



**OFFICE OF THE
LSS ADMINISTRATOR**

DEVELOPMENT OF LSSARP HEADER RECOMMENDATIONS

**A BRIEFING BY THE OFFICE OF THE LSS ADMINISTRATOR
IN SUPPORT OF THE LSSARP**

**LSS ADVISORY REVIEW PANEL MEETING
MARCH 20, 1990
BETHESDA, MARYLAND**

OUTLINE OF THE PRESENTATION

▶ THE HEADER ISSUES

- * WHY HAVE A HEADER ?
- * WHAT CAPTURED ?
- * WHO CAPTURES ?

▶ NEXT STEPS

▶ BRIEFING HANDOUTS:

- * Cerny, DOE, to Hoyle, LSSARP, dated Jan. 31, 1990
- * Graser, DOE, to Cameron, LSSA, dated Sept. 21, 1989
- * Cameron, NRC, to Graser, DOE, dated Aug. 7, 1989

THE HEADER ISSUE:

WHAT INFORMATION ELEMENTS SHOULD BE CAPTURED BY WHOM ?

WHY START RESOLVING HEADER ISSUES NOW?

- ▶ **PARTICIPANT PLANNING**
 - **INPUT INTO SUBMITTER'S INTERNAL RECORDS MANAGEMENT SYSTEMS AND PROCEDURES**
 - **BUDGETING (Staff & Dollars) AND CONTRACTING**
 - **BEGIN PROCESSING DOCUMENTS FOR FIRST LSS NODE**
- ▶ **IDENTIFY AND RESOLVE ISSUES THAT IMPACT LSS DESIGN**
- ▶ **IDENTIFY AND RESOLVE ISSUES THAT IMPACT LSS OPERATIONS & MAINTENANCE**
- ▶ **THE MATRIX OF POSSIBLE WHO AND WHAT ALTERNATIVES HAVE SIGNIFICANT COST-BENEFIT RAMIFICATIONS**
- ▶ **THE PROCESS FOR REASONED CONSIDERATION OF THE ALTERNATIVES WILL TAKE TIME**

- ▶ **DECIDING ON HEADER NEEDS NOW MEANS DOING SO WITHOUT PERFECT INFORMATION, e.g.**
 - * **DUPLICATE CHECKING ALGORITHM**
 - * **SEARCH & RETRIEVAL MECHANISMS**

- ▶ **FINAL DESIGN NOT LIKELY TO IMPACT BIBLIOGRAPHIC HEADER, BUT COULD CHANGE ENHANCED HEADER REQUIREMENTS, e.g.**
 - * **ABSTRACT -- HUMAN vs. SOFTWARE COMPOSED**

DEVELOPMENTS TO DATE

- ▶ **PRELIMINARY LIST OF FIELDS FOR BIBLIOGRAPHIC HEADER (SUBMITTERS' HEADER)
DEVELOPED BY TECHNICAL WORKGROUP OF THE ADVISORY COMMITTEE ON LSS RULE**
 - * **DATED MAY 1988**
 - * **LISTED TWENTY FIVE REQUIRED FIELDS !! NOT SIMPLE !!**

- ▶ **DOE/SAIC PROTOTYPE TEST CONDUCTED IN FALL, 1989**

- ▶ **DOE/SAIC PROTOTYPE TEST REPORT RELEASED IN FEBRUARY, 1990**
 - * **PROVIDES INPUT RELEVANT TO HEADER DESIGN AND CAPTURE PROCEDURES**
 - **NOT ONLY THE WHAT?, BUT ISSUES RELATED TO HOW?**

"IF A FULL-TEXT DATABASE, WHY DO WE NEED A HEADER ?"

► IMPROVE USER'S SEARCH RESULTS -- RECALL and PRECISION

*** PROVIDE ADDITIONAL ACCESS POINTS WHICH:**

- MIGHT BE IN TEXT, BUT NOT IN CONSISTENT FORMAT (names, numbers, subject)
- MIGHT NOT BE IN FULL-TEXT (contract number, classification codes, project number)

*** IMPROVE RECALL GIVEN:**

- VARIETY OF DOCUMENTS IN LSS COLLECTION
- UNSTRUCTURED TEXT

*** IMPROVE PRECISION - NARROW or EXPAND UNIVERSE PRIOR TO FULL-TEXT SEARCH**

► PROVIDE DESCRIPTIVE INFORMATION ABOUT DOCUMENTS

*** FOR ON-LINE REVIEW OF SEARCH RESULTS**

*** FOR PRINTED LISTINGS, BIBLIOGRAPHIES, ANNOUNCEMENTS OF NEW ENTRIES**

► IMPROVE SPEED OF CERTAIN QUERIES

BREAKDOWN OF QUESTION:

WHAT ELEMENTS ARE CAPTURED BY WHOM ?

WHAT?

MINIMUM BIBLIOGRAPHIC ELEMENTS -- Date, Author, Title, etc.

EXTENSIVE BIBLIOGRAPHIC ELEMENTS -- Contract and Report numbers, Project numbers, Witnesses, Sponsoring Organization, etc.

SUBJECT INDEXING

Descriptors -- Controlled Vocabulary (Thesaurus)

Identifiers -- Free Form Words and Phrases

ABSTRACTS

CLASSIFICATION NUMBERS OR CATEGORIES -- Based on Subject, Topical Guidelines, or DOE Mission Plan

WHO?

LSS PARTICIPANTS (SUBMITTERS)

OR

LSS ADMINISTRATOR'S CONTRACTOR

WHAT ?

QUESTION:

GIVEN ALL THE BENEFITS, WHY NOT DEVELOP THE MOST EXTENSIVE HEADER ?

ANSWER:

DIFFERENT LEVELS IN CODING HAVE DIFFERENT BENEFITS AND VERY DIFFERENT COSTS

HEADER ELEMENTS: SUMMARY BENEFITS AND COST FACTORS

TYPES OF HEADER ELEMENTS	EXAMPLES	B E N E F I T S					C O S T F A C T O R S		
		USES	RECALL		PRECISION		LABOR *		TRAINING, QC, and MAINT- ENANCE
			CONTENT	OTHER	CONTENT	OTHER	VOLUME PER HOUR	HOURLY RATE, SALARY	
"BIBLIOGRAPHIC"									
► DESCRIPTIVE	Date, Author Pages, Title Report Number Condition	Structured Access & Presentation	low	high	low	high	high	average	low
► TAGS GROUPING LIKE DOCUMENTS ► not always in text	Project No., Event Date, Contract No.	Structured Access & Scoping	average	high	average	high	average	average	average
► LINKINGS	References, Pointers	Structured Access	average	high	average	high	average	average	low
SUBJECT KEYTERMS:									
► CONTROLLED	Thesaurus	Structured Access & Scoping	average	low	average	low	low	high	high
► UNCONTROLLED	Free Form	'Structured' Access & Thesaurus Update	average	low	average	low	average	average	low
ABSTRACTING	-Annotative, -Indicative, -Informative	Access & Presentation	- low - aver. - high	low	- average - average - high	low	average lowest lowest	average high high	average high high
CLASSIFICATION	Top.Guidelines,	Access, Scoping, Presentation	average	average	high	low	high	average	average

*COST PER DOCUMENT = STAFF HOURLY PAY RATE, INCLUDING OVERHEAD
DOCUMENTS PROCESSED PER HOUR

Backup for File Room ~~Since~~
Projections for THFN

THE AEROSPACE CORPORATION

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6812-04.86.rlj.05 11:50

24 March 1986

Mr. Avi Bender - WMPC
Policy & Program Control Branch
Division of Waste Management
Office of NMSS
Mail Stop 623-SS
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

WM-RES
WM Project File
A4167
AF-20

WM Project 10,11,16
Docket No. _____
PDR ☒
LPDR ☒ CLN

Distribution:
ABender PAltomare
(Return to WM, 623-SS) SL

Dear Mr. Bender:

TRANSMITTAL OF REVISION 2
REQUIREMENTS DEFINITION FOR A LICENSING INFORMATION
MANAGEMENT SYSTEM FOR NUCLEAR WASTES

Reference: Draft Report Requirements Definition for an Information
Management System for Nuclear Waste, Aerospace Corporation,
31 January 1986 (6812-04.86.rlj.05)

Enclosed are ten draft copies of the subject report incorporating the definition and rationale for the requirement of full text storage and retrieval of LIMS records. There will be a final version of this report in the late Spring following the Pilot Project Demonstration Tests. The final draft will refine the requirements determined during the demonstration program. So far, these include: (1) an update on the projected number of future records with an estimate on how many would be in the NRC system and in the DOE system, (2) a new section on applicable standards, (3) a new section on the functional requirements of document capture, and (4) any other relevant requirements that can be defined between your staff and ours.

Comments on this latest draft would be appreciated.

Very truly yours,

R. L. Johnson

R. L. Johnson
Systems Director
Eastern Technical Division

8604170563 860324
PDR WMRES EECARDS
A-4167 PDR

RLJ:gbf
Enclosures

cc: P. Altomare - WMPC
G.E. Afchinger - SD/PMR (letter only)

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GENERAL OFFICES LOCATED AT 2330 EAST EL SEGUNDO BOULEVARD EL SEGUNDO CALIFORNIA

DRAFT

Revision 2

Requirements Definition for a Licensing
Information Management System for Nuclear Waste

Subtask 1. Task Order 002 of FIN 4167
Programmatic System Studies and Analyses

March 1986

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Prepared for

Policy and Program Control Branch
Division of Waste Management
U.S. NUCLEAR REGULATORY COMMISSION
Washington, D.C.

Prepared by

Government Support Division
THE AEROSPACE CORPORATION
Washington, D.C.

Contract No. FO4701-83-C-0084

W H O ?

QUESTION: WHO CAPTURES WHAT ELEMENTS OF THE HEADER?

ANSWER: MUST GO BACK TO UNDERSTANDING AS REFLECTED IN THE LSS RULE

- ▶ PARTICIPANTS WILL SUBMIT A MINIMUM SERIES OF DESCRIPTIVE FIELDS
(PARAPHRASE OF DEFINITION OF "BIBLIOGRAPHIC" HEADER IN THE LSS RULE)
- ▶ LSS ADMINISTRATOR WILL ENHANCE TO A FULL HEADER
WITH SUBJECT TERMS AND OTHER INFORMATION, AS NECESSARY

SO WHY WORRY ABOUT THE "WHO" ?

- ▶ LSS RULE DOES NOT CLEARLY DRAW THE LINE WHERE MINIMUM ENDS & ENHANCED BEGINS
 - * OLD WORKING GROUP RECOMMENDED TWENTY FIVE REQUIRED FIELDS FOR SUBMITTER'S HEADER
 - IS THIS MINIMUM ?

CRITERIA TO CONSIDER

- ▶ KNOWLEDGE: SOME ELEMENTS ONLY KNOWN BY SUBMITTER
- ▶ QUALITY: SOME ELEMENTS "BEST" KNOWN BY SUBMITTER

CONSISTENCY AND QUALITY MIGHT BE BETTER IF DONE BY CENTRAL STAFF
-- LSSA
- ▶ COSTS: SOME ELEMENTS ALREADY DONE BY SOME SUBMITTERS IN THEIR OWN RECORDS MANAGEMENT PROCESSES -- WHY DUPLICATE EFFORT?

BURDEN ON SUBMITTERS TO DO MORE SOPHISTICATED CATALOGING

CRITERIA NEED TO BE APPLIED IN TWO AREAS:

- ▶ **ALL BIBLIOGRAPHIC ELEMENTS**

- ▶ **CLASSIFICATION CODES**

SUGGESTED NEXT STEPS

► FORM LSSARP WORKING GROUP TO RECOMMEND SUBMITTER & ENHANCED HEADERS TO LSSARP

- * GOAL: MAKE REASONED STUDY**
 - * BASED ON PREVIOUS WORK TO DATE**
 - * NOT TO REINVENT AND REDO PREVIOUS WORK**
- * TASKS:**
 - * WORKING GROUP DEVELOPS WORK PLAN,**
 - * SUBMITS HEADER RECOMMENDATIONS TO LSSARP MEMBERS FOR WRITTEN COMMENTS, and**
 - * REVISES RECOMMENDATION BASED ON MEMBERS' COMMENTS**

SUGGESTED DECISIONS FOR TODAY

▶ MEMBERSHIP OF LSSARP WORKING GROUP

- * PANEL MEMBER ORGANIZATION REPRESENTATIVES HAVING KNOWLEDGE OF HEADER DESIGN & USE**
- * SAIC REPRESENTATION**

▶ LSS ADMINISTRATOR'S ROLE

- ↔ WILLING TO SERVE AS WORKING GROUP MEMBER**
- ↔ WILLING TO PROVIDE SPACE AND CLERICAL SUPPORT**
- ↔ WILLING TO PROVIDE LIMITED TECHNICAL ASSISTANCE THROUGH CONSULTANTS**

▶ TENTATIVE SCHEDULE

- * WHEN IS A FINAL DECISION NEEDED?**
 - ↔ AS SOON AS PRACTICAL, TENTATIVELY SCHEDULED FOR FALL '90 MEETING**