



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

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M E M O R A N D U M

DATE: January 23, 1989

FOR: John J. Linehan, Director, Repository Licensing Project  
Directorate, Division of High-Level Waste Management

FROM: Paul T. Prestholt, Sr. OR - YMP *PTP*  
John W. Gilray, Sr. OR - YMP *JWG*

SUBJECT: YMP Site Report for the months of November and  
December, 1988

I. GENERAL

The following report covers the months of November and December, 1988. During these two months, the major activities pursued by the Yucca Mountain Project (YMP) and the Yucca Mountain Project Office (YMPO) were:

8902060068 890123  
PDR, WASTE PDC  
WM-11

Received w/Ltr Dated 1/23/89

102-11  
WM-11  
NH03/11

**A. QA**

- Fully qualified QA program
- Preparation of QA Program Plans (QAPPs) by the participants
- Audits of Holmes and Narver and Fenix and Scisson

**B. Wrap up of Title I design efforts for the exploratory shaft.**

**C. Finalizing, printing and distributing the Site Characterization Plan (SCP). This activity includes gathering, cataloging and shipping the necessary references to the SCP.**

As a consequence, very little work was done in any of the technical disciplines. The USGS is still under a limited stop-work order so only raw data collection and maintenance were permitted. The three National Labs (Sandia, LANL, LLNL) worked primarily on SCP completion, QA and ESF Title I and II design efforts.

There were, however, a number of planning activities underway under the leadership of the YMPO. Therefore the format of this report has been changed to make it easier to discuss the activities that were in progress.

**II. QUALITY ASSURANCE**

**A. Fully Qualified QA program - status (from the handout)**

- QAP 88-9 rev. 2 was issued to all Participants and the NRC on December 6, 1988. Expect all Participants' QAPPs to meet 88-9 rev. 2 requirements by February, 1989

- QA program qualification - APQs (project wide QA administrative procedures)
  - Applies to all participants
  - An implementing procedure which identifies project level interface control methods to meet QA requirements of the YMP QA plan 88-9
  - The control methods which govern project wide systems
  - There are presently 9 existing APQs with 16 in preparation, review or approval

- QA program qualification (QAAP). Examples are:

- Project Office and Participant - (APQ) Administrative Procedure
- Project Office - (QMP) Quality Management procedure
- F&S - (PP) Project Procedures
  - (DC) Design Control Procedures
  - (QAP) Quality Assurance Procedures
- Sandia - (DOP) Department Operating Procedure
  - (QAP) Quality Assurance Procedure
- Expected QAAP completion dates:
  - REECo - January
  - F&S, H&N, LLNL, SNL, USGS - February
  - LANL, YMP - March

- QA Program Qualification Training

- Issue revised training management plan for approval on December 9, 1988
- Conducted Training Workshop November 22, 1988
- Expected training completion dates are:
  - March - F&S, H&N, SNL, USGS
  - April - LLNL
  - May - LANL, REECo, YMP

- QA Program Qualification; DOE and Participant surveillances
- Participant audits per schedules submitted and surveillances as appropriate
- YMP will conduct periodic surveillances prior to DOE management review
- The QA program qualification management review, conducted by the participant is:
  - A review conducted internally within the participants organization by management with the assistance of quality assurance using approved overview systems, e.g., audits, surveillances, readiness reviews, etc.
  - The purpose of this activity is to ensure that the participants are ready for the YMP/NRC audits
  - DOE Management Review of the Participants QA Program Qualification is:
    - A review of the results of the participant management reviews and the DOE surveillances
    - This is done to ensure that the participants are ready for the YMP/NRC audit

Mr. Anthony Baca, DOE QA Program Qualification Team Leader stated that the program outlined above is on schedule. Schedule slippages are expected but every effort is being made that successful "gold star" audits will be concluded, on time, in May, June, July and August, 1989.

B. Holmes and Narver and Fenix and Scisson audits:

This office participated in the NRC observation of DOE/YMPO's supplemental audits of Holmes & Narver, Inc (H&N) and Fenix & Scisson, Inc. (F&S) pertaining to QA and Title 1 design activities. The H&N audit was conducted between November 1 and November 4, 1988. The F&S audit was held between November 7 and November 14, 1988. In general these two audits were conducted in an acceptable manner with the exception of some problems with the technical portion of the F&S audit which occurred during the first two days of that audit. It was observed that both design organizations (H&N and F&S) and design activities have improved since the last audit of these two organizations. These improvements were partly attributed to an increase in the number of qualified and experienced technical specialists in the required design engineering fields. While the overall design process appeared to be acceptable to the audit team they did however identify the need for H&N and F&S to improve the QA procedural controls describing in more detail how the design and QA controls are applied throughout the design process.

While the NRC staff found the conduct of the H&N audit effective it did find the audit of F&S deficient at first due to ineffectiveness of the lead technical specialist to conduct an effective technical evaluation of the design documents and of the traceability of these documents to the Title 1 designs inputs. It was determined that this lead technical specialist was adequately qualified and experienced in the design and engineering field, however he was not sufficiently trained and experienced in technical audit techniques and methods. This situation was corrected by supplementing the audit team with a highly qualified technical specialist and providing additional guidance to the originally assigned technical specialist. Also the F&S audit would have been more effective if the lead auditor had not been assigned lead responsibility for preparing, staffing, training, and coordinating two audit teams for two audits (Holmes & Narver and F&S), conducted back to back.

The audit team identified that commercial grade software programs were used by F&S on Title I design activities, without verification and configuration management controls. A deficiency report has been issued on this finding. This office will be closely monitoring DOE's evaluation and resolution of this issue and its possible impact on the acceptability of those Title I design packages that have been used on commercial grade software programs.

### III. LICENSING SUPPORT SYSTEM (LSS)

During the December Technical Project Officer - Project Manager Meeting (TPO), Dr. Barbara Cerny, DOE/Hq Presented an update on the LSS. The draft NRC rule concerning th LSS concept was published in the Federal Register on November 3, 1988.

The LSS concept is as follows: (from the handout)

- All license related documentation from DOE, NRC, and other parties to the licensing hearing will be entered into a computer system that will serve as the sole basis of document discovery.
- NRC will modify its rules of proceeding for a license hearing to incorporate the use of the LSS.
- All parties will agree to a specified discovery period within the 3-year hearing process in exchange for access to the LSS before and during the hearing.

It is estimated that 25 million pages of program documentation will be generated by 1995 and 40 million by 2003.

General capabilities of the LSS include: (from the handout)

## GENERAL CAPABILITIES OF THE LSS

- Hardware and software components
  - Centralized test and image storage in Las Vegas
  - Six geographically distributed capture systems
- Headers and searchable full text of all appropriate documents
  - Retrieval through structured index searching tied to images
- Electronic mail
  - Support communications and motions practice
- Demand printing from images to produce
  - Estimated 10 million pages a year
  - Overnight delivery adequate for large documents
  - Local printing for small documents
  - Least cost solution
- Local display of documents on high resolution workstations
  - Graphic display
    - Data; maps; drawings
- ▫ Review of original pages
  - Essential since optimizing full text search changes form of pages
  - Shows copy of original signature

Schedule for the LSS: (from the handout)

### SCHEDULE FOR THE LSS

October, 1987    Design and implementation contract awarded to  
Science Applications International, Inc.

1988            -    Information engineering phase

- Needs analysis
  - Negotiated rulemaking
  - Survey of users

- Data scope-analysis
- Conceptual system design
- Cost-benefit analysis
- Prototype specification
- 1989 - Design and initial procurement
  - Prototype implementation of 200,000 pages
  - Capture system specifications
  - Installation of first capture system
    - Begin with DOE backlog load
  - Work with NRC and others
    - Standard capture procedures
    - Coordination of capabilities within existing environment
- 1990 - Procurement and installation
  - Database management system procurement
  - Remaining capture systems procurement
    - Begin document collection for NRC and others
  - Search system specifications
  - Image system specifications
  - Component review and acceptance by DOE, NRC and others
- 1991 - Procurement, installation, integration
  - Search and image system procurement and installation
  - Software development completed
  - Telecommunications installed
  - Component review and acceptance by DOE, NRC and others
- 1992 - Final system integration
  - Text of 4 million pages loaded
  - Installation and acceptance tests completed
  - LSS available to users
- 1993 - Majority of backlog data loaded by all parties
- 1994 - Certification by NRC that LSS is "substantially loaded"



Also contained in the enclosed handout are diagrams showing the conceptual design hardware architecture of the system and a preliminary design of the LSS communication network.

Dr. Cerny recognizes that the LSS system, as presently contemplated, is a major undertaking but she feels that the schedules can be met as long as funding is adequate and timely and hardware acquisition goes smoothly. It's doable, but schedules are tight and management support (at all levels) is essential.

#### IV. EXPLORATORY SHAFT (ESF)

During the December TPO meeting, Ivan Cottle, Manager, SAIC ESF Integration Division presented a status report on the ESF activities. From the handout:

- Q-list task force
  - Five draft procedures completed 12-12-88
  - Safety Basis Analysis to start 12-15-88
- Title I Design Report

This document has been received by the NRC.
- Title II SDRD

The Subsystems Design Requirements Document (SDRD) may not be approved by the scheduled start date for Title II design (2-8-89). The Project may elect to start Title II without an approved SDRD but the risk must be assessed.
- Exploratory shaft management planning and implementing procedures.
  - The Exploratory Management Plan to be released for 06-03 (YMPO general review as per 88-9) review by 12-23-88.
  - Implementing procedures - draft list to Tom Hunter by 12-2-88. An initial meeting with ESF Architectural Engineers on 12-17-88.

- Current Issue

To develop a strategy to satisfy all procedural prerequisites to ESF field work.

- Management plans
- Administrative procedures
- Organizational procedures
- Project office guidance letters
- Division I technical specifications

During January 1989, the Project will be getting ready for Title II design start-up, presently scheduled for the first of February. This office will be monitoring this activity closely and will discuss the ESF activity in detail in the January monthly report.

V. SCHEDULES AND MEETINGS

A. Yucca Mountain Project update meetings (SCP major topic) to be held in February as follows:

- |                 |             |
|-----------------|-------------|
| - Beatty, NV    | February 15 |
| - Las Vegas, NV | February 16 |
| - Caliente, NV  | February 21 |
| - Reno, NV      | February 23 |

This office is presently scheduled to attend all of these meetings.

B. Public hearings on the SCP scheduled for March:

- |                   |          |
|-------------------|----------|
| - Amargosa Valley | March 20 |
| - Las Vegas       | March 21 |
| - Reno            | March 23 |

This office will attend each of these meetings.

C. Meetings attended by ORs during November and December:

- November 4; Holmes and Narver audit close-out meeting
- November 7; Meeting with Ed Wilmot (Carl Gertz out of town), general topics
- November 8; Meeting at Fenix and Scisson on design control
- November 9; Nevada Commission on Nuclear Projects (Sawyer Commission) in Las Vegas
- November 14; Fenix and Scisson audit close-out meeting
- November 14; Meeting with Carl Gertz, general subjects
- November 21; Meeting with Carl Gertz, general subjects
- November 22; Meeting with Anthony Baca concerning fully qualified QA program.
- December 5; Meeting with Carl Gertz, general subjects
- December 8; Meeting with Anthony Baca, fully qualified QA program
- December 12; Presentation to Licensing Review Board with King Stablein
- December 13; with Hugh Thompson, Director NMSS, with Clark, Lincoln and Nye County Commissioners and representatives
- December 14; to the Nevada Test Site with Commissioner Rogers and members of the Licensing Review Board

VI. MISCELLANEOUS

- A. Mr. Neil Carter, SAIC Senior Vice President, has replaced Mr. Michael Spaith as SAIC Project Manager and TPO.
- B. Dr. Lynn Ballou has replaced Dr. Larry Ramspott as LLNL TPO.
- C. Dr. Joseph Spiegler is acting TPO for Sandia while Dr. Tom Hunter is on special assignment to the DOE Yucca Mountain Project Office.

**D. Some SCP facts:**

- Printed 500 loose-leaf copies and 2000 perfect bound copies
- 9 volumes, approximately 6200 pages
- Printing cost was about \$56.00 per copy
- Distribution cost ranged from \$5.00 per copy to \$42.50 per copy depending on type of delivery

There are no new issues that this office has identified that need Management attention.

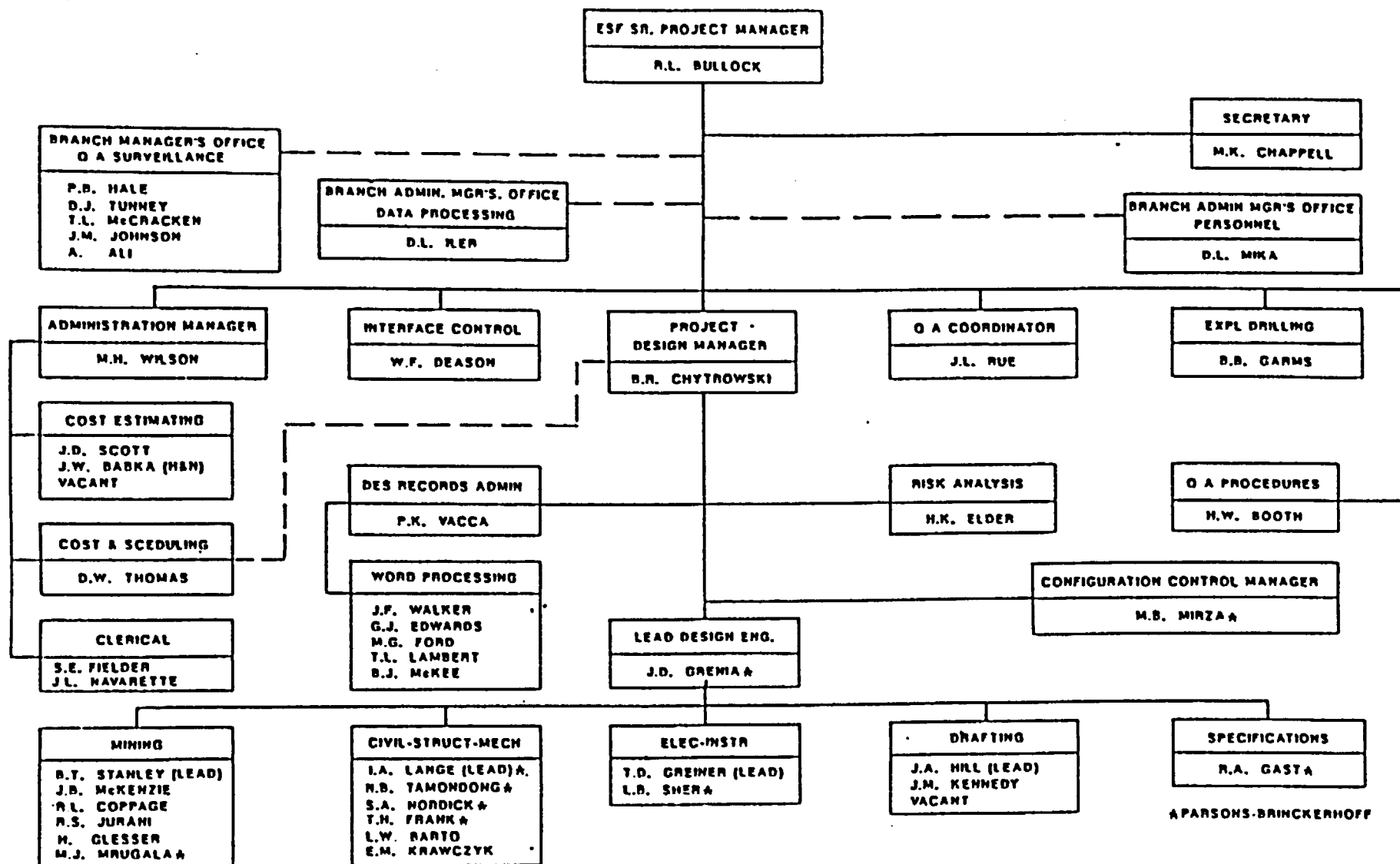
cc: With enclosures: K. Stablein, R. E. Adler, J. E. Latz  
Without enclosures: C. P. Gertz, R. R. Loux, M. Glora,  
D. M. Kunihero, R. E. Browning, G. Cook  
L. Kovach, S. Gagner, K. Turner, J. Gilray  
H. Thompson, H. Denton

Enclosures: Presentation to Audit Meeting, R.L. Bullock, 11/7/88;  
TPO Presentation, Wendy Dixon, 12/15/88; Configuration Management, 12/12/88; WIT 4 Network Development Process; Suggestions for YMP Report Processing, TPO Meeting, 12/15/88 by John S. Stuckless, USGS; On-going Actions of Exploratory Shaft Participants, 12/15/88; Status of OCRWM IRM - 12/15/88; Status of Fully Qualified QA Program, Anthony Baca, 12/15/88

**PRESENTATION TO AUDIT MEETING**

**R. L. Bullock      November 7, 1988**

# F & S YUCCA MOUNTAIN PROJECT ORGANIZATION



## TITLE I DESIGN

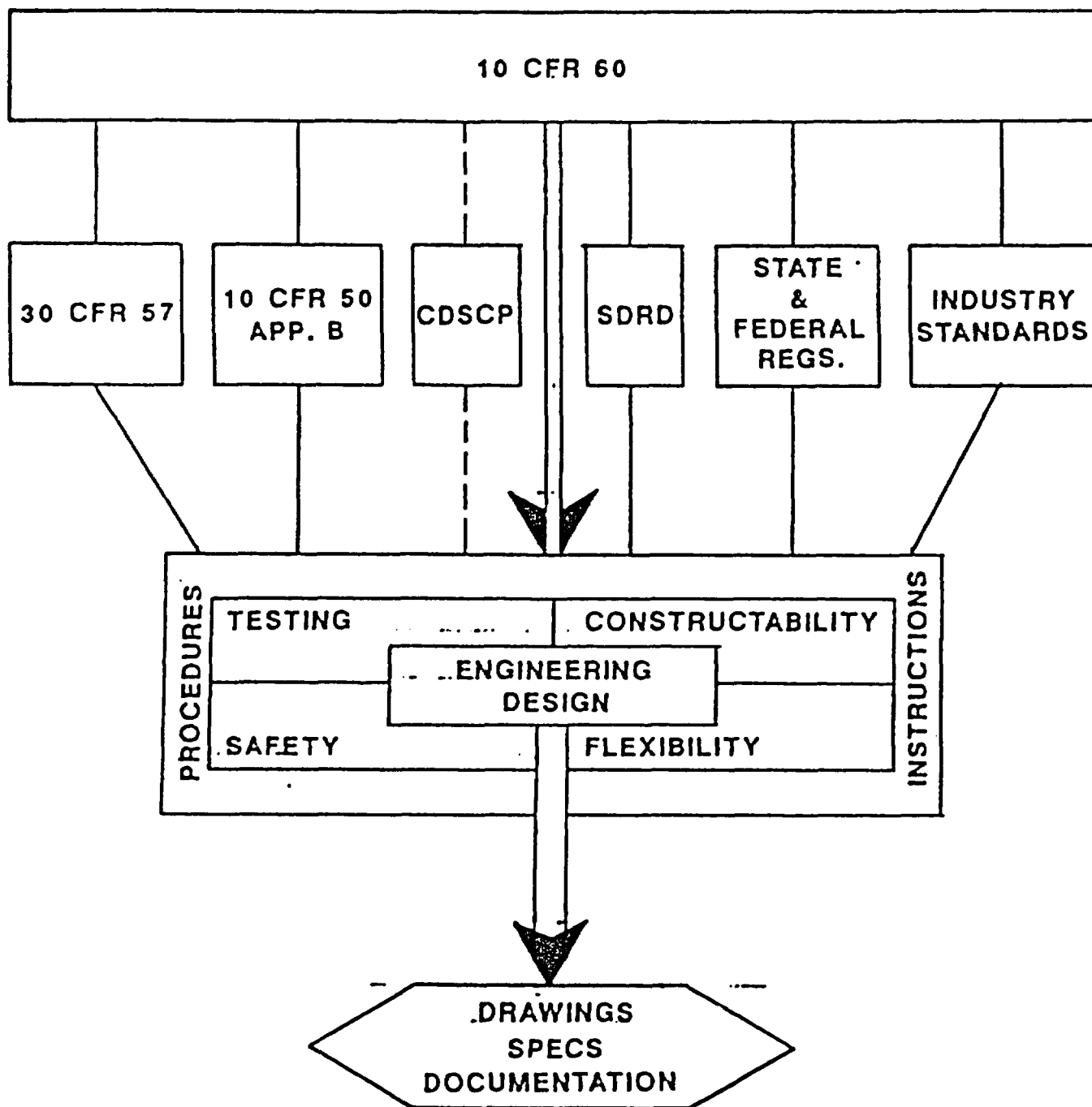
- o THE TITLE I EFFORT CONSISTS OF DEVELOPING A PRELIMINARY UNDERGROUND ESF DESIGN AND SUPPORTING DESIGN INFORMATION.
- o TITLE I DESIGN WILL SERVE AS A BASIS FOR ADDITIONAL DEFINITION OF DESIGN CRITERIA AND SCOPE FOR THE TITLE II DEFINITIVE DESIGN OF THE ESF.
- o TITLE I DESIGN WILL SERVE AS A BACKUP TO THE CONTENTS OF THE SCP AND WILL BE SUBMITTED WITH THE SCP

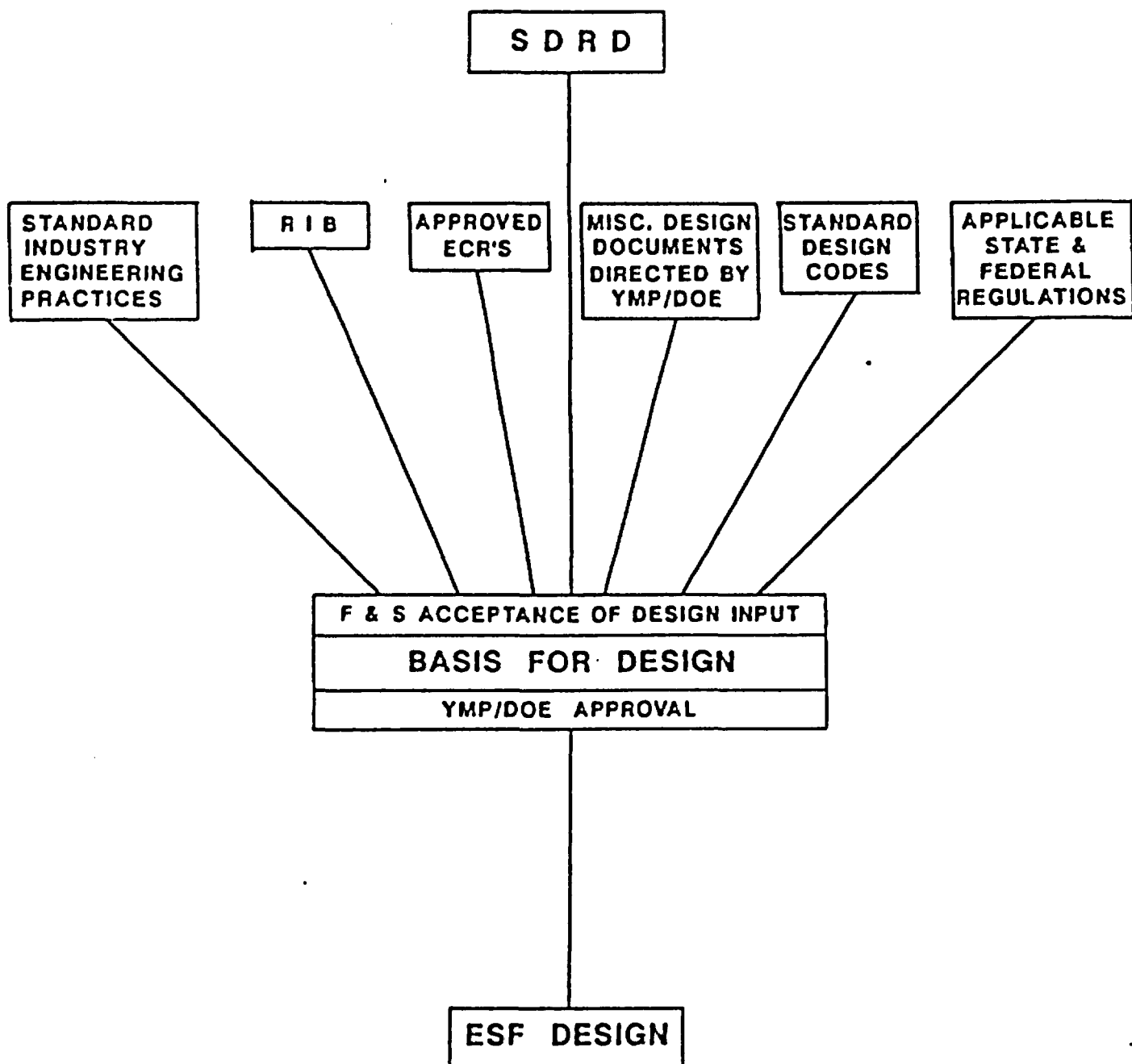
## CONTRACTUAL REQUIREMENTS

### DESIGN OF:

- o EXCAVATION AND LINING OF THE TWO SHAFTS
- o HOISTS AND HEADFRAMES FOR THE TWO SHAFTS
- o SUBSURFACE EXCAVATIONS
- o UTILITIES AND COMMUNICATIONS IN-SHAFT  
AND UNDERGROUND
- o MINE PLANT
- o SHAFT INTERNALS (FURNISHINGS) AND CONVEYANCES  
FOR THE TWO SHAFTS







FENIX & SCISSON, INC, YUCCA MOUNTAIN PROJECT UPDATE  
(09/21/88)

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- o Completed Title I Design
  - Design Drawings - 84
  - Design Specification Outlines - 76
  - Design Analysis/Reports - 53
- o 100% Title I Review Completed
  - 570 Comments
  - 568 Reached Agreeable Resolution
- o Completed Title I Construction Estimate & Schedule
- o Completed Title II Design Scope & Planning Document
  - Design Scope
  - Deliverables  
(350 Drawings, 79 Specifications, 120 Analysis/Reports)
  - Engineering Cost Estimate
  - Title II Engineering Schedule

F&S WORK COMPLETED SINCE THE 100% TITLE I DESIGN REVIEW  
OR WORK THAT IS IN PROGRESS  
(11/7/88)

- o Analyzed comments from the 100% Title I Design Review.
- o Incorporated those comments from the 100% Title I Design Review applicable to Title I design into the Title I drawings.
- o Revise the F&S Basis For Design to comply with approved Engineer Change Requests and the Title I Design Review comments.
- o Continued working on Industrial Safety Analysis based on Title I Design.
- o Proceeding with the analysis related to refurbishing the two GFE hoists.
- o Post Title I evaluation of shaft sizes and orientation, MTL layouts and ventilation at the request of YMPO. Also evaluating the geotechnical instrumentation in light of the new Appendix B of the SDRD.
- o Preparing some new project administrative and design procedures, and modifying all other procedures as required by 88-9. Also rewriting the F&S Project Management Plan.

# TPO PRESENTATION

*PRESENTED BY*  
**WENDY DIXON**

**DECEMBER 15, 1988**

# **AGENDA**

- **SCHEDULE FOR UPCOMING YUCCA  
MOUNTAIN PROJECT ACTIVITIES**
- **OUTREACH ACTIVITIES**
- **SCP HEARINGS AND COMMENT  
PROCESS**

# **CURRENT SCHEDULE FOR UPCOMING YUCCA MOUNTAIN PROJECT ACTIVITIES**

**ISSUE SITE CHARACTERIZATION  
PLAN (SCP)**

**DECEMBER 1988**

**HOLD PUBLIC BRIEFINGS AND  
HEARINGS ON SCP IN NEVADA**

**FEBRUARY/MARCH 1989**

**BEGIN SITE PREPARATION WORK**

**MAY 1989**

**BEGIN EXPLORATORY SHAFT  
CONSTRUCTION**

**NOVEMBER 1989**

# **OUTREACH ACTIVITIES**

## **RECENT PUBLIC PRESENTATIONS**

**UNIVERSITY OF NEVADA RENO FORUM ON NUCLEAR WASTE  
LAUGHLIN TOWN MEETING  
NEEDLES TOWN MEETING  
AMERICAN ASSOCIATION OF UNIVERSITY WOMEN  
UNIVERSITY OF NEVADA RENO, MACKAY SCHOOL OF MINES**

## **OTHER INTERACTIONS**

**BRIEFING TO MAJOR GENERAL JOSEPH ASHY, NAFB  
DOE/NV MANAGER'S MEETING  
SANDIA NATIONAL LABORATORIES "STATE OF  
THE PROJECT"  
NEVADA LEGISLATIVE COMMITTEE ON HIGH-LEVEL  
RADIOACTIVE WASTE  
ATOMIC SAFETY AND LICENSING BOARD PANEL**



# **OUTREACH ACTIVITIES**

(CONTINUED)

## **UPCOMING PUBLIC INTERACTIONS**

**MRS COMMISSION, DECEMBER 15**

**CALIENTE TOWN COUNCIL, JANUARY 5**

**LINCOLN COUNTY COMMISSIONERS, JANUARY 5**

**INSTITUTE OF NUCLEAR MATERIALS MANAGEMENT,  
JANUARY 11**

# **SCP HEARINGS AND COMMENT PROCESS**

- **SCP TO BE THE MAJOR TOPIC OF  
YUCCA MOUNTAIN PROJECT UPDATE  
MEETINGS IN FEBRUARY**
  - **BEATTY, FEBRUARY 15**
  - **LAS VEGAS, FEBRUARY 16**
  - **CALIENTE, FEBRUARY 21**
  - **RENO, FEBRUARY 23**

# **SCP HEARINGS AND COMMENT PROCESS**

**(CONTINUED)**

- **STATE AND LOCAL OFFICIALS MAY  
REQUEST INDIVIDUAL BRIEFINGS**
  
- **PUBLIC HEARINGS ON SCP SCHEDULED  
IN MARCH**
  - **AMARGOSA VALLEY, MARCH 20**
  - **LAS VEGAS, MARCH 21**
  - **RENO, MARCH 23**

U.S. DEPARTMENT OF ENERGY

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# YUCCA MOUNTAIN PROJECT

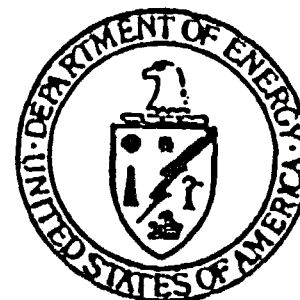
## CONFIGURATION MANAGEMENT

- APPROACH
- CRITERIA
- PROCESS
- SCHEDULE

**DECEMBER 12, 1988**

UNITED STATES DEPARTMENT OF ENERGY

NEVADA OPERATIONS OFFICE/YUCCA MOUNTAIN PROJECT OFFICE



# CHANGE CONTROL STRATEGY

- SIMPLE
- STREAMLINED
- FLEXIBLE - BUT NOT LIMP
- SINGLE PROCEDURE
- SINGLE PROCESS

# **CHANGE CONTROL PROCESS**

- **HIERARCHY OF CHANGE APPROVAL LEVELS**
  - LEVEL SET BY CRITERIA
  
- **1 CHANGE/CONFIGURATION CONTROL BOARD**
  - TECHNICAL REVIEW GROUP
  - COST/SCHEDULE REVIEW GROUP
  - SOFTWARE REVIEW GROUP
  - WIT-4 PACKAGE REVIEW GROUP

**NOTE: AT THE CHANGE CONTROL BOARD CHAIRMEN'S DISCRETION**

## **CHANGE CONTROL PROCESS**

- **EXISTING AP-3.3Q IS BEING "RESTRUCTURED" TO ENCOMPASS THE FUNCTIONAL RESPONSIBILITY AND PROVIDE INSTRUCTIONS FOR MANAGEMENT OF THE YMP BY DEFINING THE PROCESS FOR EFFECTING CHANGES TO THE PROJECT, BASELINE OR FIELD AND MAINTAINING CONTROL AND SCRUTINY OF THESE CHANGES THROUGH THE PROJECT OFFICE**
- **THIS AP WILL CONSOLIDATE SIGNIFICANT INFORMATION FROM SEVERAL OTHER EXISTING AP'S PRESENTLY IN THE SYSTEM. AS A RESULT, THESE AP'S, e.g., AP-3.1Q, AP-3.4Q, AP-3.5Q AND PORTIONS OF AP-5.6Q WILL BE SUPERSEDED BY AP-3.3Q. QMP'S 06-04 AND 06-05 WILL BE COMBINED AS WELL AS AP'S 3.6Q AND 3.7Q**

# PRIORITIZED CONFIGURATION MANAGEMENT PROCEDURES SCHEDULE

NUMBER	TITLE	LEAD PERSON	INFORMAL CMD REVIEW	FINISH T&MSS FORMAL REVIEW	START PROJ. FORMAL REVIEW	PROJ. REV. COMPLETE	FINAL ISSUE
AP-3.3Q	BASELINE CHANGE CONTROL	W. WILSON/ G. WILSON	COMPLETED	COMPLETED	COMPLETED	11/10/88	12/9/88
<del>AP-3.4Q</del>	<del>PROJECT TECHNICAL BASELINE</del>	<del>T. STEELE</del>	<del>TO BE COMBINED WITH AP-3.1Q DURING COMMENT RESOLUTION</del>				
<del>AP-3.1Q</del>	<del>PROJECT MGMT. BASELINE</del>	<del>L. ANDRIST</del>	<del>COMPLETED</del>	<del>COMPLETED</del>	<del>COMPLETED</del>	<del>11/30/88</del>	<del>12/15/88</del>
<del>AP-3.5Q</del>	<del>FIELD BASELINE CHANGE CONTROL</del>	<del>T. STEELE (F. GOWERS)</del>	<del>COMPLETED</del>	<del>11/23/88</del>	<del>12/01/88</del>	<del>12/15/88</del>	<del>12/20/88</del>
AP-3.6Q	PHYSICAL CONFIG. AUDIT	P. MERKLEY	4/21/89	5/05/89	6/18/89	8/30/89	7/14/89
AP-3.7Q	CONFIGURATION IDENTIFICATION	P. MERKLEY/ D. HUBBARD	11/10/88	11/30/88	12/02/88	12/10/88	12/30/88
<del>AP-3.8Q</del>	<del>SOFTWARE MGMT.</del>	<del>F. GOWERS</del>	<del>COMPLETED</del>	<del>12/09/88</del>	<del>12/14/88</del>	<del>12/28/88</del>	<del>1/10/89</del>
QMP-06-04	BASELINE CHANGE PROPOSAL REVIEW	J. SMITH	COMPLETED	11/10/88	11/23/88	12/06/88	1/03/89
QMP-06-05	PROJECT CHANGE CONTROL BOARD	L. ANDRIST	COMPLETED	11/10/88	11/23/88	12/06/88	1/03/89
<del>QMP-09-07</del>	<del>SOFTWARE CONFIG. REVIEW GROUP</del>	<del>F. GOWERS</del>	<del>12/10/88</del>	<del>12/28/88</del>	<del>12/30/88</del>	<del>1/10/89</del>	<del>1/24/89</del>
BTP-CM-001	CONFIG. INFO. SYS.(CIS) DATA BASE AUDITS	L. ANDRIST	4/01/89	5/12/89	N/R	6/16/89	6/30/89
<del>QMP-06-06</del>	<del>OCRWM CHANGE CONTROL BOARD SUPPORT</del>	<del>K. HARBERT</del>	<del>12/30/88</del>	<del>1/13/89</del>	<del>2/24/89</del>	<del>3/10/89</del>	<del>3/24/89</del>



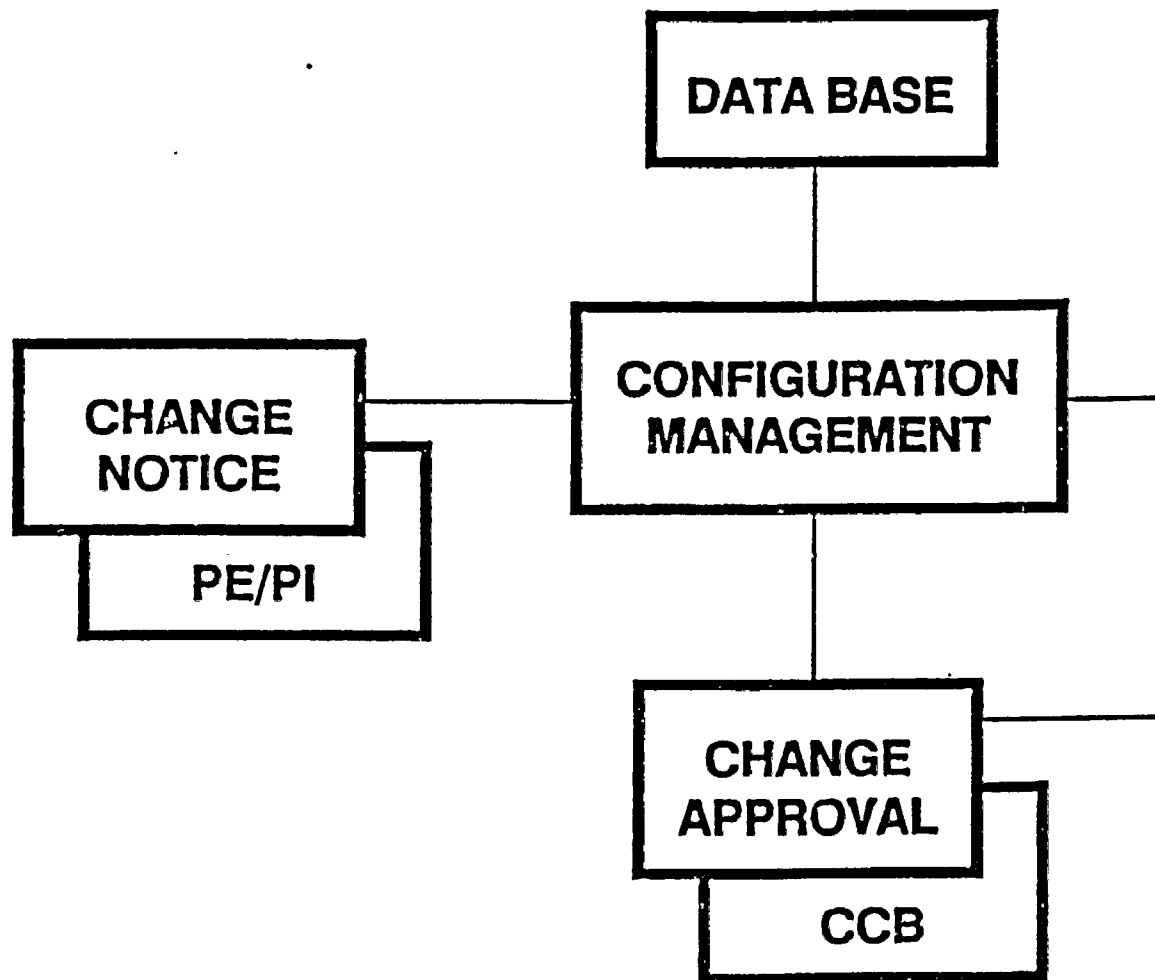
## **CHANGE CONTROL PROCESS**

- **THE NEW AP-3.3Q WILL ALSO ESTABLISH AND DEFINE FOR THE PROJECT A CHANGE CONTROL APPROVAL CRITERIA WHICH DEPICTS THE THRESHOLD LEVELS FOR TECHNICAL/SCOPE, SCHEDULE AND COST CHANGES**

# CHANGE CONTROL APPROVAL LEVELS

<u>APPROVAL AUTHORITY</u>	<u>CHANGE CLASS</u>	<u>TECHNICAL/SCOPE</u>	<u>SCHEDULE</u>	<u>COST</u>
PROJECT OFFICE	2	<ul style="list-style-type: none"> <li>- OTHER PARTICIPANTS AFFECTED</li> <li>- DIVISION DIRECTORS REVIEW/ APPROVE AND COMMENT ON AFFECT</li> <li>- WITHIN APPROVED SYSTEM/ SUBSYSTEMS REQUIREMENTS DOCUMENTS</li> </ul>	<ul style="list-style-type: none"> <li>- LESS THAN 1 MONTH AFFECT ON ANY LEVEL</li> </ul>	<ul style="list-style-type: none"> <li>- COST DOES NOT EXCEED 15% OF THE THIRD LEVEL WBS</li> </ul>
FIELD CHANGE CONTROL BOARD	3	<ul style="list-style-type: none"> <li>- MULTIPLE PARTICIPANTS AFFECTED</li> <li>- ONE PARTICIPANT AFFECTED BY COST OR SCHEDULE IMPACTS</li> <li>- WITHIN APPROVED REQUIREMENTS DOCUMENTS</li> </ul>	<ul style="list-style-type: none"> <li>- LESS THAN 1 MONTH AFFECT ON ANY LEVEL 2 MILESTONE</li> </ul>	<ul style="list-style-type: none"> <li>- LESS THAN \$250K AND WITHIN APPROVED BUDGET</li> </ul>
PARTICIPANTS	4	<ul style="list-style-type: none"> <li>- IMPACTS NO OTHER PARTICIPANTS</li> <li>- PARTICIPANTS MANAGER HAS AUTHORITY FOR MAKING CHANGE</li> <li>- MINOR CHANGES TO DESIGN, CONSTRUCTION, SPECIFICATIONS</li> <li>- WITHIN RELATED REQUIREMENTS DOCUMENTS</li> </ul>	<ul style="list-style-type: none"> <li>- LESS THAN 1 MONTH AFFECT ON ANY LEVEL 2 MILESTONE OR OVER 1 MONTH FOR ANY LEVEL 3 MILESTONE</li> </ul>	<ul style="list-style-type: none"> <li>- LESS THAN \$100K AND WITHIN APPROVED BUDGET</li> </ul>

# CHANGE CONTROL PROCESS

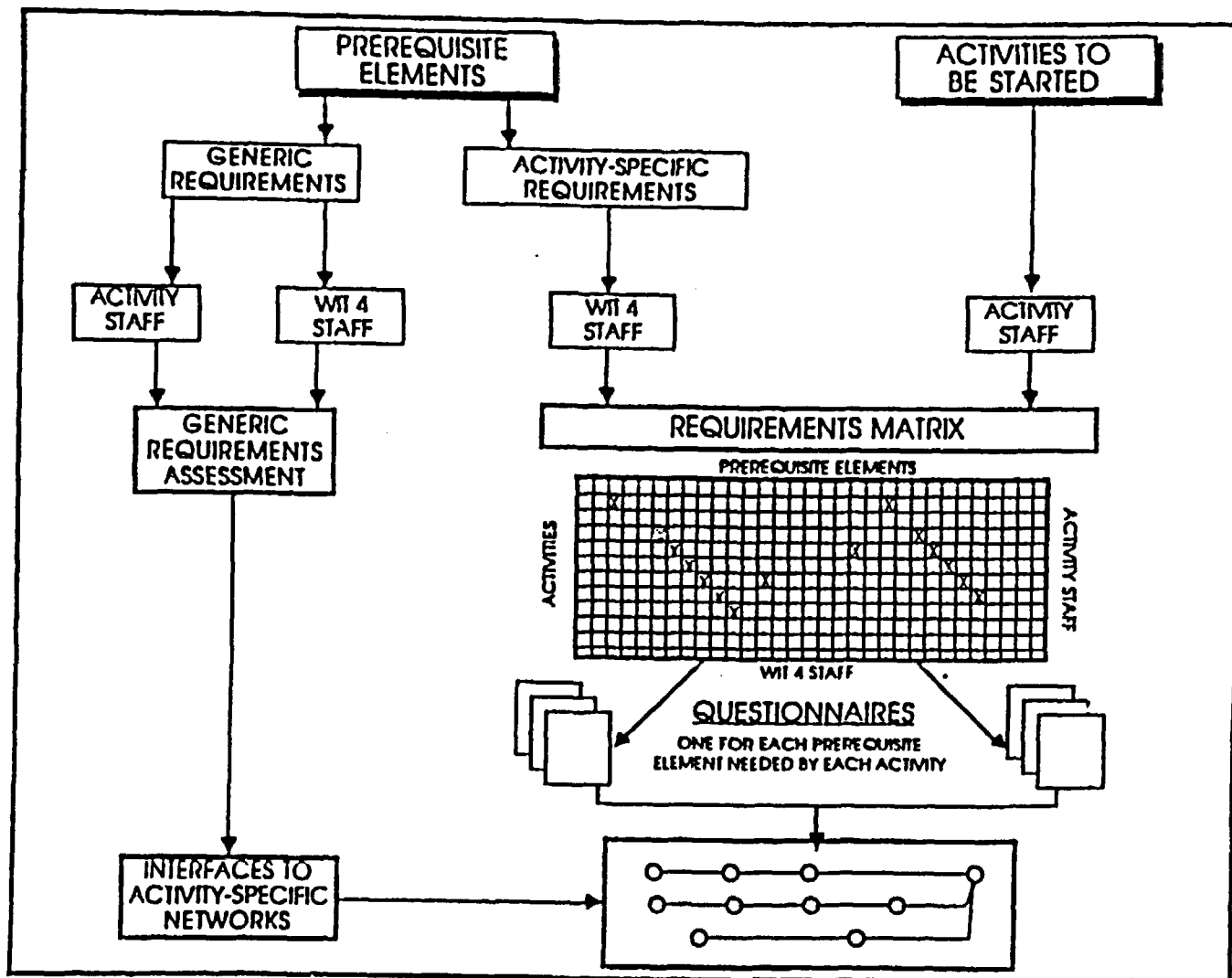
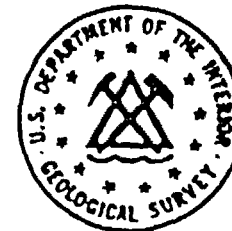


# CONTROL SCHEDULE

DOCUMENT (RESPONSIBLE INDIVIDUAL)	PROCEDURES WRITTEN	WORD PROCESSING COMPLETE	INFORMAL REV. & CHG. COMPLETE	COMMENT RESOLUTION MEETING	06-03 REV. COMPLETE	FORMAL ISSUE	TRAINING COMPLETE
CHANGE CONTROL (AP-3.3Q) PROCEDURE (WILSON)	12/13/88	12/16/88	12/22/88	1/04/89	1/09/89	1/13/89	1/20/89
CONFIG. CONTROL (AP-3.6/3.7) PROCEDURE (MERKLEY)	12/13/88	12/16/88	12/22/88	1/04/89	1/09/89	1/13/89	1/20/89
CHANGE CONTROL BOARD (QMP) PROCEDURES (MERKLEY)	12/20/88	12/22/88	1/05/89	1/10/89	1/16/89	1/17/89	1/20/89
CONFIG. MGMT. PLAN (SHALER)	12/13/88	12/16/88	12/22/88	1/04/89	1/09/89	1/13/89	1/20/89
DESIGN CONTROL (NEW AP/QMP) PROCEDURES (TBD, SHALER TO ASSIGN INDIVIDUAL)	12/16/88	<del>12/16/88</del> 12/22/88	<del>12/22/88</del> 1/5/89	<del>1/04/89</del> 1/10/89	<del>1/09/89</del> 1/16/89	<del>1/13/89</del> 1/17/89	1/20/89

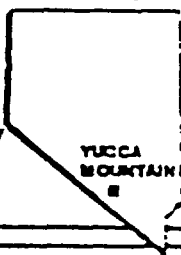
# YUCCA MOUNTAIN PROJECT

## WIT 4 NETWORK DEVELOPMENT PROCESS



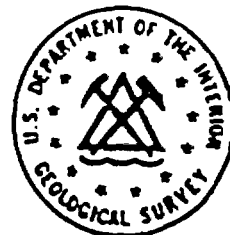
WIT 4/DCM 10-16-88

DOE  
W  
M



**YUCCA  
MOUNTAIN  
PROJECT**

**WIT-4  
ACTIVITY-SPECIFIC  
PREREQUISITE ELEMENTS**



**STUDY PLAN DEVELOPMENT**

**STUDY PLAN REVIEW AND APPROVAL**

**ACTIVITY INTERFACES**

**QALA**

**PROTOTYPE TESTING**

**WORK SCOPE DESCRIPTION**

**MILESTONES**

**FUNDING**

**PROCUREMENT AND SUBCONTRACTS**

**CAPITAL EQUIPMENT**

**LAND ACCESS AND**

**ENVIRONMENTAL SURVEYS, REVIEWS, AND PERMITS**

**CRITERIA LETTERS AND WORK ORDERS**

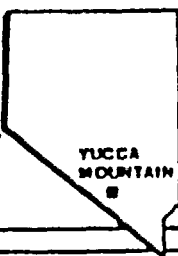
**YMP FIELD COORDINATION SUPPORT**

**INTEGRATED-DATA ACQUISITION**

**SAMPLE MANAGEMENT**

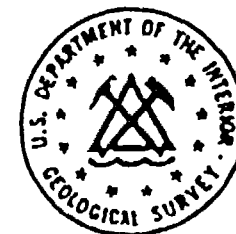
**TECHNICAL PROCEDURES**

**EQUIPMENT CALIBRATION**



**YUCCA  
MOUNTAIN  
PROJECT**

**HISTORY OF USGS INVOLVEMENT**



**SEPTEMBER - NOVEMBER 1988**

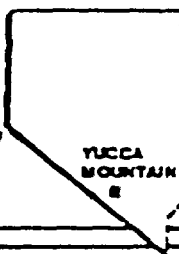
**PROVIDED COORDINATION SUPPORT TO WIT-4**

**NOVEMBER - DECEMBER 1988**

**TESTED THE WIT-4 PROCESS FOR 4 SITE ACTIVITIES**

**MODIFIED THE WIT-4 QUESTIONNAIRES TO BE USGS SPECIFIC  
AND TO PROVIDE ADDITIONAL DETAIL**

**PROVIDED INITIAL INSTRUCTIONS TO USGS PERSONNEL**



**YUCCA  
MOUNTAIN  
PROJECT**

**SUMMARY OUTLINE  
FOR A  
PREREQUISITE ELEMENT**



**ACTIVITY NUMBER AND PARTICIPANT(S)**

**DEFINITIONS**

**ASSUMPTIONS**

**PREREQUISITE STATUS**

**SCHEDULE SUMMARY**

**PROCEDURES APPLICABLE TO PREREQUISITE**

**RECORDS**

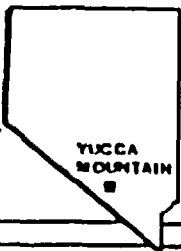
**CONTACTS**

**QUESTIONNAIRE COMPILATION AND REVIEW**



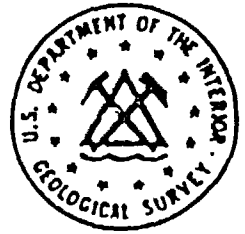
U.S. DEPARTMENT OF ENERGY

YUCCA  
MOUNTAIN



## YUCCA MOUNTAIN PROJECT

## CURRENT EFFORTS



IMPLEMENTING A TEAM APPROACH FOR PREREQUISITES REVIEW

ASSESSING THE REVIEW PROCESS RELATIVE TO QA REQUIREMENTS

REVIEWING SUPPORTING PROCEDURES

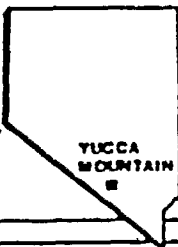
COMPLETING PREREQUISITES REVIEW QUESTIONNAIRES (4 TEST CASES)

DEVELOPING ACTIVITY-INITIATION SCHEDULES

DEVELOPING STATUSING METHODS

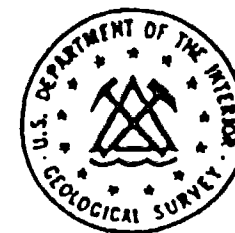
U.S. DEPARTMENT OF ENERGY

YUCCA  
MOUNTAIN  
PROJECT



# YUCCA MOUNTAIN PROJECT

## TEAM APPROACH



### ACTIVITY-INITIATION REVIEW TEAM

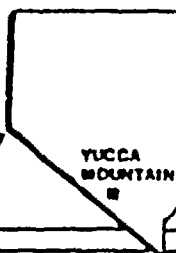
USGS TASK LEADER (AND/OR PRINCIPAL INVESTIGATOR)

USGS DIVISION COORDINATOR (OR DESIGNEE)

SAIC-GOLDEN SUPPORT STAFF

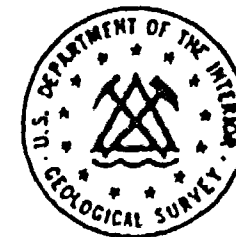
YMPO (T&MSS) TEAM MEMBER

YUCCA  
MOUNTAIN  
PROJECT



# YUCCA MOUNTAIN PROJECT

## EXAMPLE RESULTS OF REVIEW



### MULTIPURPOSE BOREHOLE TESTING (SCP 8.3.1.2.2.4.9)

#### PNEUMATIC-TESTING SUBCONTRACT (CRITICAL PATH)

- SELECT, NEGOTIATE, MOBILIZE
- PROCEDURES AND TRAINING

DOE  
WM



YUCCA  
MOUNTAIN  
PROJECT

EXAMPLE RESULTS OF REVIEW



SITE VERTICAL-BOREHOLE STUDIES  
(SCP 8.3.1.2.2.3.2)

MANY INTERFACING REQUIREMENTS

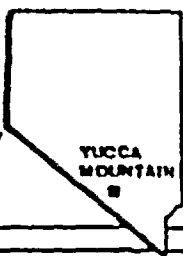
INTRA-DIVISIONAL  
INTER-DIVISIONAL  
INTER-PARTICIPANT

PROTOTYPE TESTING AND PROCEDURES

INTEGRATED-DATA-ACQUISITION SYSTEM

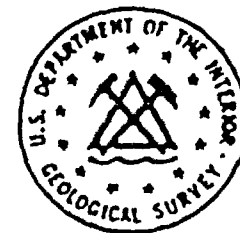
U.S. DEPARTMENT OF ENERGY

DOE  
W  
M



YUCCA  
MOUNTAIN  
PROJECT

EXAMPLE RESULTS OF REVIEW



QUATERNARY FAULTING IN SITE AREA  
(SCP 8.3.1.17.4.6.1 AND 8.3.1.17.4.6.2)

NTS OPERATIONS AND SAFETY PLAN

FUNDING

U.S. DEPARTMENT OF ENERGY

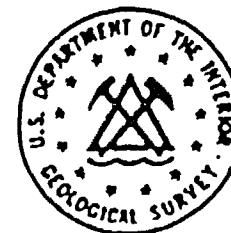
DOE  
WM



# YUCCA MOUNTAIN PROJECT

## SHORT-TERM FUTURE EFFORTS

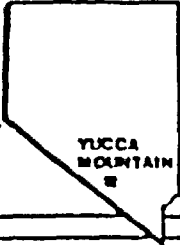
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**PREPARE (DOCUMENT) USGS PROCEDURE ON ACTIVITY INITIATION**

**BEGIN TO REPORT MONTHLY STATUS ON ACTIVITY INITIATION**

**BEGIN ACTIVITY-INITIATION REVIEWS FOR OTHER HIGH-PRIORITY  
ACTIVITIES**



# YUCCA MOUNTAIN PROJECT

## CONCERNS



**LACK OF USGS CONTROL FOR SOME PREREQUISITES**

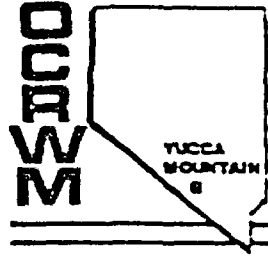
**POTENTIAL ADDITIONAL REQUIREMENTS**

**PARALLEL EFFORTS - READINESS REVIEWS (USGS AND YMPO)**

**DOE WORK-AUTHORIZATION-APPROVAL PROCEDURE**

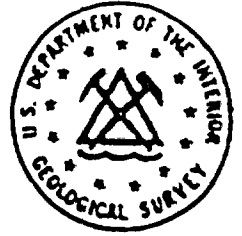
**QA PLANS AND PROCEDURES OF SUPPORTING CONTRACTORS**

U.S. DEPARTMENT OF ENERGY



**YUCCA  
MOUNTAIN  
PROJECT**

**PROCEDURE RELATIONS**



**WORK-AUTHORIZATION APPROVAL  
(??)**

**READINESS REVIEW  
(YMPO AP-5.13Q)**

**CONTROL OF READINESS REVIEWS  
(USGS QMP-2.06)**

**ACTIVITY-INITIATION REVIEW  
(WIT-4, USGS)**



# SUGGESTIONS FOR YMP REPORT PROCESSING

TPD MEETING, DEC. 15, 1988

by

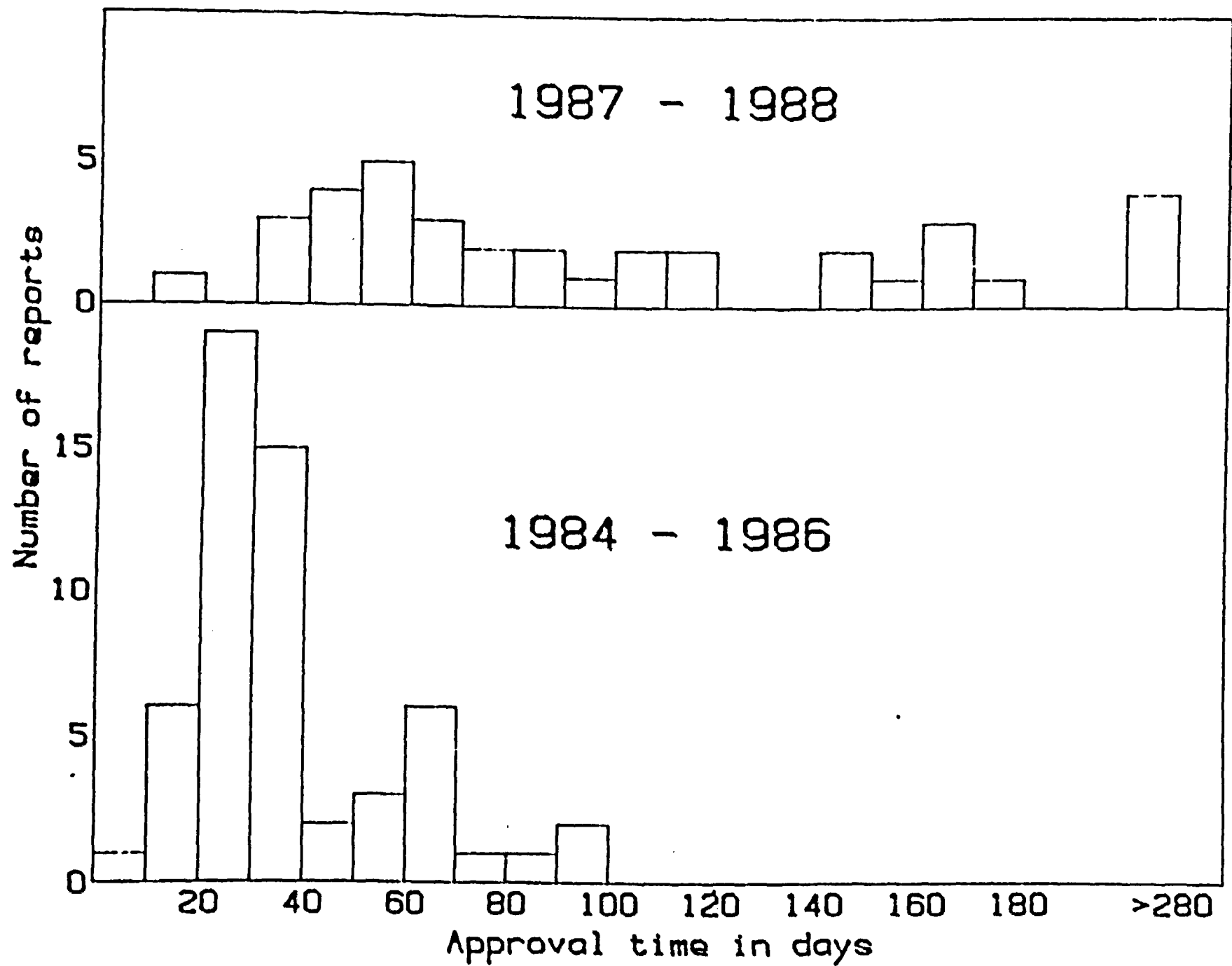
John S. Stuckless

U.S.G.S.

# SUGGESTIONS FOR YMP REPORT PROCESSING

## Justification :

1. Current system is unreasonably lengthy.
2. Timing for second set of technical reviews causes needless aggravation.
3. Peak processing load may be 5 to 10 times larger than at present.



# SUGGESTIONS FOR YMP REPORT PROCESSING

Possible report routing & responsibilities :

## 1. Author

- Prepare draft.
- Suggest reviewers (2 or more).
- Complete appropriate QA forms.

## 2. Supervisor

- Evaluate report and reviewers.
- Set review deadline (3 - 4 weeks).
- Forward for review Within originating organization.

# SUGGESTIONS FOR YMP REPORT PROCESSING

3. Author revision

4. Supervisor

- Check adequacy of reviews.
- Solicit further review if needed.
- Check revisions & responses.
- If not satisfactory, return to author.

5. Report to internal edit and to DOE with

- Transmittal materials currently used.
- Certification of technical reviews.
- deadline information, if any.

# SUGGESTIONS FOR YMP REPORT PROCESSING

## 6. DOE processing

- Policy, patent, & security review.
- Suggested timeframe equal to steps 2, 3, and 4.

## 7. Author revision

## 8. Originating Organization

- Check comments and responses.

# SUGGESTIONS FOR YMP REPORT PROCESSING

(Steps 7 & 8 ~30 days. If not ready for return to DOE, a memo giving status would be sent.)

9. DOE final approval

- De Facto approval would exist unless otherwise stated within e.g. 2 weeks.

10. Originating organization final approval.

# SUGGESTIONS FOR YMP REPORT PROCESSING

## Questions and comments :

1. Will need tracking system with tickler file.
2. Need title page note: 'PRELIMINARY DRAFT. May not be quoted or cited. Interpretations and data may not be used except by written permission from DOE and \_\_\_\_.'
3. Could review rather than reviewer be certified for QA?



# SUGGESTIONS FOR YMP REPORT PROCESSING

5. Use phone contact between author and reveiwer to avoid unnecessary comments.
6. Use members of participating agencies as reviewers. This will broaden expert pool and promote interagency communication.
7. Abstracts need a more streamlined route.
  - No DOE technical review.
  - 2-day verbal approval (policy etc. review).
  - Need minimun time before deadline (5 days ?).

**ON-GOING ACTIONS  
OF  
EXPLORATORY SHAFT PARTICIPANTS**

**DECEMBER 15, 1988**

### **Q-LIST TASK FORCE**

- FIVE DRAFT PROCEDURES COMPLETED 12-12-88
- REVIEW ON 3/5 PROCEDURES COMPLETED 12-12-88
- FORMAL TRAINING NEARING COMPLETION
- SAFETY BASIS ANALYSIS TO START 12-15-88

# **TITLE I DESIGN REPORT**

TO PRINTING	-	12-14-88
TO PROJECT OFFICE FOR TRANSMITTAL	-	12-21-88
TO HEADQUARTERS	-	(AS SCHEDULED)

## TITLE II SDRD

### PAST MILESTONES

COMMIT RESOLUTION OF 06-03 REVIEW 12-5-88

DRAFT OF REVISED APPENDIX E FROM HEADQUARTERS 12-2-88

### OTHER INPUTS

- o REPOSITORY (TASK 3.13)
  - + GENERAL CHANGES
  - + REVISED APPENDIX A INTERFACE DRAWING
- o PERFORMANCE ASSESSMENT (TASK 3.12)
- o GENERAL (TASK 3.14)
  - + CONSTRUCTION/OPERATIONS
  - + ENVIRONMENTAL
- o NUREG 1318 (TASK 3-1 TO 3-6)

### OPEN ACTIONS

FINALIZATION OF REVIEW/APPROVAL PROCESS

## EXPLORATORY BSAFT NETWORKS

### LONG RANGE PLANNING

- ON-GOING ACTIVITY
- USE BEST AVAILABLE INFORMATION

### BUDGET VALIDATION

- TIME SCALED RESOURCE LOADED
- BASED ON TITLE I DRAWING, SPECIFICATIONS AND ESTIMATES
- WILL FORM BASIS FOR MARS 91 AND MARCH BUDGET VALIDATION PRESENTATION
- DEVELOPMENT IS CONTROLLED BY THE PROJECT OFFICE (WEEKLY MEETING)
- WHEN COMPLETE, WILL REPLACE THE CURRENT LRP NETWORK

# **EXPLORATORY SHAFT MANAGEMENT PLANNING AND IMPLEMENTING PROCEDURES**

## **EXPLORATORY SHAFT MANAGEMENT PLAN**

**RELEASED FOR 06-03 REVIEW**

**BY 12-23-88**

## **IMPLEMENTING PROCEDURES**

**DRAFT LIST OF DELIVERABLES**

**TO TOM HUNTER 12-2-88**

**INITIAL MEETING WITH EXPLORATORY SHAFT  
ARCHITECTURAL ENGINEERS**

**12-17-88**

## **CURRENT ISSUE**

**DEVELOP A STRATEGY TO SATISFY ALL OF THE PROCEDURAL PRE-REQUISITES TO  
EXPLORATORY SHAFT FIELD WORK. AVAILABLE OPTIONS ARE:**

- o MANAGEMENT PLANS**
- o ADMINISTRATIVE PROCEDURES**
- o ORGANIZATIONAL PROCEDURES**
- o PROJECT OFFICE GUIDANCE LETTERS**
- o DIVISION I TECHNICAL SPECIFICATIONS**

# EXPLORATORY SHAFT MANAGEMENT PLANNING AND IMPLEMENTING PROCEDURES

## OTHER ACTIONS

EXPLORATORY SHAFT HOIST REHABILITATION

INTEGRATED DATA SYSTEM TECHNICAL ASSESSMENT

INTEGRATED DATA SYSTEM TITLE II PHASED DESIGN

AE BASIS FOR DESIGN

AE INTERNAL READINESS ACTIONS

PREPARATION FOR HEADQUARTERS MANAGEMENT ASSESSMENT 1-23-89



Status of OCRM IRM - December 15, 1988

## BACKGROUND

1982: NUCLEAR WASTE POLICY ACT (NWPA) AUTHORIZES THE SITING AND CONSTRUCTION OF THE NATION'S FIRST PERMANENT REPOSITORY . FOR SPENT FUEL RODS AND HIGH-LEVEL NUCLEAR WASTE

- DEPARTMENT OF ENERGY IS RESPONSIBLE FOR SITING, CONSTRUCTION AND OPERATION
- NUCLEAR REGULATORY COMMISSION FOR LICENSING
- NUCLEAR UTILITIES FOR PROVIDING FUNDING

1987: AMENDMENT TO NWPA NAMED NEVADA AS THE STATE TO CONSIDER AS THE FIRST REPOSITORY SITE

A THREE YEAR LICENSING PROCEEDING IS MANDATED BY THE NWPA

## A FEW FACTS ABOUT THE LICENSE APPLICATION

- AN ESTIMATED 25 MILLION PAGES OF PROGRAM DOCUMENTATION WILL BE GENERATED BY 1995; 40 MILLION BY 2003
- REVIEWERS AND INTERESTED PARTIES WILL BE LOCATED THROUGHOUT THE U.S.

o TECHNICAL 45% o LEGAL o PUBLIC 5%

o REGULATORY 25% o MANAGEMENT 5% *Intermediary - 18%*  
*Q/A + DB Management 2%*

- A GOOD PROPORTION OF LICENSE HEARING TIME IS CONSUMED WITH THE LEGAL DOCUMENT DISCOVERY PROCESS AND IN MOTIONS PRACTICE

HENCE A PROCESS WAS NEEDED TO SHORTEN DISCOVERY AND FACILITATE DOCUMENT TRANSMISSION

## THE LSS CONCEPT

- A PANEL OF INTERESTED PARTIES WOULD MEET DURING 1987-1988 TO NEGOTIATE A RULE CONCERNING SUBMISSION OF DOCUMENTS AND PROCEDURES FOR THE USE OF THE LSS - *Draft Rule published in Federal Register Nov. 3, 1988*
- ALL LICENSE RELATED DOCUMENTATION FROM DOE, NRC, AND THE PARTIES TO THE LICENSING HEARING WOULD BE ENTERED INTO A COMPUTER SYSTEM THAT WOULD SERVE AS THE SOLE BASIS OF DOCUMENT DISCOVERY
- NRC WOULD MODIFY ITS RULES OF PROCEEDING FOR A LICENSE HEARING TO INCORPORATE THE USE OF THE LSS
- ALL PARTIES WOULD AGREE TO A SPECIFIED DISCOVERY PERIOD WITHIN THE 3-YEAR HEARING PROCESS IN EXCHANGE FOR ACCESS TO THE LSS BEFORE AND DURING THE HEARING

## GENERAL CAPABILITIES OF THE LSS

- **HARDWARE AND SOFTWARE COMPONENTS**
  - o **CENTRALIZED TEXT AND IMAGE STORAGE IN LAS VEGAS**
  - o **SIX GEOGRAPHICALLY DISTRIBUTED CAPTURE SYSTEMS**
- **HEADERS AND SEARCHABLE FULL TEXT OF ALL APPROPRIATE DOCUMENTS**
  - o **RETRIEVAL THROUGH STRUCTURED INDEX SEARCHING TIED TO IMAGES**
- **ELECTRONIC MAIL**
  - o **SUPPORT COMMUNICATIONS AND MOTIONS PRACTICE**

## GENERAL CAPABILITIES OF THE LSS (CONTINUED)

- DEMAND PRINTING FROM IMAGES TO PRODUCE
  - o ESTIMATED 10 MILLION PAGES A YEAR
  - o OVERNIGHT DELIVERY ADEQUATE FOR LARGE DOCUMENTS
  - o LOCAL PRINTING FOR SMALL DOCUMENTS
  - o LEAST COST SOLUTION
  
- LOCAL DISPLAY OF DOCUMENTS ON HIGH RESOLUTION WORKSTATIONS
  - o GRAPHIC DISPLAY
    - DATA; MAPS; DRAWINGS
  - o REVIEW OF ORIGINAL PAGES
    - ESSENTIAL SINCE OPTIMIZING FULL TEXT SEARCH CHANGES FORM OF PAGES
    - SHOWS COPY OF ORIGINAL SIGNATURE

## MAGNITUDE OF THE LSS

. . . . GIGABYTES . . . .

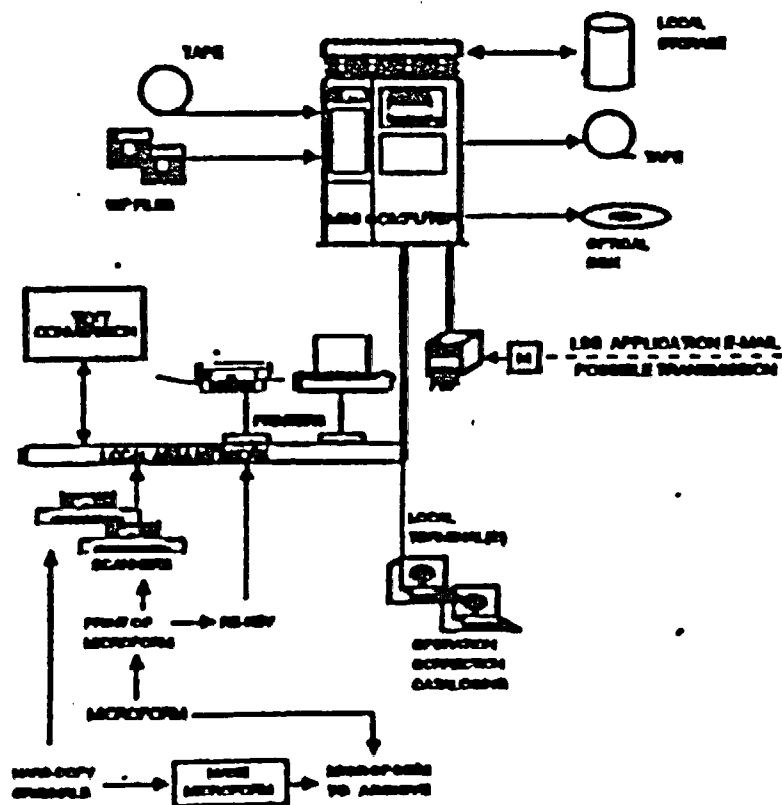
<u>YEAR</u>	<u>PAGES</u>	<u>BIBLIOGRAPHIC DATA/INDICES</u>	<u>ASCII TEXT/ INDICES</u>	<u>BIT-MAPPED IMAGES</u>
1990	12,000,000	15	32	260
1994	22,000,000	18	126	1,000
1998	28,000,000	25	175	1,400

350-450 WORKSTATIONS

10 YEAR LIFE-CYCLE COST ESTIMATED \$200 MILLION

10

## CAPTURE SYSTEM



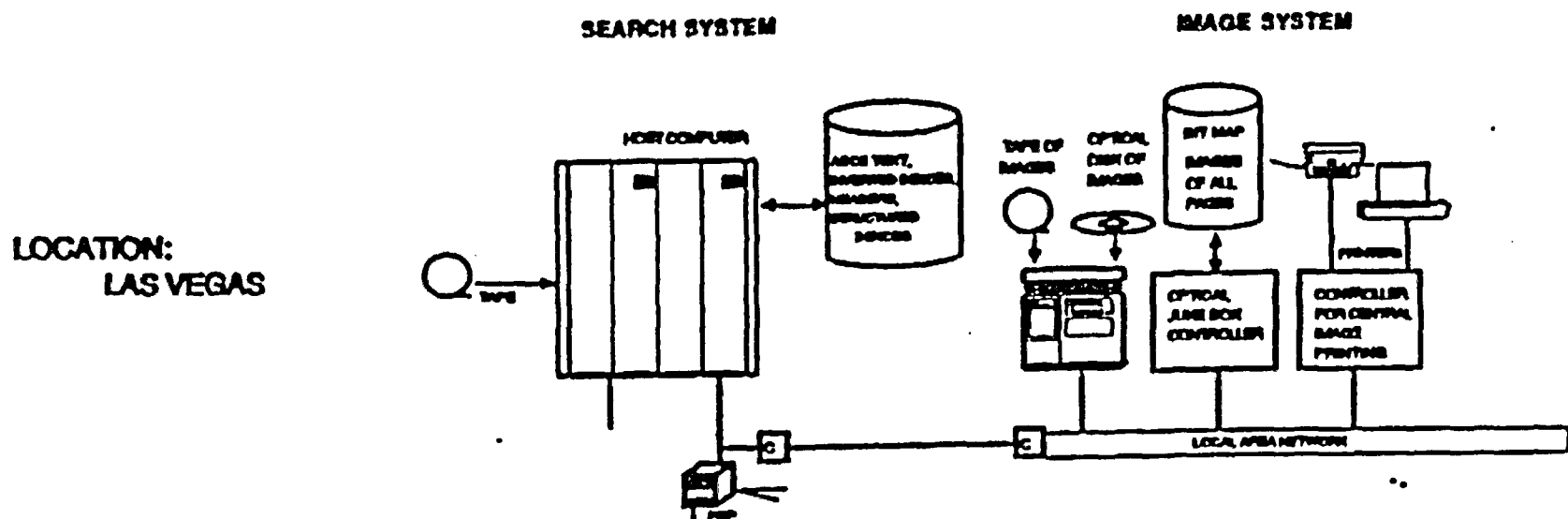
## 6 CAPTURE STATIONS

**MINI COMPUTER BASE (3 MIPS)  
LAN COMMUNICATIONS  
3000 PAGES/DAY CAPACITY  
FUNCTIONALITY  
SCAN  
MICROFILM  
CATALOGING  
TEXT CONVERSION**

## LOCATIONS

DOE FORRESTAL  
DOE LAS VEGAS  
NRC WHITE FLINT  
?

# BASE CONCEPTUAL DESIGN HARDWARE ARCHITECTURE



## SEARCH

MAINFRAME OR MINICOMPUTER (30 MIPS)  
 SUPPORT FOR 100 SIMULTANEOUS USERS  
 STORAGE FOR 200 GIGABYTES (HEADERS & TEXT)  
 FUNCTIONALITY  
 FULL TEXT SEARCH  
 HEADER SEARCH  
 USER ASSISTANCE  
 ELECTRONIC MAIL

## IMAGE

MINICOMPUTER (8 MIPS)  
 STORAGE FOR 1400 GIGABYTES (ALL PAGES)  
 FUNCTIONALITY  
 ON LINE IMAGE DISPLAY  
 HARD COPY PRODUCTION



# BASE CONCEPTUAL DESIGN HARDWARE ARCHITECTURE

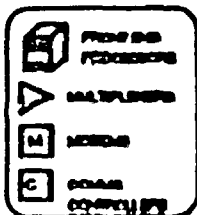
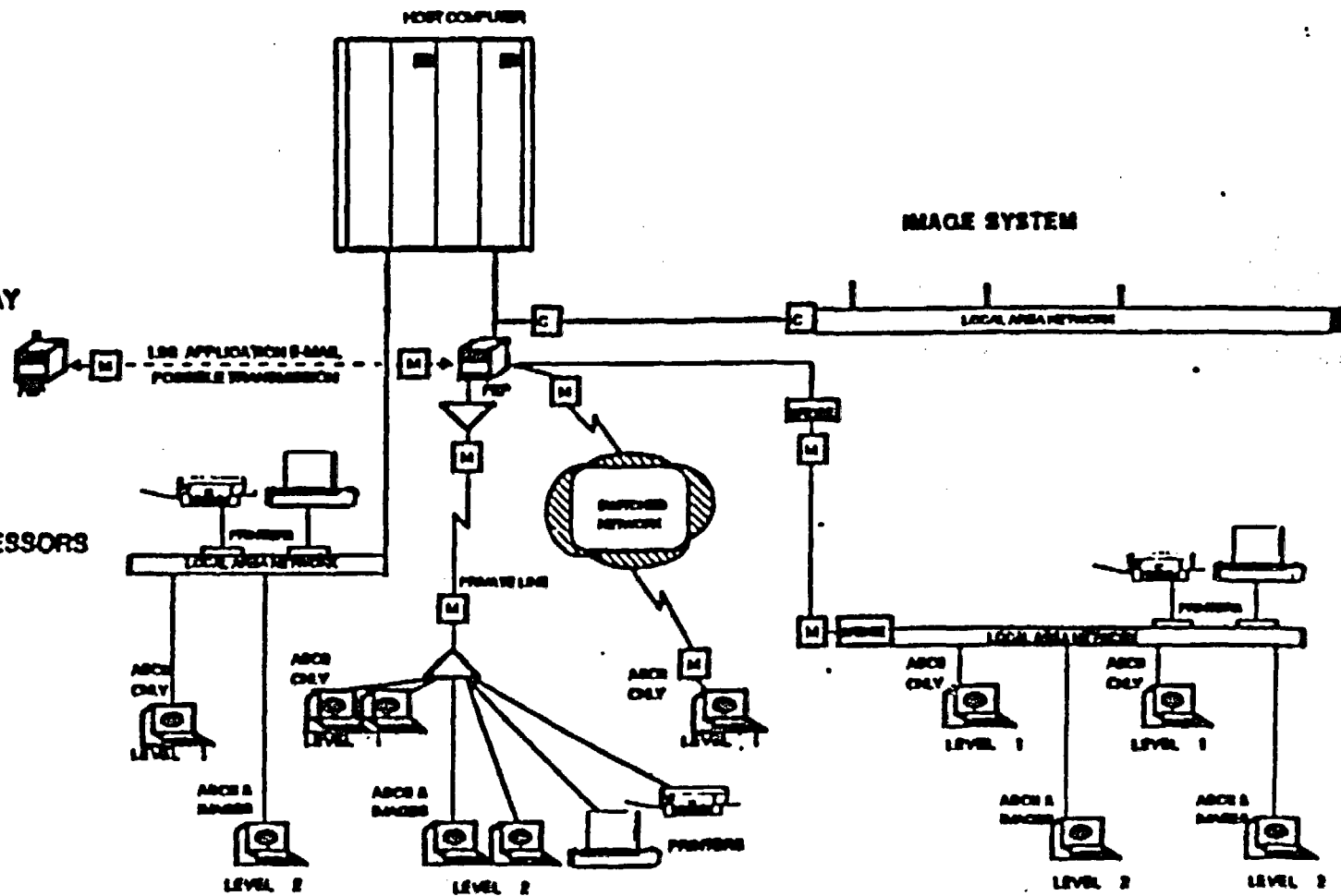
## WORKSTATIONS

**LEVEL 1**  
ASCII ONLY  
USER SUPPLIED PC

**LEVEL 2**  
ASCII AND IMAGE  
PC BASE  
HIGH RESOLUTION DISPLAY

## TELECOMMUNICATIONS

LANs  
LAN BRIDGES  
MULTIPLEXERS  
MODEMS  
COMMUNICATIONS PROCESSORS



## SCHEDULE FOR THE LSS

OCTOBER, 1987      DESIGN AND IMPLEMENTATION CONTRACT AWARDED TO  
SCIENCE APPLICATIONS INTERNATIONAL, INC.

1988      -      INFORMATION ENGINEERING PHASE

- NEEDS ANALYSIS
  - o NEGOTIATED RULEMAKING
  - o SURVEY OF USERS
- DATA SCOPE-ANALYSIS
- CONCEPTUAL SYSTEM DESIGN
- COST-BENEFIT ANALYSIS
- PROTOTYPE SPECIFICATION

SCHEDULE FOR THE LSS (CONTINUED)

1989

- DESIGN AND INITIAL PROCUREMENT
  - PROTOTYPE IMPLEMENTATION OF 200,000 PAGES
  - CAPTURE SYSTEM SPECIFICATIONS
  - INSTALLATION OF FIRST CAPTURE SYSTEM
    - o BEGIN WITH DOE BACKLOG LOAD
  - WORK WITH NRC AND OTHERS
    - o STANDARD CAPTURE PROCEDURES
    - o COORDINATION OF CAPABILITIES WITHIN EXISTING ENVIRONMENT

## SCHEDULE FOR THE LSS (CONTINUED)

1990

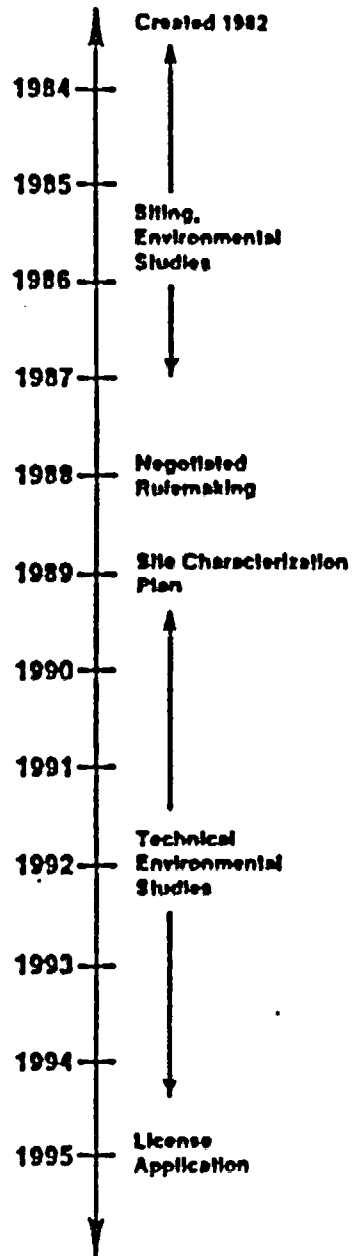
- PROCUREMENT AND INSTALLATION
  - DATABASE MANAGEMENT SYSTEM PROCUREMENT
  - REMAINING CAPTURE SYSTEMS PROCUREMENT
    - o BEGIN DOCUMENT COLLECTION FOR NRC AND OTHERS
  - SEARCH SYSTEM SPECIFICATIONS
  - IMAGE SYSTEM SPECIFICATIONS
  - COMPONENT REVIEW AND ACCEPTANCE BY DOE, NRC AND OTHERS

SCHEDULE FOR THE LSS (CONTINUED)

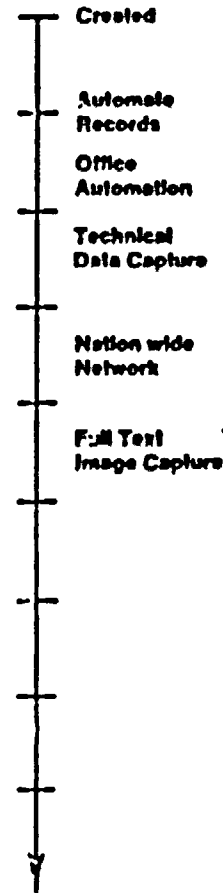
- 1991        -        PROCUREMENT, INSTALLATION, INTEGRATION
  - SEARCH AND IMAGE SYSTEM PROCUREMENT AND INSTALLATION
  - SOFTWARE DEVELOPMENT COMPLETED
  - TELECOMMUNICATIONS INSTALLED
  - COMPONENT REVIEW AND ACCEPTANCE BY DOE, NRC AND OTHERS
  
- 1992        -        FINAL SYSTEM INTEGRATION
  - TEXT OF 4 MILLION PAGES LOADED
  - INSTALLATION AND ACCEPTANCE TESTS COMPLETED
  - LSS AVAILABLE TO USERS
  
- 1993        -        MAJORITY OF BACKLOG DATA LOADED BY ALL PARTIES
  
- 1994        -        CERTIFICATION BY NRC THAT LSS IS "SUBSTANTIALLY LOADED"

# LSS ORGANIZATIONAL CONTEXT

## Office of Civilian Radioactive Waste Management



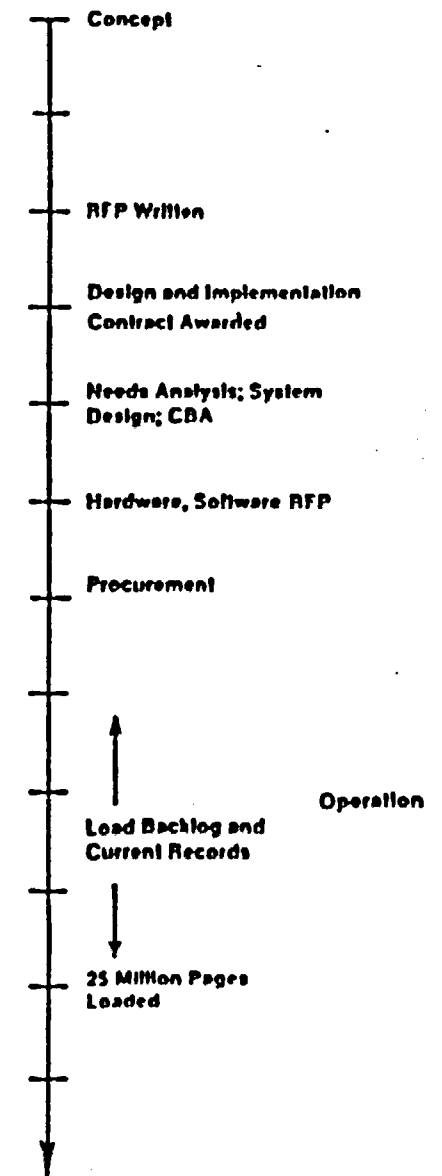
## OCRWM Information Resource Management Organization



YMPD JRM  
Organization

Created

## LSS



## LICENSING SUPPORT SYSTEM

### MOTIVATION FOR IRM VS SYSTEMS APPROACH

- o DEVELOP AND MANAGE A PROCESS THAT WILL:
  - ESTABLISH A CLEAR VIEW OF THE LICENSE PROCESS
  - DEVELOP APPLICATION BOUNDARIES AND INTERFACES
  - DEFINE DATA STRUCTURES
  - DEAL WITH TECHNOLOGY PLACEMENT
  - PROVIDE A PATH FROM TODAY TO TOMORROW
  - DEFINE IMPLEMENTATION PROCESS
  - MAKE IT HAPPEN

# IRM ELEMENTS

## PROGRAM MANAGEMENT & INTEGRATION

- PLANNING
- BUDGETING
- CONFIGURATION  
MANAGEMENT &  
CONTROL
- QUALITY  
ASSURANCE
- TRAINING

## INFORMATION SYSTEMS

- RECORDS  
MANAGEMENT  
SYSTEM
- TECHNICAL  
ENGINEERING  
DATA
- PROGRAM  
MANAGEMENT  
INFORMATION  
SYSTEM
- ADMINISTRATIVE  
SYSTEM

## EQUIPMENT AND TECHNOLOGY

- ADP
- OFFICE  
AUTOMATION
- MICROGRAPHICS
- OPTICAL DISK

## SOFTWARE

- RDBMS
- TEXT  
MANAGEMENT
- APPLICATION  
PROGRAMS

## TELECOMMUNICATIONS

- LAN
- WAN



# OCRWM Information Systems and Data Bases

<b>Records Management System</b>	<b>Technical Engineering Data</b>	<b>Program Management Information System</b>	<b>Administrative System</b>
<ul style="list-style-type: none"><li>• Records Information</li><li>• Action Item Tracking</li><li>• Transportation Legislative Data Base</li><li>• Congressional Questions and Answers Data Base</li></ul>	<ul style="list-style-type: none"><li>• Reference Information Data Base</li><li>• Technical Data Base</li><li>• Sample Inventory Management</li><li>• Performance Assessment</li></ul>	<ul style="list-style-type: none"><li>• Program Management</li><li>• Deliverables Tracking</li><li>• Budget Data Entry</li></ul>	<ul style="list-style-type: none"><li>• Issues Tracking</li><li>• Commitment Tracking</li><li>• Document Review Tracking</li><li>• Comment Response Tracking</li><li>• Property Inventory Control</li></ul>

OVERVIEW OF OCRWM AUTOMATION  
TARGET DATE FOR COMPLETION MAY 1990

- o PLANNING
  - RECORDS MANAGEMENT POLICY
  - LONG RANGE ADP, MIS, TELECOMMUNICATIONS PLAN
  - PROGRAM PLANS
    - OFFICE AUTOMATION PLAN
    - TELECOMMUNICATIONS NETWORK PLAN
  - IMPLEMENTATION PLANS
- o CONNECTIVITY
  - LAN WITHIN FORRESTAL
  - LINKED TO WESTON VAX
  - WAN TO NEVADA AND CHICAGO
  - LAN WITH NEVADA PROJECT
  - LINKS TO 9 NEVADA CONTRACTOR SITES
- o NATIONWIDE STANDARDIZATION
  - VAX-BASED SYSTEM
    - DEC ALL-IN-ONE
    - BASIS/DM
  - SOFTWARE UNDER CONFIGURATION MANAGEMENT AND CHANGE CONTROL
  - TRAINING AND PROCEDURES

OVERVIEW OF OCRWM AUTOMATION  
TARGET DATE FOR COMPLETION MAY 1990  
- CONTINUED -

- o SUPPORT AUTOMATED RECORDS MANAGEMENT
  - HEADQUARTERS TEXTUAL MATERIAL
  - NEVADA TEXT AND DATA
  - Q/A RECORD PACKAGES
  - Establish Ympo central records facility and participants local records centers
- o SUPPORT THE LICENSING SUPPORT SYSTEM
  - TEXT AND DATA CAPTURE
    - FULL TEXT ASCII FROM WORD PROCESSING AND OCR CONVERSION
    - BIT MAPPED IMAGES STORED ON OPTICAL DISKS
    - BIBLIOGRAPHIC HEADERS INTEGRATED WITH RECORDS MANAGEMENT SYSTEM (ARS/LSS / records management integration)
  - TELECOMMUNICATIONS

OCRWM OFFICE AUTOMATION PLAN  
RELATIONSHIP BETWEEN THE PROPOSED SYSTEM AND  
THE LICENSE APPLICATION

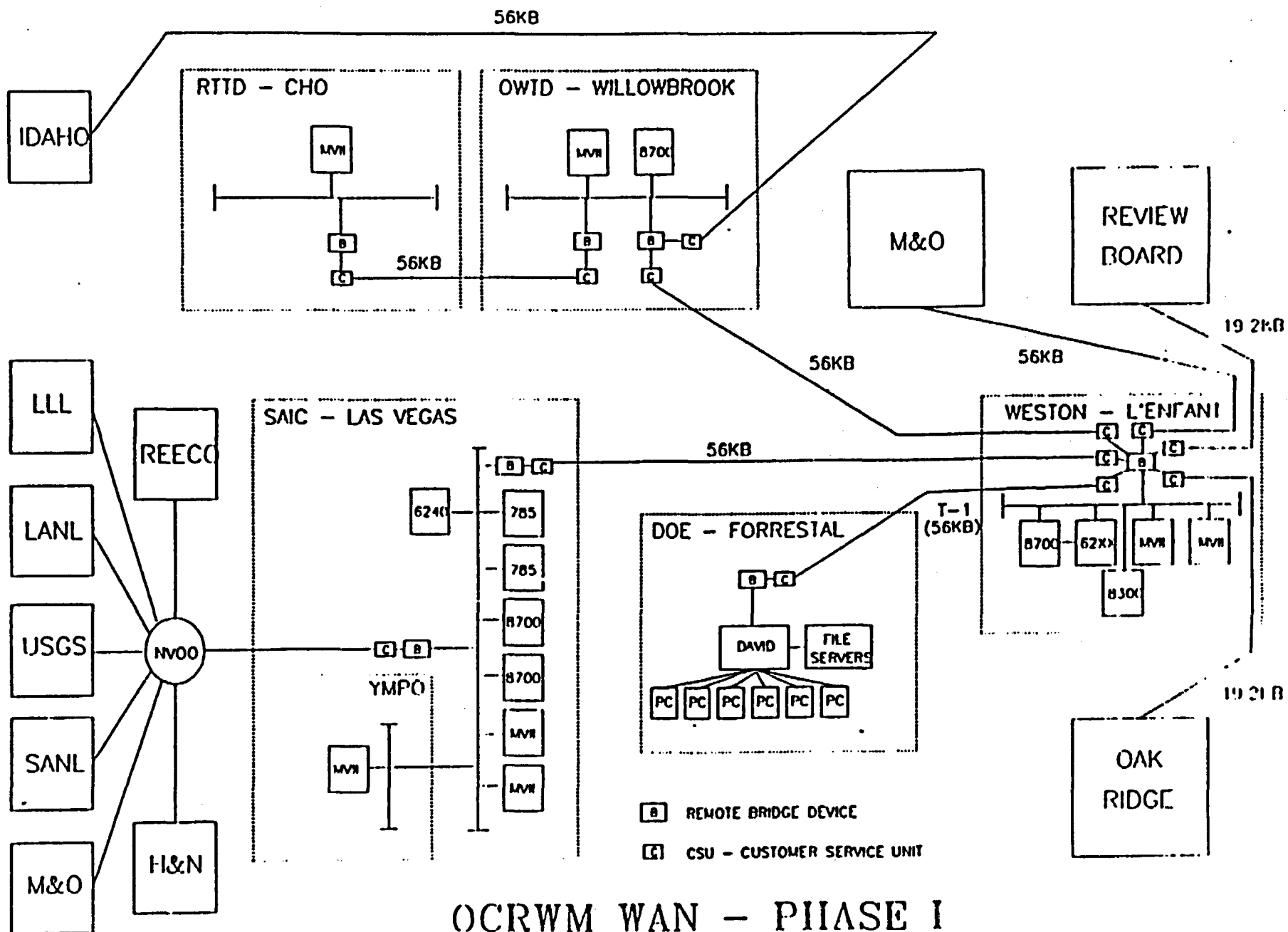
PROPOSED SYSTEM ESTABLISHES FOUNDATION TO SUPPORT  
LICENSE APPLICATION PROCESS

- o LICENSING REQUIRES INTERACTIONS AMONG MANY PARTIES
  - OCRWM-HQ IS JUST ONE PARTY TO THE PROCESS
- o INTRODUCTION OF WIDE AREA NETWORKING PROVIDES A TELECOMMUNICATIONS NETWORK THAT CAN BE EXPANDED TO ACCOMMODATE REMOTE PARTIES TO THE LICENSING PROCESS AND PROVIDE SUPPORT TO THE LSS

## OCRWM TELECOMMUNICATIONS NETWORK PLAN OBJECTIVES AND SCOPE OF THE TNP

### OBJECTIVES

- o IDENTIFY AND PRESENT THE CURRENT STRATEGY FOR INTEGRATING OCRWM'S INFORMATION RESOURCES ACROSS PROGRAM LOCATIONS
  - PHASE I: ESTABLISH COMMUNICATIONS AMONG MAJOR INFORMATION SYSTEM LOCATIONS
    - WASHINGTON, D.C.
    - CHICAGO, ILLINOIS
    - LAS VEGAS, NEVADA
  - PHASE II: DEVELOP A PROGRAM-WIDE TELECOMMUNICATIONS NETWORK STRATEGY DESIGNED TO FACILITATE ACCESS TO THE LSS



OCRWM WAN - PHASE I  
CONCEPTUAL DESIGN

**OCRWM TELECOMMUNICATIONS NETWORK PLAN  
TELECOMMUNICATIONS AND THE LICENSING SUPPORT SYSTEM**

**PHASE II: LSS/OCRWM INTEGRATED COMMUNICATION RESOURCE**

- o. PHASE I TELECOMMUNICATIONS NETWORK LOCATIONS  
CAN SERVE AS REGIONAL COMMUNICATIONS HUBS FOR  
PARTICIPATING LSS LOCATIONS, AS WELL AS ANY OTHER  
LOCATIONS THAT DESIRE ACCESS TO THE LSS**

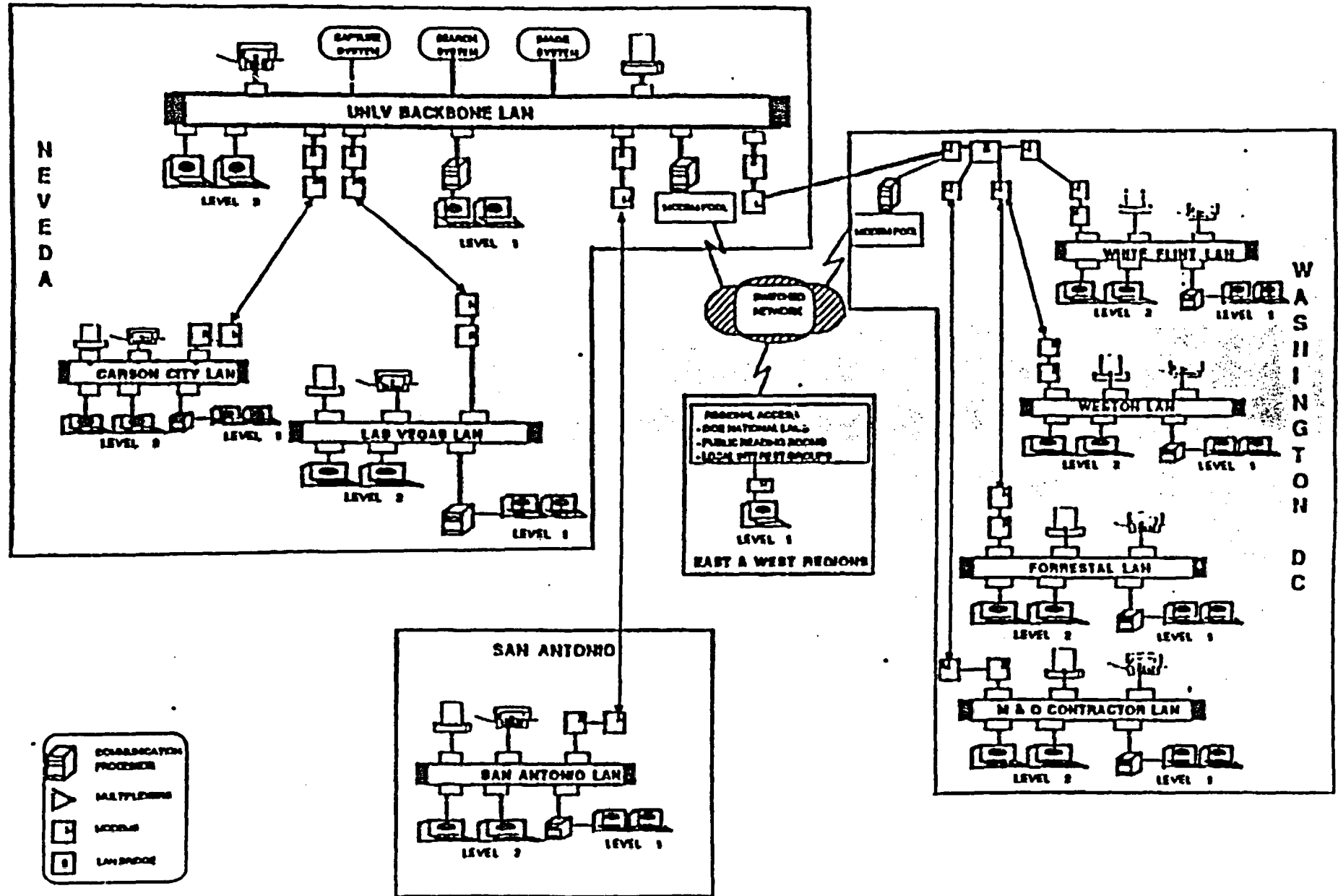
**OCRWM TELECOMMUNICATIONS NETWORK PLAN  
TELECOMMUNICATIONS AND THE LICENSING SUPPORT SYSTEM**

**PHASE II: LSS/OCRWM INTEGRATED COMMUNICATION RESOURCE**

- o **EXTEND EXISTING CONNECTIVITY TO LSS**
- o **SCALE-UP CAPACITY OF OCRWM COMMUNICATION FACILITIES**
- o **BUILD ON CSTM/OCRWM COMPUTER AND COMMUNICATION STANDARDS**
- o **FACILITATE AUTOMATION OF LSS DOCUMENT SUBMITTAL PROCESS**
- o **INCORPORATE USER SENSITIVITIES TO TECHNOLOGY**
- o **PROVIDE INTERCONNECTIONS TO NON-DOE LSS INTERESTS**
- o **COORDINATE IMPLEMENTATION SCHEDULE WITH SYSTEM DELIVERABLES**

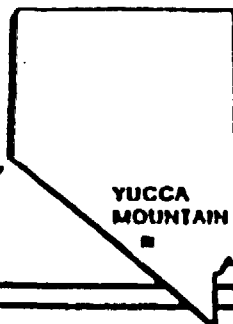


# PRELIMINARY DESIGN LSS COMMUNICATION NETWORK



U.S. DEPARTMENT OF ENERGY

**O  
C  
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# YUCCA MOUNTAIN PROJECT

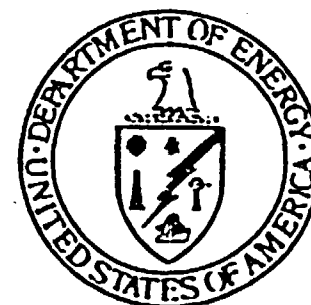
## STATUS OF FULLY QUALIFIED QA PROGRAM

*PRESENTED BY*

**ANTHONY BACA**

**DECEMBER 15, 1988**

UNITED STATES DEPARTMENT OF ENERGY  
NEVADA OPERATIONS OFFICE/YUCCA MOUNTAIN PROJECT OFFICE



# **QA PROGRAM QUALIFICATION GENERIC SCHEDULE LOGIC**

**QAPP - QUALITY ASSURANCE PROGRAM PLANS**

**APQ - QUALITY AFFECTING ADMINISTRATIVE PROCEDURES**

**QAAP - QUALITY ASSURANCE ADMINISTRATIVE PROCEDURES**

**TRAINING**

**SURVEILLANCES - DOE & PARTICIPANT**

**RESOLVE OPEN ITEMS**

**MANAGEMENT REVIEW - PARTICIPANT**

**DOE MANAGEMENT REVIEW**

**YMP/NRC AUDIT**



# **QA PROGRAM QUALIFICATION QAPP**

## **STATUS**

- **ISSUE QAP 88-9 REV 2 TO PARTICIPANTS/NRC 12/6/88**
- **F&S, H&N, & REEC<sub>o</sub> QAPPS APPROVED TO 88-9 REV 1**
- **ALL PARTICIPANTS QA PROGRAM PLANS IN PLACE BY  
FEBRUARY 1989 TO MEET 88-9 REV 2**

# **QA PROGRAM QUALIFICATION APQ's**

- **APPLIES TO ALL PARTICIPANTS**
- **AN IMPLEMENTING PROCEDURE WHICH IDENTIFIES PROJECT LEVEL INTERFACE CONTROL METHODS TO MEET QA REQUIREMENTS OF THE YMP QA PLAN 88-9**
- **THE CONTROL METHODS WHICH GOVERN PROJECT WIDE SYSTEMS**

## **STATUS**

- **9 EXISTING QUALITY ADMIN PROCEDURES**
- **16 IN PREPARATION, REVIEW OR APPROVAL**

# QA PROGRAM QUALIFICATION

## QAAP

### EXAMPLES

- PROJECT OFFICE & PARTICIPANTS - (APQ) ADMINISTRATIVE PROCEDURE
- PROJECT OFFICE - (QMP) QUALITY MANAGEMENT PROCEDURES
- F&S - (PP) PROJECT PROCEDURES,  
- (DC) DESIGN CONTROL PROCEDURES,  
- (QAP) QUALITY ASSURANCE PROCEDURES
- SANDIA - (DOP) DEPARTMENT OPERATING PROCEDURES  
- (QAP) QUALITY ASSURANCE PROCEDURES

### STATUS

- EXPECTED QAAP COMPLETION DATES:
  - JAN - REEC<sub>o</sub>
  - FEB - F&S, H&N, LLNL, SNL, USGS
  - MAR - LANL, YMP

# **QA PROGRAM QUALIFICATION TRAINING**

## **STATUS**

- **ISSUE REVISED TRAINING MANAGEMENT PLAN FOR  
APPROVAL 12/9/88**
- **CONDUCTED TRAINING WORKSHOP 11/22/88**
- **EXPECTED TRAINING COMPLETION DATES:**

**MARCH - F&S, H&N, SNL, USGS**  
**APRIL - LLNL**  
**MAY - LANL, REEC<sub>o</sub>, YMP**

# **QA PROGRAM QUALIFICATION DOE & PARTICIPANT SURVEILLANCES**

## **STATUS**

- **PARTICIPANT AUDITS PER SCHEDULES SUBMITTED AND SURVEILLANCES AS APPROPRIATE**
- **YMP WILL CONDUCT PERIODIC SURVEILLANCES PRIOR TO DOE MANAGEMENT REVIEW**



# **QA PROGRAM QUALIFICATION OPEN ITEMS**

## **STATUS**

- **CURRENTLY TRACKING THOSE ITEMS THAT AFFECT  
FULLY QUALIFIED QA PROGRAM**
- **WORKING WITH PARTICIPANTS TO REDUCE BACKLOG**

# **QA PROGRAM QUALIFICATION MANAGEMENT REVIEW - PARTICIPANT**

## **DEFINITION**

**A REVIEW CONDUCTED INTERNALLY WITHIN THE PARTICIPANT BY MANAGEMENT WITH THE ASSISTANCE OF QUALITY ASSURANCE USING APPROVED OVERVIEW SYSTEMS, e.g. AUDITS, SURVEILLANCES, READINESS REVIEWS, ETC.**

## **PURPOSE**

**TO ENSURE THAT THE PARTICIPANTS ARE READY FOR THE YMP/NRC AUDITS**

# **QA PROGRAM QUALIFICATION DOE MANAGEMENT REVIEW**

## **DEFINITION**

- **A REVIEW OF THE RESULTS OF THE PARTICIPANT  
MANAGEMENT REVIEWS AND THE DOE SURVEILLANCES**

## **PURPOSE**

- **TO ENSURE THAT THE PARTICIPANTS ARE READY FOR THE  
YMP/NRC AUDIT**

# QA PROGRAM QUALIFICATION

## REVISED "GOLD STAR" - PRELIMINARY DEC. 6, 1988

	1988 (QTRS)				1989 (MONTHS)											
	1 <sup>ST</sup>	2 <sup>ND</sup>	3 <sup>RD</sup>	4 <sup>TH</sup>	J	F	M	A	M	J	J	A	S	O	N	D
H&N	▽			▽												□→☆
F&S	▽			▽												□→☆
SNL			▽													□→☆
USGS	▽	▽														□→☆
REECo			▽													□→☆
LLNL				▽												□→☆
LANL				▽												□→☆
YMPO																□→☆

**LEGEND:**



BEGIN GOLD STAR AUDIT



GOLD STAR ACCEPTANCE



YMPO COMPLETED AUDIT

