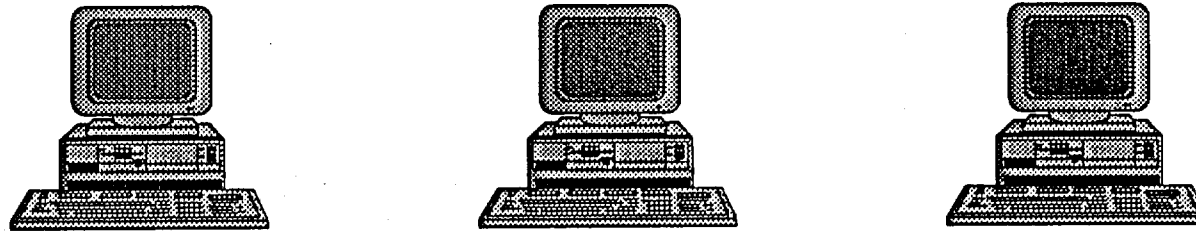


- Full text search
- Query results
- Images
- Bibliographic header info



Removable Media

Modular "Plug and Play" Architecture

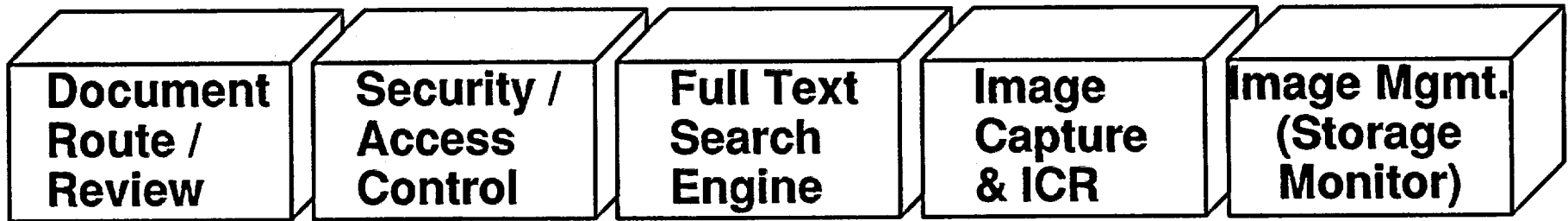


User Interface

Client/Server Transaction Layer

Client

Server

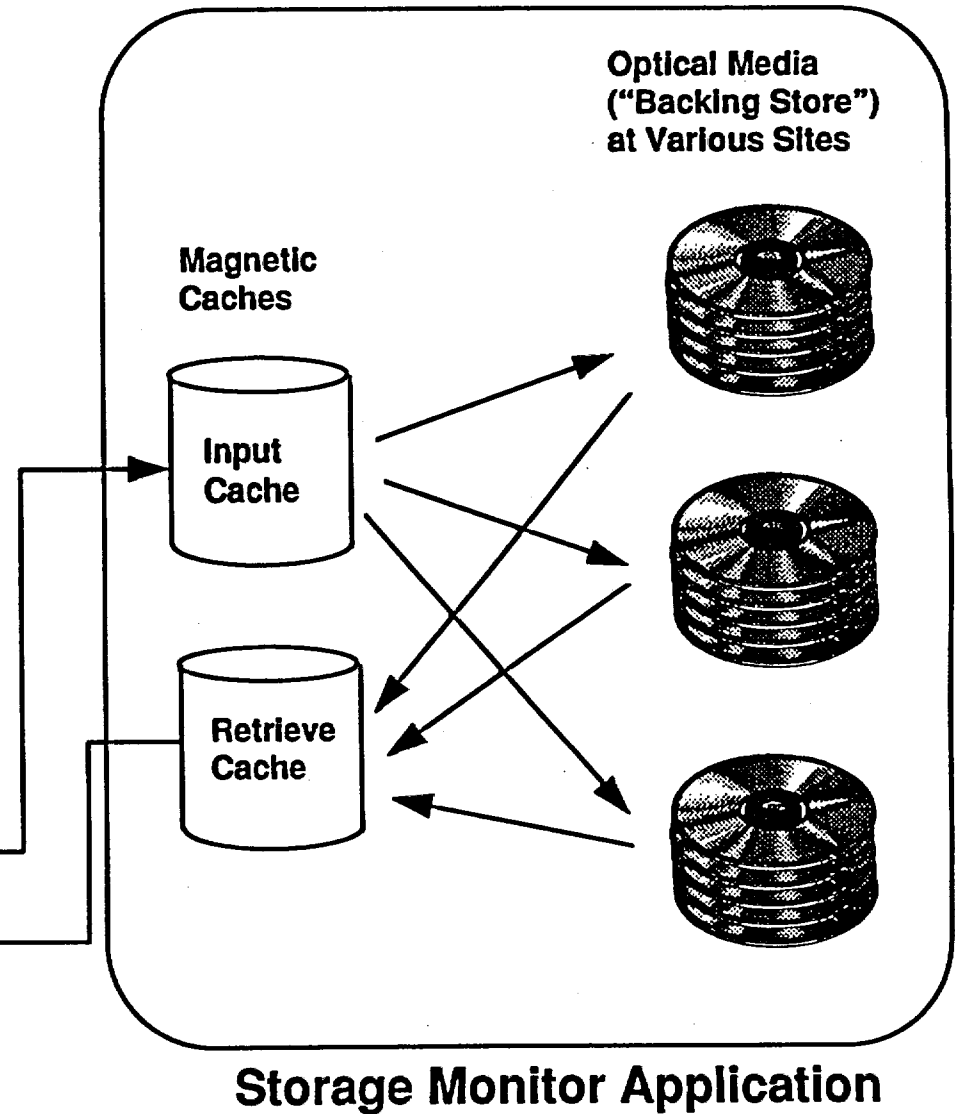


What is Storage Monitor?

Storage Monitor (SM) is a commercial product with an application interface that is essentially a sophisticated file system for optically stored information

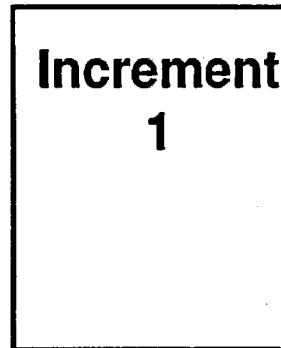
- Images
- Native files
- Magnetic caches for performance
- Format independent

**Software Application
("Store Image,"
"Retrieve Image")**

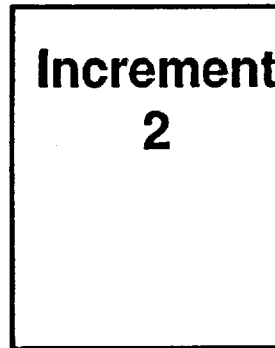


Change to Plan - Leverage LSS Functions

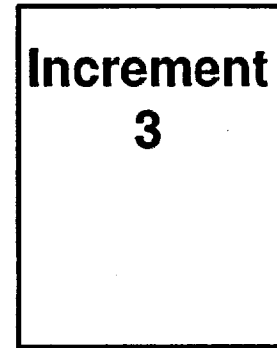
Previous Plan



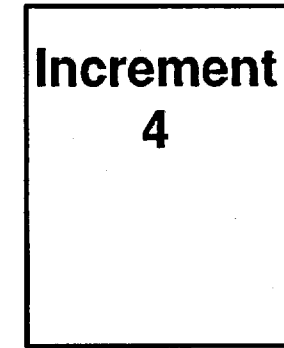
- Standard Office Automation
- Electronic document route/review
- Standard email/groupware



- User Interface Shell
- Pre-Indexing
- Back end optically based storage
- Integration of document review process and back end storage



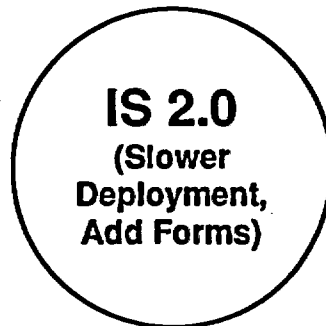
- Automation of records indexing, relevancy review, retention validation
- Merger of RIS and InfoSTREAMS



- *Image capture, Integrated with Indexing*
- *Text & Image retrieval*
- Automated microfilm generation

Current 6 Month Plan (to end of FY94)

Standard Office Automation

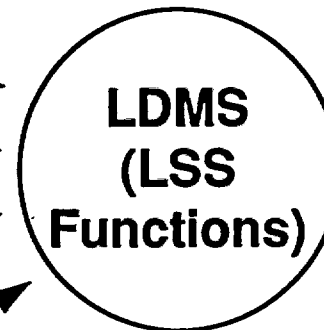


CD ROM

File Transfers

Paper

Satellite LDMS



- *Image capture, Integrated with Indexing*
- *Full text search*
- *Image retrieval*