



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

Reply to:

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MEMORANDUM

DATE: July 2, 1990

FOR: John J. Linehan, Director, HLPD, Division of High-Level
Waste Management, M/S 4 H 3

FROM: Paul T. Prestholt, Sr. OR - YMP *PJP*

SUBJECT: YMP Site Report for the months of April, May and June,
1990

During the period covered by this report, the DOE Yucca Mountain Project has been engaged in three major activities. These are:

- ◆ Exploratory Shaft Facility (ESF) Alternative Studies
- ◆ Surface-Based Testing Prioritization
- ◆ Calico Hills Risk-Benefit Analysis

In addition, two other activities have been prominent:

- ◆ Alternative Licensing Strategies
- ◆ Prototype Drilling at Apache Leap

In the last two reports submitted, I have discussed all of the above except the Calico Hills Risk-Benefit Analysis. In this report, I will review the Calico Hills Analysis and update the other activities.

Attachment: See Jacket FULL TEXT ASCII SCAN

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Received w/Ltr Dated

7/2/90

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I. CALICO HILLS RISK-BENEFIT ANALYSIS

This task is nearly complete. Task Force recommendations to DOE management are scheduled for the first week in July with a final report due in August.

There are three components to this activity:

- a. Those aspects of intrusion into the Calico Hills unit that may effect the site.
- b. Those aspects that may effect the testing program.
- c. Cost and schedule.

Initially 32 options or alternatives were identified and considered. The 32 options were then reduced to eight overall strategies, such as:

- a. No in situ penetration of the Calico Hills unit.
- b. The base case (SCP facility in the Calico Hills).
- c. Extensive drifting, up to 12,000 feet.
- d. Combinations of the above, both inside and outside of the repository block.

It is reported that Performance Assessment calculations of the impacts to the site of the various strategies indicate that intrusion into the Calico Hills unit will have very little effect on the site. The Task Force is expected to recommend an option that includes intrusion into the Calico Hills unit within the repository boundary.

The recommendation from the Calico Hills Risk-Benefit Analysis Task Force is to be factored into the Exploratory Shaft Alternatives Study.

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II. EXPLORATORY SHAFT ALTERNATIVES (ESF) STUDY

In my last monthly report, I described the ESF Alternatives Study in detail. I stated that screening would reduce the number of ESF-Repository options to 12 or fewer. However, 17 options have now been identified for evaluation.

For each of the 17 options to be evaluated, general arrangement drawings have been completed and supporting data sheets have been developed. Further, all requirements have been developed for use in option evaluation. 10 CFR 60 requirements are being "crosswalked" with the influence diagrams. This job is nearly complete.

Final scoring of options has begun and will be completed based on:

- ◆ Environmental factors
- ◆ Pre-closure radiological health and safety
- ◆ Pre-closure non-radiological health and safety

Scoring on waste isolation factors is waiting for input from the Calico Hills risk-benefit study.

Current activities are (from the handout):

- ◆ Preparation of draft chapters of the report.
- ◆ Compilation of reference information to support the influence diagrams.
- ◆ Development of the relationship between study objectives and regulatory requirements.
- ◆ Include input from the Calico Hills Study.

Attached (next page) is the latest ESF Alternatives Study schedule.

STATUS OF ESF ALTERNATIVES STUDY

(CONTINUED)

- **ESF ALTERNATIVES SCHEDULE CAN ACCOMMODATE ABOVE DELAYS WITH SOME CHANGES TO STUDY MILESTONES - CURRENT ESTIMATES ARE AS FOLLOWS:**

<u>MILESTONE</u>	<u>ACTIVITY DESCRIPTION</u>	<u>PLANNED</u>	<u>EXPECTED</u>
	COMMENCE SCORING KEY FACTORS		16 JUL 90
YKO402	SCORE OPTIONS 50% COMPLETE	11 JUN 90	03 AUG 90
YKO501	SNL COMPLETES SENSITIVITY ANALYSIS	26 JUL 90	12 SEP 90
YKO 502	SNL COMPLETES DRAFT REPORT ON ESF ALTERNATIVES	14 SEP 90	07 NOV 90
YKO503	SNL SUBMITS RECOMMENDATION TO YMPO	12 OCT 90	14 NOV 90
YKO5M	RECOMMEND TO RW-1 ON SELECTION OF ESF CONFIGUARATION	16 NOV 90	14 DEC 90
YKO6M	COMPLETE PRELIMINARY ALTERNATIVES REPORT	14 DEC 90	31 JAN 91
R6101	RESUME ESF TITLE II	29 MAR 91	29 MAR 91

III. SURFACE-BASED TESTING PRIORITIZATION (SBT)

The SBT core team is reviewing priorities for surface-based testing and recommending methods to evaluate site unsuitability. The task force will recommend to management:

- ◆ Tests that should be conducted early because they could have significant influence on judgements concerning site adequacy.
- ◆ Methods to reassess the potential for site unsuitability and to reprioritize testing at any point during site characterization.

The SBT core team is following a five-step approach to reviewing SBT priorities:

1. Methodology development (20% of total effort)
2. Model development (25%)
3. Numerical assessment (25%)
4. Analysis and review (15%)
5. Reporting and documentation (15%)

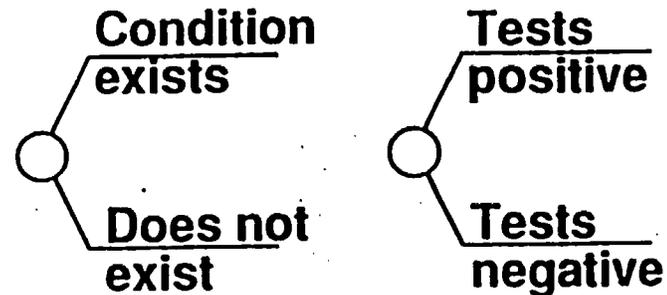
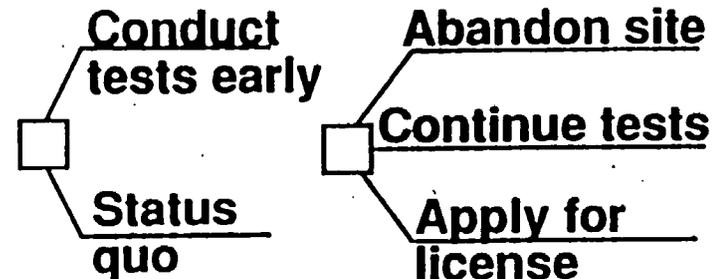
Attachment 2 shows graphically, the analytic method developed to assess the priority of surface-based tests. The analytic method shown on attachment 2 is designed to incorporate the following essential judgements about the site and testing program (from the handout):

- ◆ Level of uncertainty in key parameters at Yucca Mountain.
- ◆ Sensitivity of overall system performance to parameter uncertainties.
- ◆ Accuracy of planned tests in resolving uncertainties.
- ◆ Ability to accelerate testing to provide valuable information early in site characterization.

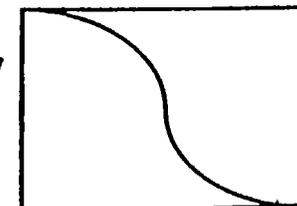
We have developed a systematic, analytic method to assess the priority of surface-based tests

Features of the Method:

- Gives priority to tests that can *improve* DOE decisions (□) about the site
- Gives priority to tests that can *reduce* uncertainty (○) in key parameters
- Evaluates test results based on potential effects on repository performance



Complementary cumulative probability



Performance objective

This approach is designed to yield insights into the following management questions:

- ◆ What do I need to know and when should I know it to make prudent decisions about the site?

Influence diagrams have been constructed for use in the Calico Hills, Exploratory Shaft Facility, and Surface-based Testing task forces (Attachment 3).

Most numerical assessments for the analysis are probability distributions on key uncertainties (Attachment 4).

This task comprises three types of assessments (from the handout):

- ◆ "Base model" inputs (e.g., direct, water, and gas releases).
- ◆ Disruptive cases and potentially adverse conditions.
- ◆ Surface-based testing categories and test accuracy.

The analysis produces insights and suggests early-test priorities (from the handout):

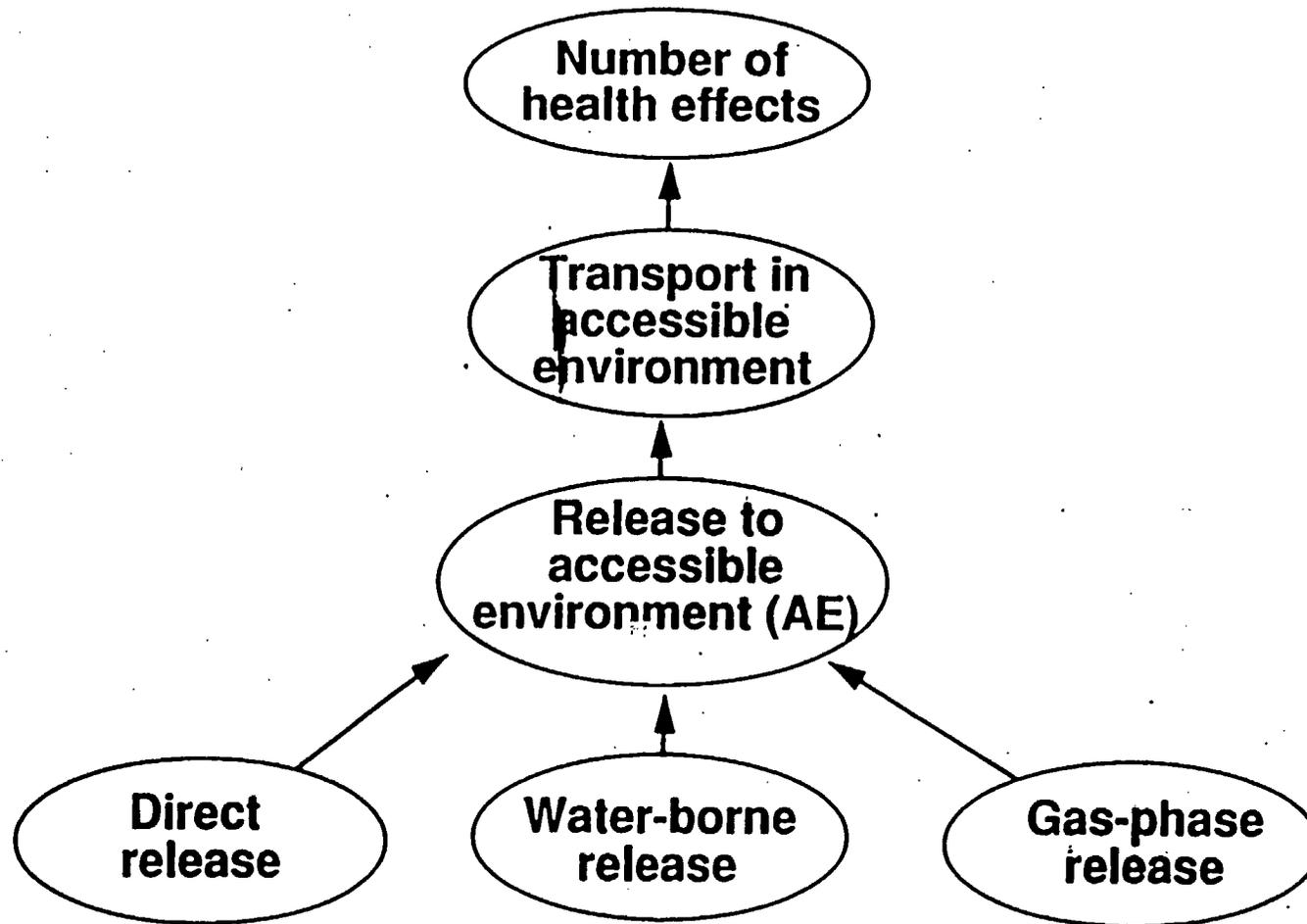
Analysis tasks -

- ◆ Base case priorities.
- ◆ Sensitivity of results to alternative judgements.
- ◆ Refinement and evaluation of critical data.

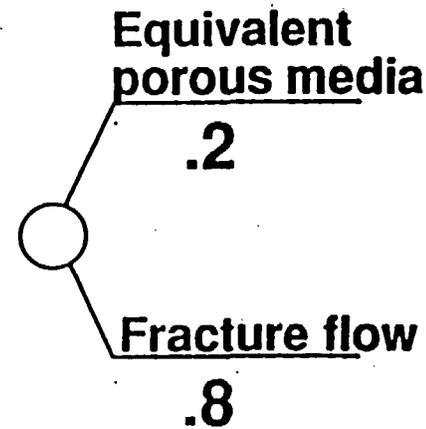
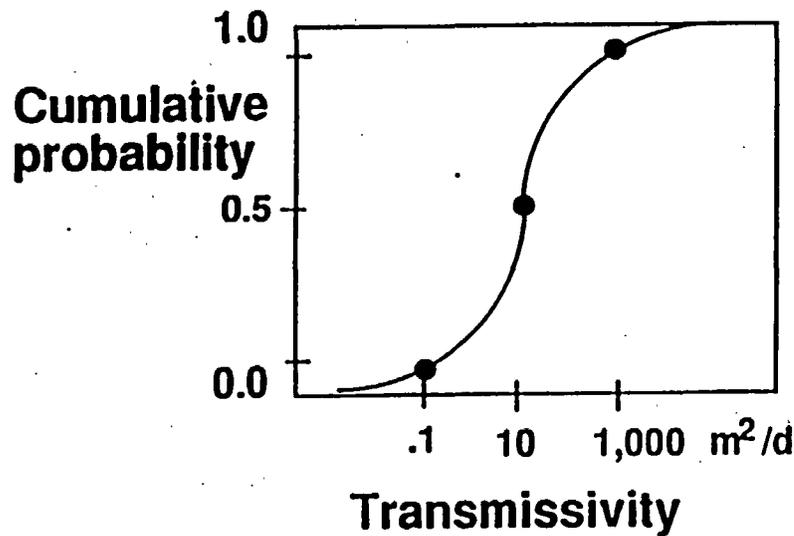
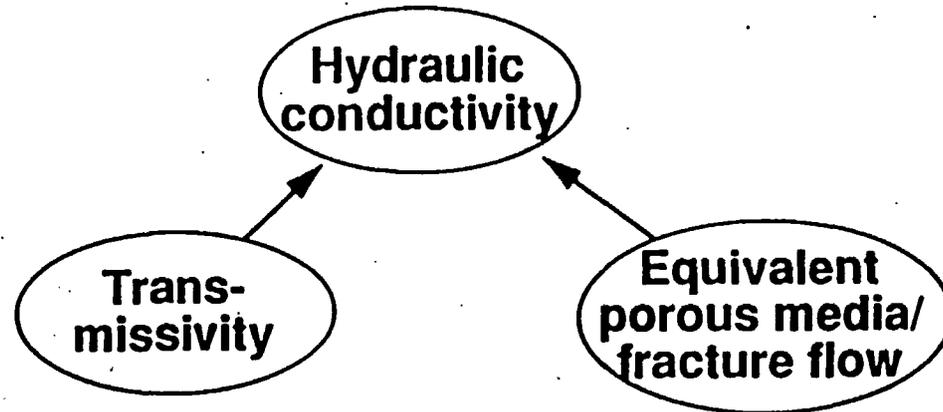
The schedule reported in my last report still holds.

- | | |
|------------------------------------|-------------------------|
| ◆ Intermediate status briefings | May 10, Aug. 3, Oct. 19 |
| ◆ Letter reports | May 14, June 9 |
| ◆ Final recommendations and Report | September 28 |
| ◆ Approval by DOE, Hq. | November 9 |

Influence diagrams have been constructed for use in the Calico Hills, Exploratory Shaft Facility, and Surface-based Testing task forces



Most numerical assessments for the analysis are probability distributions on key uncertainties



IV. PROTOTYPE DRILLING

The Apache Leap prototype drilling program is complete. Borehole USW UZP-5 was completed on June 23, 1990 to a total depth of 223 feet.

A diagram of borehole USW UZP-4 is attached.

UZP-4 had two perched water zones. The first was located between 360 feet and 450 feet and produced between 28 and 45 gallons per minute. The formation was cemented at 936 feet and a cast iron bridge plug was set in the casing at 973.4 feet. This essentially shut the water off and allowed the dry coring test to continue. The second perched water zone was at 1470 feet and produced one gallon per minute.

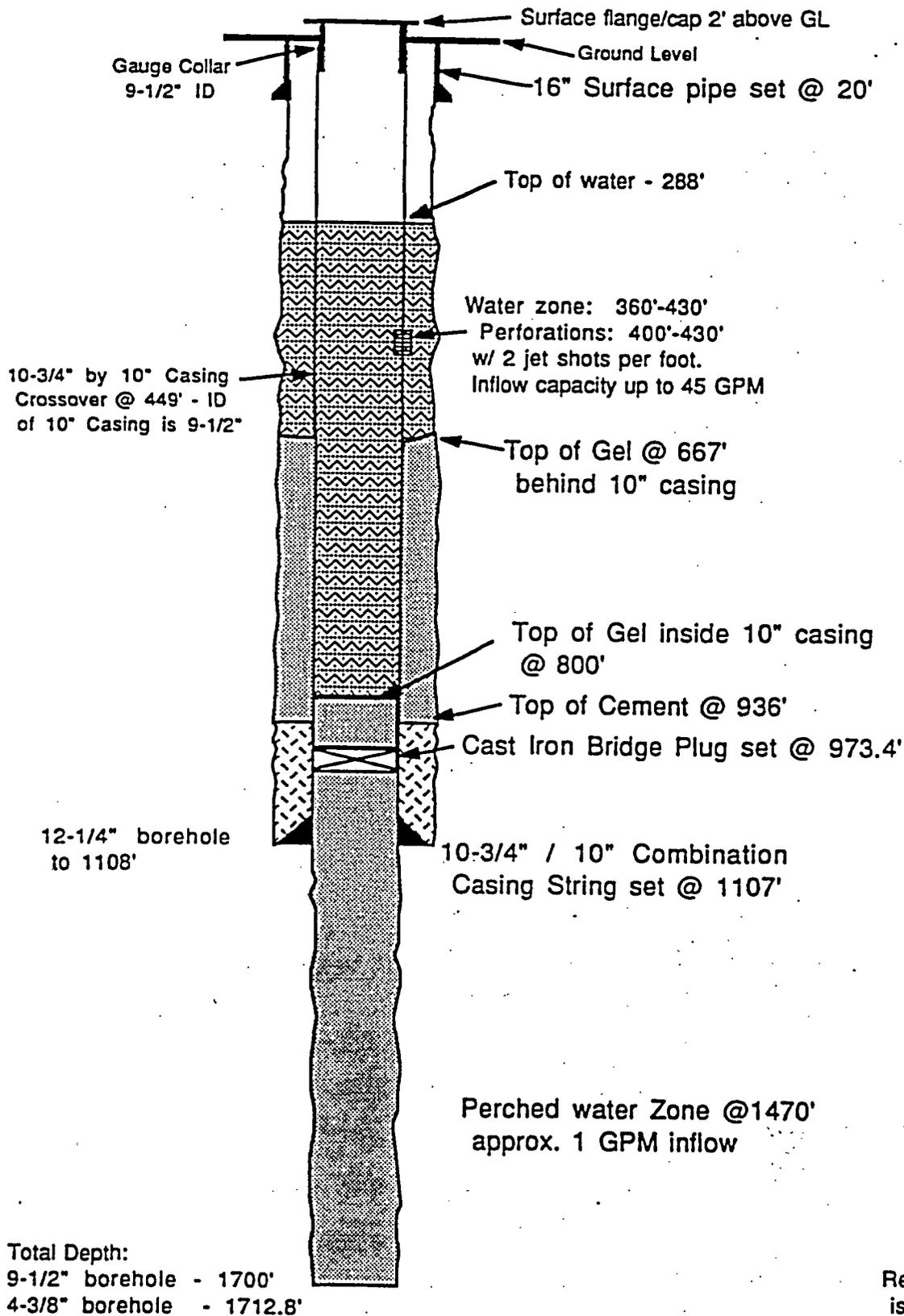
The drill crew was able to blow the hole dry each morning and the hole "produced dust" so the dry coring test was not compromised. This hole was completed as a water well for the Forest Service.

Borehole USW UZP-5 was cored from 22.4 feet to 223 feet. This hole was drilled so that Dr. Al Yang (USGS) could conduct packer testing. This work will take from 1 to 3 months after which the hole will be plugged and abandoned.

The prototype drilling and coring program was a success. The dry coring technique works and the technology has been transferred to the LM-300 rig. QA procedures for core handling have been written and tested.

The next step in this program is the testing of the LM-300 rig. The mast was raised on June 1, 1990 and acceptance testing was scheduled to begin at the end of June. After the rig is released by Lang, it is planned that a 2000 foot borehole with the 12½ inch reaming bit set up to cut HQ core (2.4 inches) will be drilled, possibly at Apache Leap.

USW UZP-4 BOREHOLE Completion



V. ALTERNATIVE LICENSING STRATEGIES

On June 8, 1990, I forwarded a memo to you describing the Alternative Licensing Strategies in detail. Nothing new on this subject has come to my attention. This activity is nearly complete and I may be able to forward a product in the next week or two.

VI. GENERAL

A. Performance Assessment.

On June 18 and 19, NRC and Center personnel went to Sandia National Laboratory (SNL) for a site visit. The topic for discussion was performance assessment. The NRC group was led by Seth Coplan and included Richard Codell, Norman Eisenberg, and Paul Prestholt. Budhi Sagar represented the CNWRA.

Felton Bingham, SNL, moderated the interaction and, with John Cummings, SNL, led the discussions for the SNL group.

Russ Dyer, YMPO, represented the Project Office.

It is my opinion and the expressed opinion of the other attendees, that this was one of the most successful site visits yet between NRC and DOE technical personnel. The discussions were spirited and opinions freely expressed. Both parties were left with an understanding of the others' P.A. program and the direction each program is heading.

Both the NRC and DOE expressed the desire to meet again in the near future to expand the technical discussions and to include other parties such as the State of Nevada.

B. Los Alamos National Laboratory Organization (LANL).

The latest LANL organization chart is enclosed. LANL rotates some management positions, (e.g., MinPet Technical Coordinator, Broxten for Vaniman), so there are changes. All the boxes are in place with a name in each.

C. DOE M&O Contract.

DOE is negotiating with TRW Environmental Safety Systems, Inc. (TRW) to determine if a mutually satisfactory contractual agreement between the two organizations can be achieved. The selection of TRW is consistent with the August 1989 order of the U. S. Claims Court.

Mr. Carl Gertz, Manager YMPO, has stressed that there will be no interruption to work being performed by the Project during these negotiations. There will, of course, be changes in the present contractual responsibilities of some YMP participants when (and if) the M&O contract is finalized and TRW's responsibilities are made known. Until this time, the program will proceed as presently structured.

D. Congressional Staff Visits to the Yucca Mountain Project.

Enclosed is a letter from Sam E. Fowler, Counsel to the "Committee on Interior and Insular Affairs", U. S. House of Representatives. Mr. Fowler, with other Congressional Staff Personnel, visited the Apache Leap Prototype Drilling Program in May.

It's been reported that all participants in this visit were positively impressed. Mr. Fowler said:

"I had the good fortune to go on the congressional staff tour of your operations at Apache Leap and Yucca Mountain last week. It was extremely informative. After hearing so much about what you are not doing it was refreshing to see what you are.

"What impressed me most was the high degree of professionalism of your staff and contractor employees at both Apache Leap and Yucca Mountain. Their enthusiasm and dedication to their tasks and their open-minded sense of inquiry were encouraging. Whatever other problems may beset the waste program, employee morale does not seem to be one of them."

This group also visited the Nevada Test Site and Yucca Mountain.

E. Nevada Suit, Ninth Circuit Court of Appeals.

The current schedule is:

- ◆ Nevada opening brief, 5/17/90
- ◆ DOE answer, 6/14/90
- ◆ Nevada reply, 6/28/90
- ◆ Oral argument on merits set for week of 8/14/90

The above dates have been met. The DOE answer that was presented on 6/14/90 is enclosed. The Nevada reply will be available shortly and I will forward it as soon as I receive it.

F. Status of Seismic Monitoring at Yucca Mountain.

At the June 29 TPO meeting, K. Shedlock and J. Gomberg, USGS, presented an update on the seismic monitoring system modernization that was proposed several years ago. There are a number of new components to the updated system. They include:

- ◆ Expanded number of seismic stations
- ◆ Upgrading stations to digital recording
- ◆ New tri-axial or 3 component stations
- ◆ New computer processing equipment
- ◆ Phone line telemetry to satellite telemetry using the U. S. National Seismograph Network facilities.
- ◆ Develop new software

Funding to upgrade the system was approved in FY 87. As of the end of FY 89, the new computer system was in place, all telemetry had been purchased, and 80% of new stations were obtained. Software development began in FY 88 and is continuing.

During FY 90 and 91, purchase of the remaining stations will proceed. Testing and implacement of the stations will continue with the network in place in the fall of FY 91.

Attachment 6 shows the upgraded seismic network and attachment 7 shows the upgraded data flow.

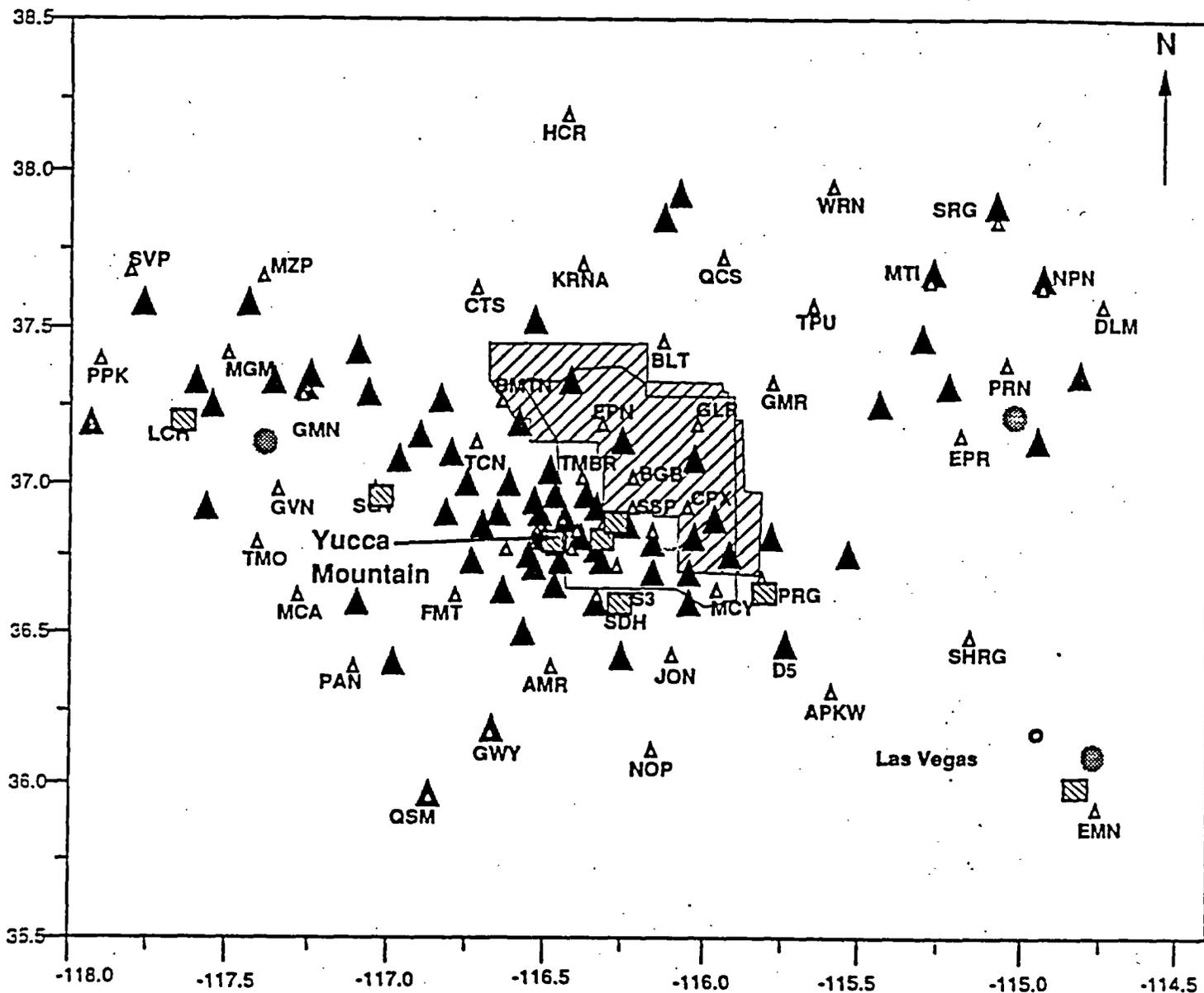
G. SYSTEMS ENGINEERING

During the June 29 TPO meeting, a presentation was given on "System Engineering Implementation for Site Characterization. The handout is enclosed.

The current focus of this activity for FY-90 is:

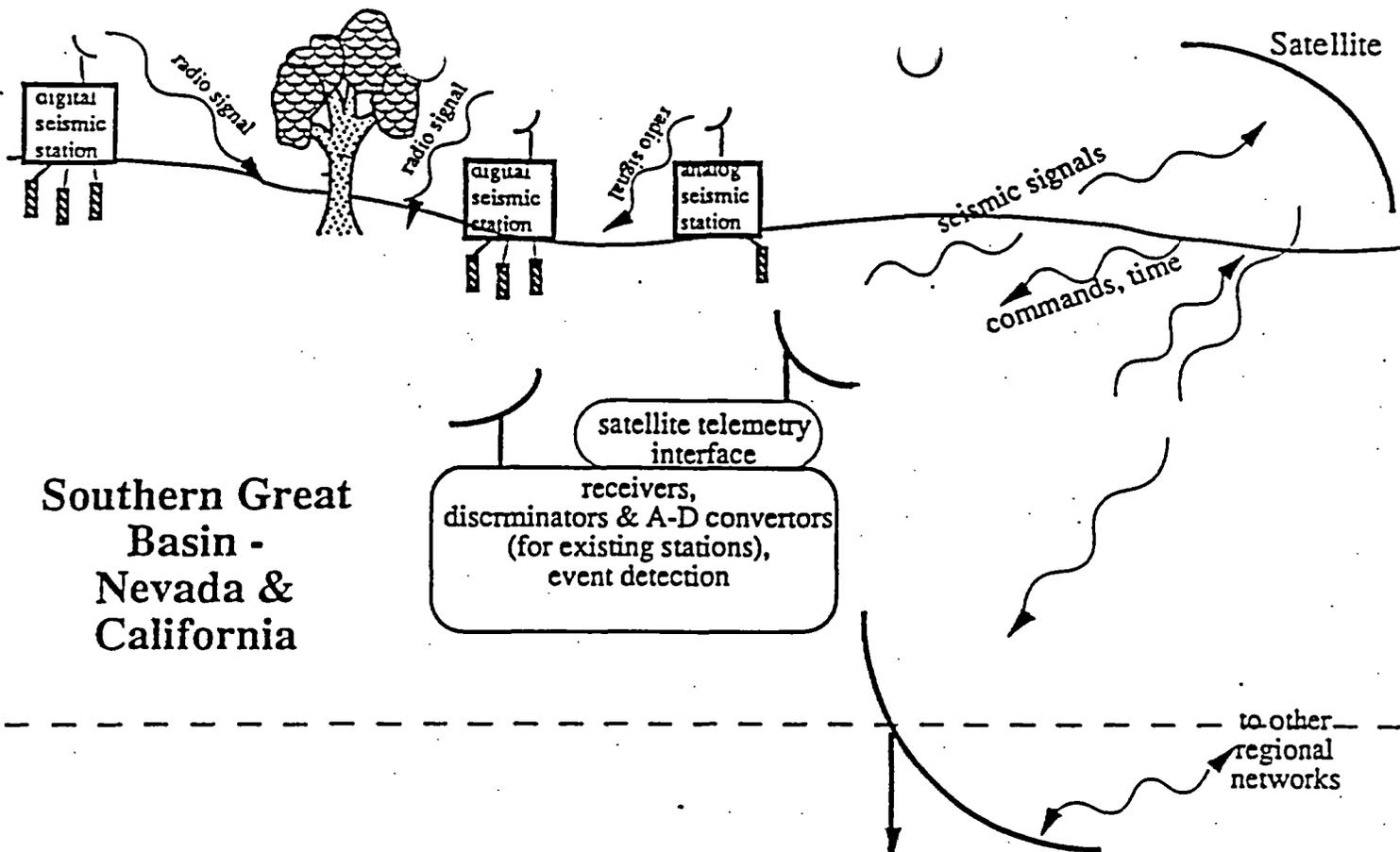
- ◆ The Midway Valley trenching program
- ◆ The Calcite-Silica (trench 14) investigation
- ◆ The Gold Star audit of the Yucca Mountain Project Office (YMPO)

To accomplish this, DOE-HQ (OCRWM) has directed that the Calcite-Silica and Midway Valley requirements documents, designed



- strong motion station
- national network station
- existing FM station
- new digital station
- approximate boundaries of the Nevada Test Site
- zone of potential induced seismicity

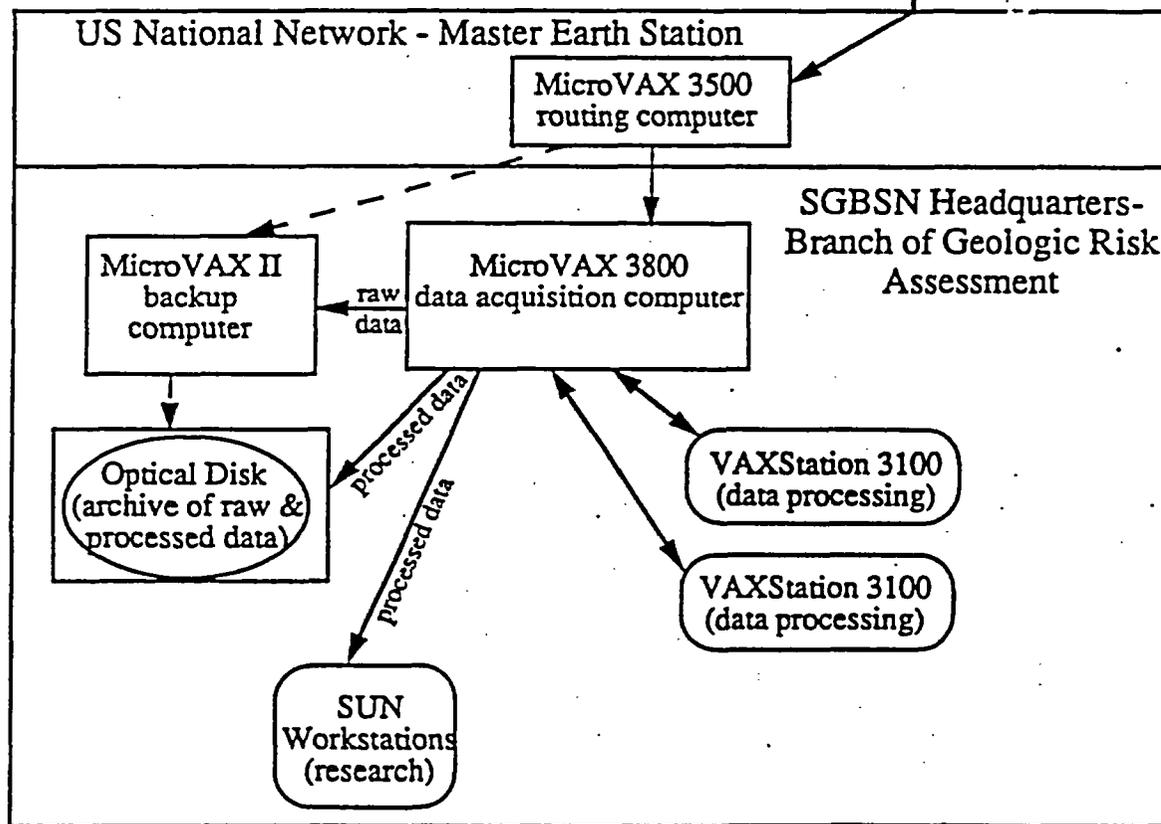
Upgraded Southern Great Basin Seismic Network seismograph stations (tentative)



Southern Great Basin - Nevada & California

to other regional networks

USGS - Golden Colorado



Data Flow - Upgraded SGBSN

to support a FY-1991 start, be completed. These are to be "Stand Alone" documents with requirements flowing down from WMSR I and WMSR IV. Project AP 6.10 and QMP 06-04 will apply to these activities.

The technical document hierarchy is graphically shown on attachments G-1 and G-2.

Also discussed was a new document called the "Management Systems Improvement Plan (MSIP), that will be prepared by direction of Dr. Bartlett, OCRWM Director, (June 20 letter) and managed by D. Shelor, OCRWM. This document will outline Dr. Bartlett's programmatic concerns and will make recommendations on how to more effectively manage the program and to outline those activities that need to be addressed and in what sequence. D. Shelor has been given overall management responsibility for implementing the recommendations that will be contained in the MSIP.

Representatives from OCRWM, YMPD and affected participants will be detailed to this effort. Attachment G-3 shows the near future implementation of the MSIP.

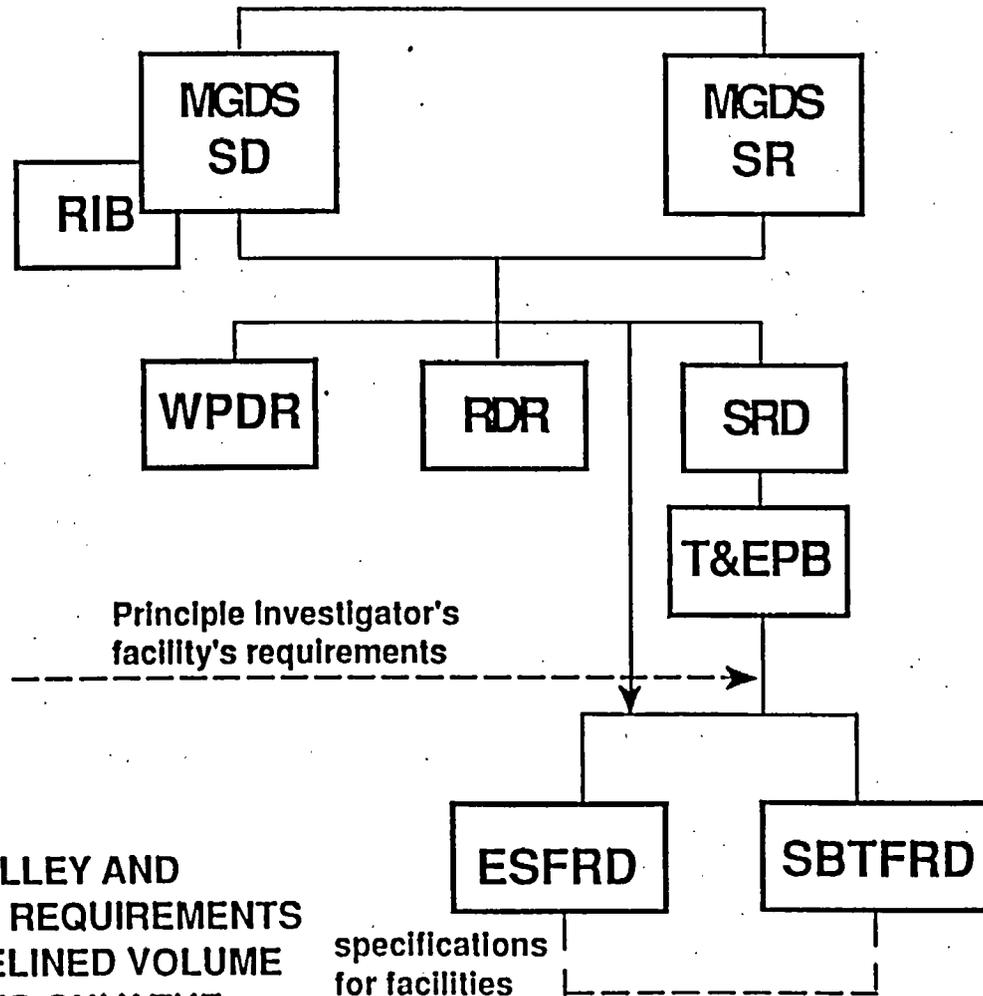
The project level "Systems Engineering Management Plan" (SEMP) was described. The purpose of this document is (from the handout):

"The project SEMP describes the way in which the project will implement Systems Engineering to manage, integrate, interface and document the technical activities of the project."

The YMP SEMP defines systems engineering:

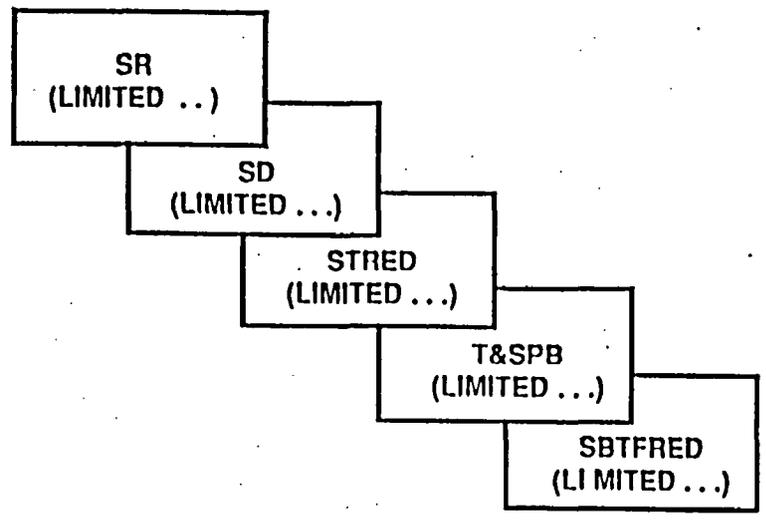
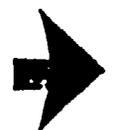
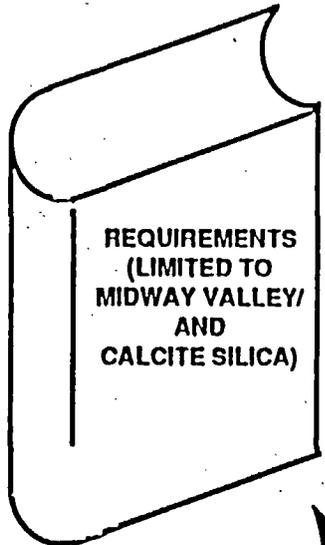
CURRENT FOCUS MIDWAY VALLEY/CALCITE SILICA

TECHNICAL DOCUMENT HIERARCHY



THE MIDWAY VALLEY AND
CALCITE SILICA REQUIREMENTS
WILL BE A BASELINED VOLUME
WHICH INCLUDES ONLY THE
APPLICABLE REQUIREMENTS
NEEDED TO ESTABLISH
THE REQUIREMENTS

MIDWAY VALLEY AND CALCITE SILICA REQUIREMENTS DOCUMENT



NEAR FUTURE - IMPLEMENTATION OF MSIP (CONTINUED)

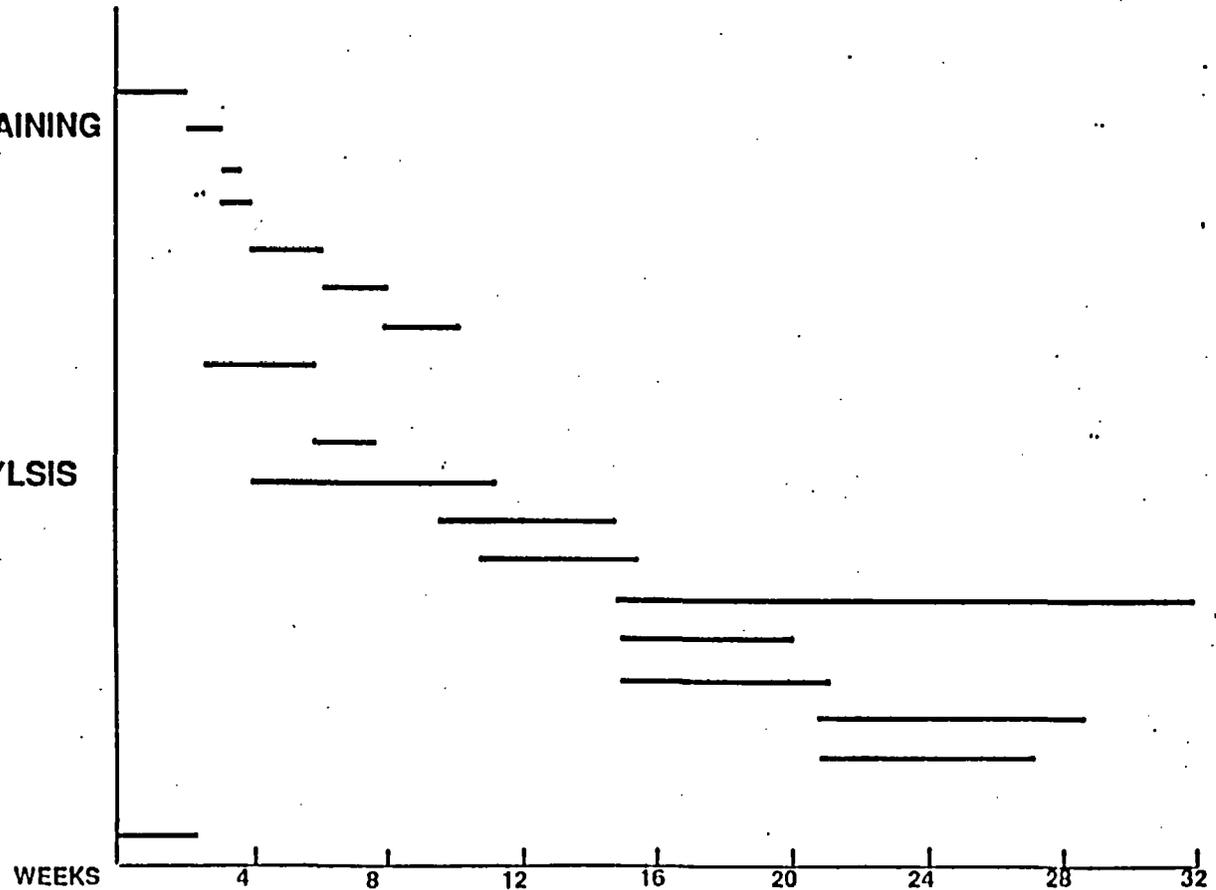
PROGRAM DOCUMENT SCHEDULE (REQUIREMENTS)

TASKS

DEFINE & OUTLINE TASK
SYSTEM ENGINEERING TRAINING
FUNCTIONAL ANALYSIS
WMSR VOLUME I
WMSR VOLUME IV
WMSR VOLUME III
WMSR VOLUME II
WMSR DESCRIPTION

YMPO SYSTEM TRAINING
YMPO FUNCTIONAL ANALYSIS
YMPO MGDSR
YMPO SD
YMPO SR
YMPO SBTFRD
YMPO ESFDR
YMPO RDR
YMPO WPDR

OCRWM SEMP



SYSTEMS ENGINEERING IS THE PROCESS OF SELECTING AND SYNTHESIZING THE APPLICATION OF SCIENTIFIC AND TECHNICAL KNOWLEDGE TO MANAGE, INTEGRATE, AND DOCUMENT THE TECHNICAL ACTIVITIES TO:

1. Define and allocate requirements and subsystem utilization
2. Evaluate subsystem interrelationships
3. Translate the requirements into a system concept
4. Subsequently demonstrate that a composite of facilities, equipment, skills, techniques, and natural environment can be effectively employed as a coherent whole to achieve some stated mission and performance objectives

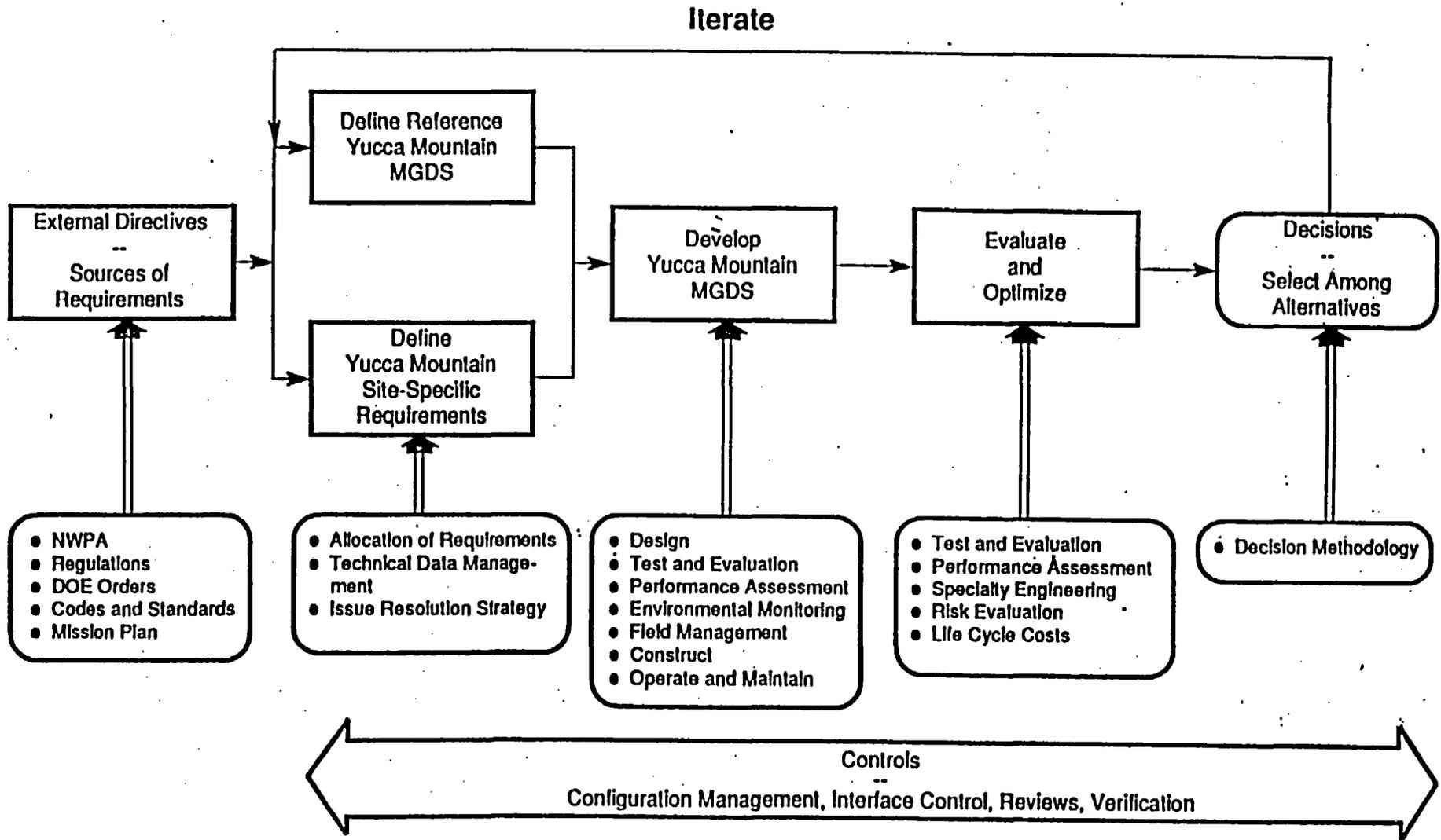
The YMP SEMP process is shown graphically on attachment G-4.

H. SCP COMMENT STATUS

A graphic depiction of the SCP comments is shown on attachment H-1.

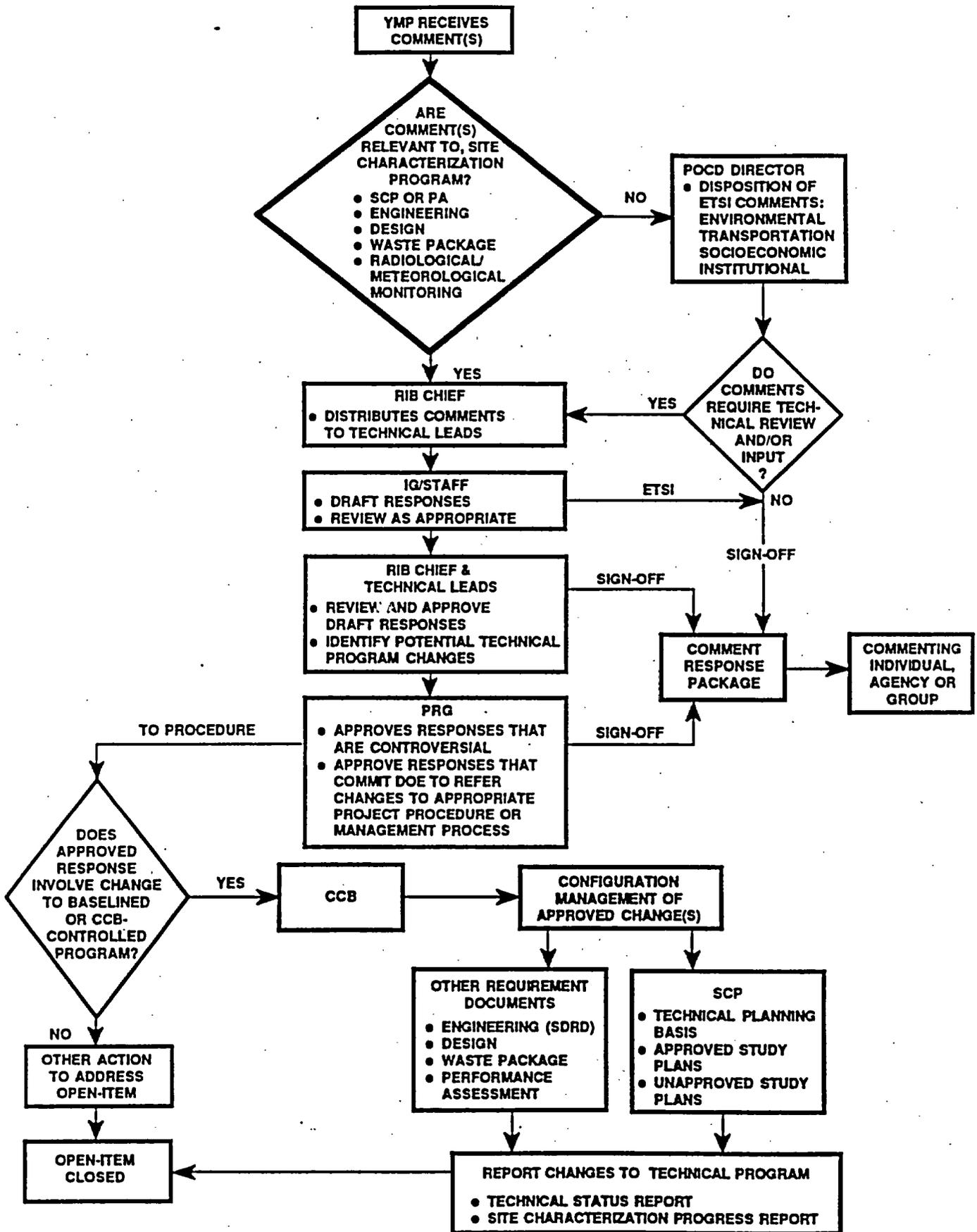
The present status of all SCP comments is (from the handout):

COMMENT TOTALS		
<u>Comment Package</u>	<u>Status of Response Package</u>	<u>Number of Comments</u>
State of Nevada - SCP/CD	Completed	929
NRC Point Papers - SCP/CD	Completed	167
USGS Point Papers - SCP/CD	Completed	698
Edison Electric Institute SCP/CD	Completed	5
Reno Public Hearing	Ready for Release	234
Las Vegas Public Hearings	Ready for Release	150
Amargosa Public Hearing	Ready for Release	49
Written Comments Submitted by the Public	90% Complete	Numerous Comments Per Letter



YMPSEMP.01B/3-21-00

The Yucca Mountain Project Systems Engineering Process.



<u>Comment Package</u>	<u>Status of Response Package</u>	<u>Number of Comments</u>
California Energy Commission	9/20/90	38
Lincoln County Board of Commissioners	9/20/90	6
U.S. Environmental Protection Agency	9/20/90	12
Edison Electric Insistute	9/20/90	28
U.S. Department of Interior	9/20/90	35
NRC/Site Characterization Analysis	11/10/90	198
State of Nevada Preliminary Letter	9/20/90	58
State of Nevada	3/18/90	*1,700 - 2,000

*Comments are currently being assigned categories

In summary, 2,200 comments have been responded to and are complete. An additional 2,100 comments are to be completed in the next 9 to 10 months. It should be noted that one of the most frequent criticisms of the Yucca Mountain program by the public, as expressed in public meetings is the "failure" of DOE to respond to comments from the public.

I. HAZARDOUS MATERIALS MANAGEMENT AND HANDLING

YMPD is developing a comprehensive program for managing and handling non-nuclear hazardous materials and waste. Solid waste is defined as any solid, liquid, semisolid or gaseous material that is discarded, abandoned or that is inherently wastelike material.

Enclosed is a handout for your information that gives some details of the DOE non-nuclear solid hazardous waste program.

J. MEETINGS ATTENDED

- 4/9-4/11 International High-Level Waste Conference
- 4/12 NWTRB meeting - Dr. Clarence Allen. Subject -
Tectonics.
- 4/17 Meeting with Dave Dobson, YMPD, discussed study
plans and the Geophysical White Paper
- 4/18 Meeting with Carl Gertz, YMPD Manager, discussed Apache
Leap prototype drilling project and the Research
Office site visits to the National Labs.
- 4/24-26 NWTRB Environmental Committee meeting and field trip
- 5/2 Meeting with Ram Murthy, Don Horton and Ed Wilmot,
YMPD, discussed QA levels
- 5/7 Meeting with Wilmot, Horton, Blanchard, YMPD about QA
qualification of data contained in the SCP
- 5/7 Meeting with Gertz, discussed QA, Apache Leap and Site
visit to Sandia and LANL
- 5/8 Meeting with Leo Little, YMPD and discussed "Gold Star"
audit of YMPD Engineering Division
- 5/8 Meeting with Dobson and Simmons, YMPD concerning study
plans and Office of Research Trip to Sandia and LANL
- 5/21,22 Site visit, Office of Research to Sandia and LANL
- 5/29 Meeting with Engelbrecht von Tiesenhausen, Clark County,
introduced himself and we discussed program
- 5/29 Meeting w/Gertz, discussed upcoming Design Control
Meeting and YMPD Performance Assessment
Implementation Plan
- 6/1 Technical Project Officer (TPO) Project Manager meeting
- 6/4 Meeting with Gertz
- 6/4 Meeting with Ardyth Simmons, YMPD, discussed ATLAS and
NRC data request from SEPDB and IGIS
- 6/12-16 Tectonically Significant Fault meeting and field trip
and State of Nevada field trip
- 6/18 Meeting with Gertz and Wilmot, discussed future DOE
management and possible consequences of work slowdown
- 6/25-26 Site visit to Sandia, subject of discussions -
performance assessment
- 6/29 TPO meeting

There are no new issues that this office has identified that have not been brought to management's attention.

cc w/enc.: K. Stablein, M/S 4 H 3; J. E. Latz
cc w/o enc.: R. Stein, C. P. Gertz, R. E. Loux, M. Glora,
G. Cook, D. M. Kunihiro, D. Weigel, R. E. Browning, M/S 4 H 3;
R. Bernero, M/S 7 A 4; H. Thompson, M/S 17 G 21; H. Denton,
M/S 17 F 2; S. Gagner, M/S 2 G 5; L. Kovach, M/S NLS 260

Enclosures: SCP Comment Status, 6/28/90 TPO Meeting; Systems Engineering Implementation for Site Characterization, G. Dymmel, 6/29/90; Hazardous Materials Management and Handling, G. Doyle, 6/29/90; H.R. 5019, "A Bill"; St. of NV v. Watkins, DOE (Brief); Calico Hills Study, TPO, 6/1/90; Surface Based Prioritization Task Force Status Report, 6/1/90; Apache Leap Prototypd Drilling, U. Clanton, 6/29/90 TPO; Status of ESF Alternatives Study, T. Petrie, 6/29/90 TPO; TPO Presentation, C.Gertz, 6/29/90; LLNL Organization; Status of Seismic Monitoring at Yucca Mountain, K. Shedlock/J. Gomberg, 6/29/90 TPO

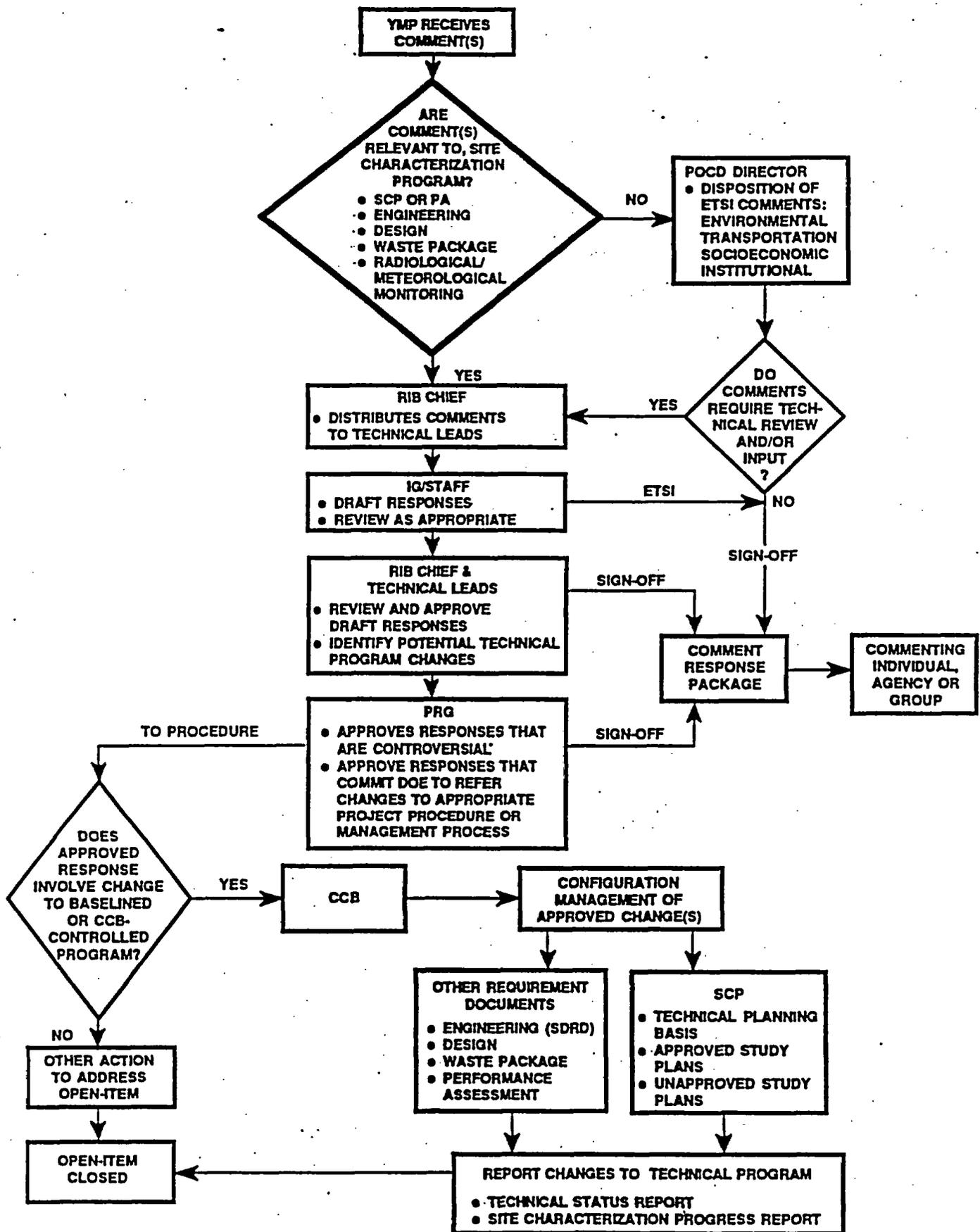
SCP COMMENT STATUS

**PRESENTED TO
TPO MEETING**

JUNE 28, 1990

SCP COMMENT STATUS

- **FULL PROCEDURAL CONTROLS IN PLACE FOR RESPONDING TO COMMENTS ON THE SCP AND CHARACTERIZATION PROGRAM**
- **ADMINISTRATIVE PROCEDURE (AP)-1.14 "DISPOSITION OF COMMENTS ON THE SITE CHARACTERIZATION PROGRAM" EFFECTIVE 4/3/90**
 - **PRESERVED WORKING GROUP/TECHNICAL LEAD(S), INTEGRATION GROUP (IG), AND PROGRAM REVIEW GROUP (PRG) MANAGEMENT STRUCTURE.**
 - **GREATOR PARTICIPATION BY OCRWM STAFF/MANAGEMENT (IG REVIEW AND CONCURRENCE ON DRAFT RESPONSES)**
 - **INCREASED HQ INVOLVEMENT IN REVIEW OF RESPONSES REQUIRES GREATER PARTICIPANT ATTENTION TO MEETING COMMENT RESPONSE DEADLINES AND TARGETS**



COMMENT TOTALS

(CONTINUED)

<u>COMMENT PACKAGE</u>	<u>STATUS OF RESPONSE PACKAGE</u>	<u>NUMBER OF COMMENTS</u>
WRITTEN COMMENTS SUBMITTED BY THE PUBLIC	90% COMPLETE	NUMEROUS COMMENTS PER LETTER
CALIFORNIA ENERGY COMMISSION	9/20/90	38
LINCOLN COUNTY BOARD OF COMMISSIONERS	9/20/90	6
U. S. ENVIRONMENTAL PROTECTION AGENCY	9/20/90	12
EDISON ELECTRIC INSTITUTE	9/20/90	28
U. S. DEPARTMENT OF INTERIOR	9/20/90	35
NRC/SITE CHARACTERIZATION ANALYSIS	11/10/90	198
STATE OF NEVADA PRELIMINARY LETTER	9/20/90	58
STATE OF NEVADA	3/18/91	*1,700 - 2,000

*COMMENTS ARE CURRENTLY BEING ASSIGNED CATEGORIES

COMMENT TOTALS

<u>COMMENT PACKAGE</u>	<u>STATUS OF RESPONSE PACKAGE</u>	<u>NUMBER OF COMMENTS</u>
STATE OF NEVADA SCP/CD	COMPLETED	929
NRC POINT PAPERS SCP/CD	COMPLETED	167
USGS POINT PAPERS SCP/CD	COMPLETED	698
EDISON ELECTRIC INSTITUTE SCP/CD	COMPLETED	5
RENO PUBLIC HEARING	READY FOR RELEASE	234
LAS VEGAS PUBLIC HEARINGS	READY FOR RELEASE	150
AMARGOSA PUBLIC HEARING	READY FOR RELEASE	49

CARS

SCP COMMENT AND RESPONSE STATUS

- **COMPUTER DATA BASE USED FOR:**
 - **TRACKING OF COMMENT RESPONSES AND COMMITMENTS**
 - **CORRELATES COMMENT RESPONSES**
- **APPROVED, SIGNED AND DATED RESPONSES (HARD COPY) ARE MAINTAINED IN FILES, UNTIL THEY ARE SUBMITTED TO THE T&MSS LOCAL RECORDS CENTER**

CARS

FQMA.RSO1

SCP Comment And Response Status

Page 1 of 2

Comment ID: _____ Category: _____ Working group: _____
WBS, SP Number: _____ * Assigned: _____ * Commitment (Y/N): _____

Draft Response Received Date	Draft Response to Idaho Sent	Date	Signed
_____*	_____*	APPROVAL _____*	_____*
	Rec'd _____*	PRG APPROVAL _____*	_____*

OTHER CATEGORIES ASSIGNED

Type	Date Sent	Date received	Comment Cross References
_____*	_____*	_____*	_____*
_____*	_____*	_____*	_____*

Description: _____
_____*

ADV OVER ALL WRAP

Action (Delete, Exit, Find, Help, Match, Print, Replace, Show, >, <, ?) <—
Member # _____ of _____ for Set _____ (For Delete, Replace and Show) <—

Command Line

CARS

FQMA RS01

SCP Comment And Response Status

Page 2 of 2

Commitment Category: _____

Commitment Description:

_____ *

Commitment Completed (Y/N): _ Date Commitment Completed: _____ *

Completion Description:

_____ *

ADV OVER ALL WRAP

Action (Delete, Exit, Find, Help, Match, Print, Replace, Show, >, <, ?) ←
Member # _____ of _ for Set _____ (For Delete, Replace and Show) ←

Command Line —

SUMMARY

1) 2,200 COMMENTS HAVE BEEN RESPONDED TO AND ARE COMPLETE

2) 2,100 COMMENTS ARE TO BE COMPLETED IN THE NEXT 9 TO 10 MONTHS

- ADMINISTRATIVE PROCEDURE (AP)-1.14 "DISPOSITION OF COMMENTS ON THE SITE CHARACTERIZATION PROGRAM" EFFECTIVE 4/3/90

- SCP COMMENT AND RESPONSE STATUS (CARS)

3) IG MEETING ANNOUNCED FOR JULY 31-AUGUST 1; 8:00-4:00, AT PROJECT OFFICE, LARGE CONFERENCE RM. 202

- PO EXPECTS IG REPRESENTATIVES FROM EACH PARTICIPANT TO ARRIVE WITH DRAFT RESPONSES FOR COMMENTS IN THEIR WORKING GROUP READY FOR REVIEW AND APPROVAL/REVISION

- ALL RESPONSES FOR THE FOLLOWING COMMENT PACKAGES ARE EXPECTED:

- SCA
- EDISON ELECTRIC INSTITUTE
- STATE OF NEVADA LETTER ON THE ESF
- ENVIRONMENTAL PROTECTION AGENCY
- U.S. DEPT. OF THE INTERIOR
- CALIFORNIA ENERGY COMMISSION
- LINCOLN COUNTY BOARD OF COMMISSIONERS

**SYSTEMS ENGINEERING
IMPLEMENTATION FOR
SITE CHARACTERIZATION**

PRESENTED BY
G. DYMME

JUNE 29, 1990

SYSTEMS ENGINEERING

- **CURRENT FOCUS - FY90**
SITE CHARACTERIZATION ACTIVITY
 - MIDWAY VALLEY - CALCITE SILICA
 - GOLD STAR

- **NEAR FUTURE - FY 90-91**
IMPLEMENTATION OF THE MANAGEMENT
SYSTEMS IMPROVEMENT PLAN CORRECTIVE
ACTIONS

- **STATUS OF CURRENT SYSTEMS ACTIVITY**
 - SEMP
 - CONFIGURATION MANAGEMENT
 - INTERFACE CONTROL
 - TSLCC

CURRENT FOCUS: MIDWAY VALLEY/CALCITE SILICA FOR 1/91

- **HQ DIRECTION - COMPLETE A MIDWAY VALLEY AND CALCITE SILICA REQUIREMENTS DOCUMENT, TO SUPPORT A 1991 START**
- **A 'STAND ALONE' DOCUMENT WITH REQUIREMENT FLOWDOWN FROM WMSR I AND WMSR IV**
- **A FUNCTIONAL ANALYSIS TO BE COMPLETED THAT INCLUDES MIDWAY VALLEY AND CALCITE SILICA FUNCTIONS**
- **PROJECT AP 6.1Q AND QMP 06-04 WILL APPLY TO MIDWAY VALLEY AND CALCITE SILICA**

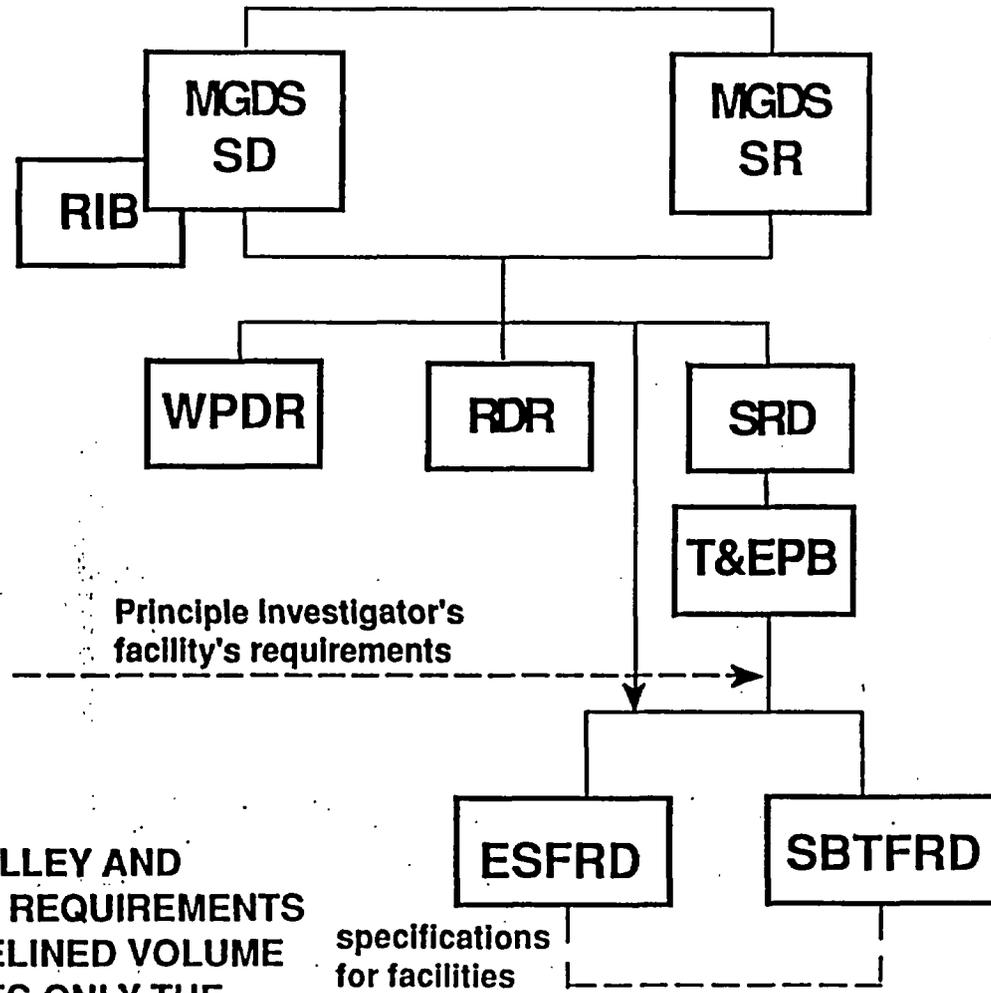
**CURRENT FOCUS:
MIDWAY VALLEY /CALCITE SILICA
FOR 1/91**

(CONTINUED)

- **DRAFT SCHEDULE INDICATES ABOUT 3 MONTHS TO COMPLETE THROUGH CCB ACTION**
- **TO BE INCORPORATED INTO THE PROJECT LOGIC NETWORK**
- **A DRAFT PLAN IS BEING PREPARED**
- **TO BE INCLUDED IN THE JULY 15 REVISION OF THE S-I SCHEDULE**

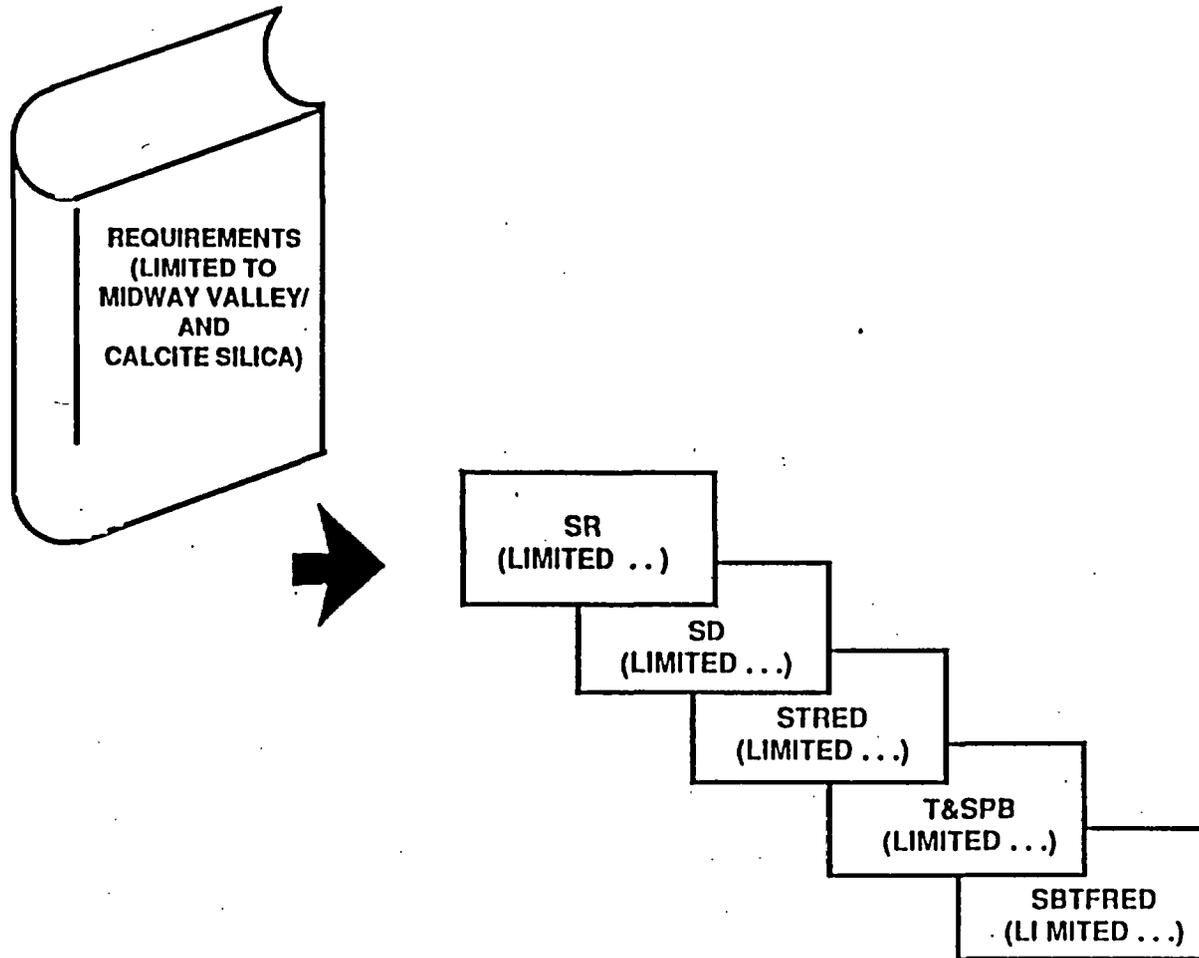
CURRENT FOCUS MIDWAY VALLEY/CALCITE SILICA

TECHNICAL DOCUMENT HIERARCHY



THE MIDWAY VALLEY AND
CALCITE SILICA REQUIREMENTS
WILL BE A BASELINED VOLUME
WHICH INCLUDES ONLY THE
APPLICABLE REQUIREMENTS
NEEDED TO ESTABLISH
THE REQUIREMENTS

MIDWAY VALLEY AND CALCITE SILICA REQUIREMENTS DOCUMENT



CURRENT FOCUS - GOLD STAR

**PROJECT TECHNICAL REQUIREMENTS
DOCUMENTS SUBJECT TO HQ DIRECTION
OF 5-23-90**

- **PROJECT DOCUMENTS REVISED TO BE CONSISTENT WITH WMSR I & IV - PROJECT PLANS TO INCORPORATE CROSS WALK AND VERIFICATION ACTION**
- **PROJECT - PERFORM A COMPLETE FUNCTIONAL ANALYSIS - PROJECT TO REVISE EXISTING VERSION TO APPROPRIATE LEVEL**

CURRENT FOCUS - GOLD STAR

(CONTINUED)

- **PROJECT DOCUMENTS TO BE REWORKED TO BE CONSISTENT WITH OCRWM SEMP - PROJECT SEMP TO BE BASELINED AND IS CONSISTENT WITH OCRWM SEMP**
- **PROJECT TO PREPARE MANAGEMENT PLANS FOR PREPARATION/REVISION OF PROJECT REQUIREMENT DOCUMENTS**

CURRENT FOCUS - GOLD STAR

(CONTINUED)

- **PROJECT WILL COMPLETE OR SUSPEND CURRENT ONGOING TAR'S AND RESPOND TO HQ COMMENTS (e.g. FUNCTIONAL ANALYSIS, WMSR FLOWDOWN AND FORMAT)**
- **HOWEVER - THE OVERRIDING CONCERN TO THE PROJECT IS THE IMPACT OF IMPLEMENTING CORRECTIVE ACTIONS TO BE IDENTIFIED IN THE PROGRAM MANAGEMENT SYSTEMS IMPROVEMENT PLAN (MSIP)**

NEAR FUTURE - IMPLEMENTATION OF MSIP REFERENCE TO MEMO OF 6-20-90

- **RW-1 DR. BARTLETT DIRECTOR OCRWM**
- **D. SHELOR HAS OVERALL MANAGEMENT RESPONSIBILITY FOR IMPLEMENTING RECOMMENDATIONS THAT WILL BE CONTAINED IN THE MSIP**
- **REPRESENTATIVES FROM AFFECTED ORGANIZATIONAL COMPONENTS AT HQ AND YMPO, INCLUDING CONTRACTORS WILL BE ASKED TO PARTICIPATE IN THIS EFFORT**
- **"THIS IS AN AMBITIOUS PROJECT AND SCHEDULE, AND I EXPECT THE FULL AND ACTIVE SUPPORT AND PARTICIPATION BY OCRWM MANAGEMENT AND STAFF IN CARRYING OUT THIS TASK"**

NEAR FUTURE - IMPLEMENTATION OF MSIP

(CONTINUED)

STATEMENT OF WORK OUTLINE

PURPOSE:

ASSIST THE OCRWM IN STRUCTURING THE REQUIREMENTS FOR THE PHYSICAL SYSTEMS IN THE NUCLEAR WASTE MANAGEMENT SYSTEM (NWMS) AS WELL AS THE REQUIREMENTS FOR THE PROGRAM MANAGEMENT SYSTEMS

THE RESULTING TWO FRAMEWORKS WILL BE CONSISTENT WITH FUNCTIONS THAT MUST BE PERFORMED BY THE PROGRAM OFFICES IN DEVELOPING THE PHYSICAL SYSTEMS

NEAR FUTURE - IMPLEMENTATION OF MSIP

(CONTINUED)

1.0 DEVELOP A STRUCTURE FOR ALL REQUIREMENTS THAT MUST BE MET BY THE PHYSICAL SYSTEM (NWMS)

- **OBTAIN A FUNCTIONAL DECOMPOSITION OF THE NWMS**
- **DEVELOP REQUIREMENTS DOCUMENTATION TREE (FOR BOTH
THE PHYSICAL SYSTEMS AND THE MANAGEMENT SYSTEMS)**

2.0 DEVELOP MANAGEMENT SYSTEMS REQUIREMENTS

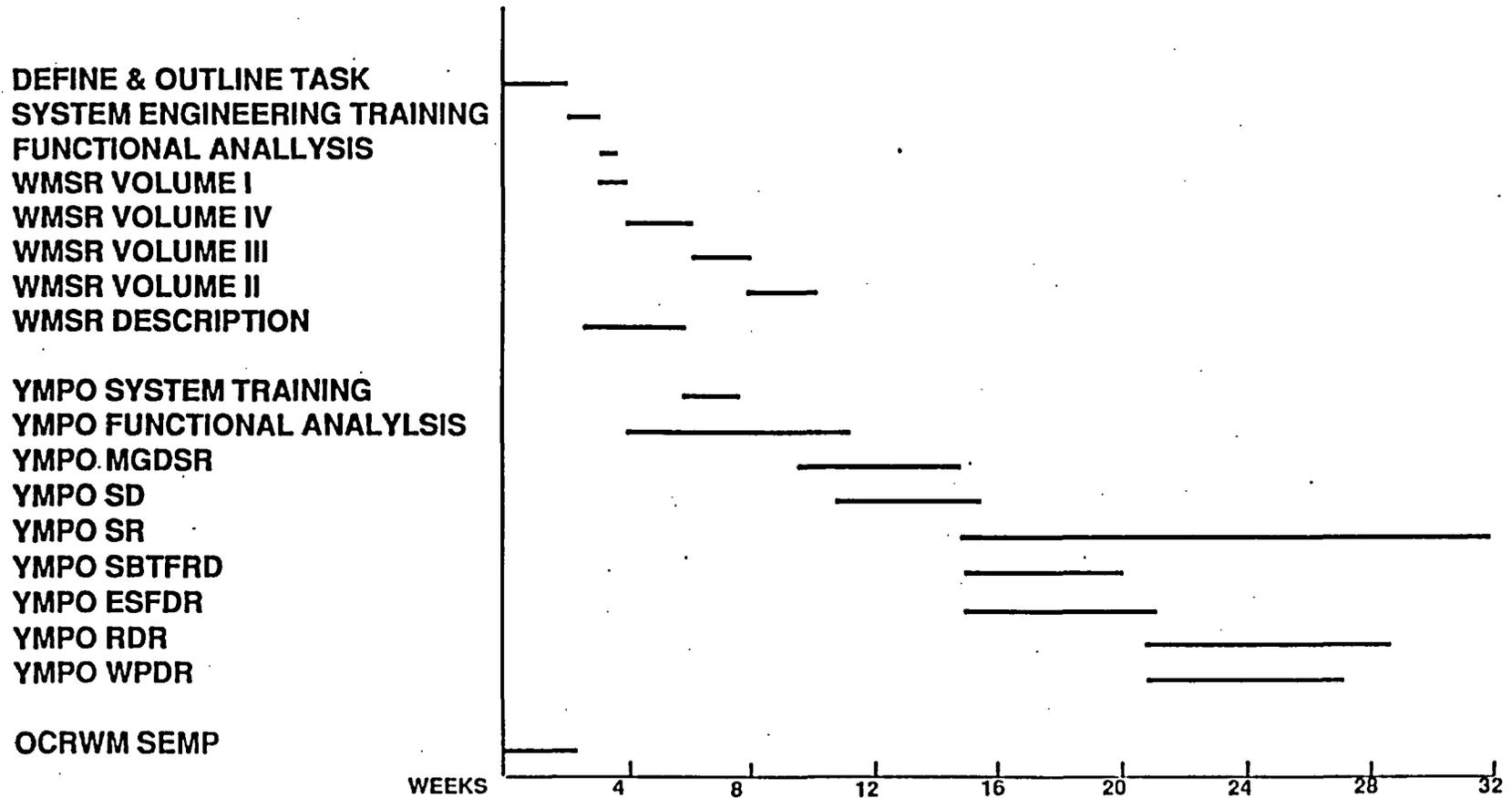
- **BUSINESS MANAGEMENT**
- **SIMILARLY, ESTABLISH REQUIREMENTS AND POLICIES FOR
CONFIGURATION MANAGEMENT, QA, LICENSING MANAGEMENT,
INFORMATION MANAGEMENT, ETC.**

NEAR FUTURE - IMPLEMENTATION OF MSIP

(CONTINUED)

PROGRAM DOCUMENT SCHEDULE (REQUIREMENTS)

TASKS



**YUCCA MOUNTAIN PROJECT
SYSTEMS ENGINEERING
MANAGEMENT PLAN (SEMP)**

PURPOSE OF SEMP

**THE PROJECT SEMP DESCRIBES THE WAY
IN WHICH THE PROJECT WILL IMPLEMENT
SYSTEMS ENGINEERING TO MANAGE,
INTEGRATE, INTERFACE AND DOCUMENT
THE TECHNICAL ACTIVITIES OF THE PROJECT**

BACKGROUND OF THE SEMP

- **DOE ORDER 4700.1 STATES DOE POLICY FOR USING SYSTEMS ENGINEERING ON MAJOR SYSTEM ACQUISITION (1989)**
- **THE DIRECTOR OF OCRWM HAS DIRECTED THAT SYSTEMS ENGINEERING BE USED IN MGDS DEVELOPMENT (1989)**
- **THE OCRWM SEMP DIRECTS EACH PROJECT OFFICE TO PREPARE A PROJECT-LEVEL SEMP (1990) AND SPECIFIES CONTENT REQUIREMENTS**

DEFINITION OF SYSTEMS ENGINEERING

(PER YMP SEMP)

SYSTEMS ENGINEERING IS THE PROCESS OF SELECTING AND SYNTHESIZING THE APPLICATION OF SCIENTIFIC AND TECHNICAL KNOWLEDGE TO MANAGE, INTEGRATE, AND DOCUMENT THE TECHNICAL ACTIVITIES TO :

1. DEFINE AND ALLOCATE REQUIREMENTS AND SUBSYSTEM UTILIZATION
2. EVALUATE SUBSYSTEM INTERRELATIONSHIPS
3. TRANSLATE THE REQUIREMENTS INTO A SYSTEM CONCEPT
4. SUBSEQUENTLY DEMONSTRATE THAT A COMPOSITE OF FACILITIES, EQUIPMENT, SKILLS, TECHNIQUES, AND NATURAL ENVIRONMENT CAN BE EFFECTIVELY EMPLOYED AS A COHERENT WHOLE TO ACHIEVE SOME STATED MISSION AND PERFORMANCE OBJECTIVES

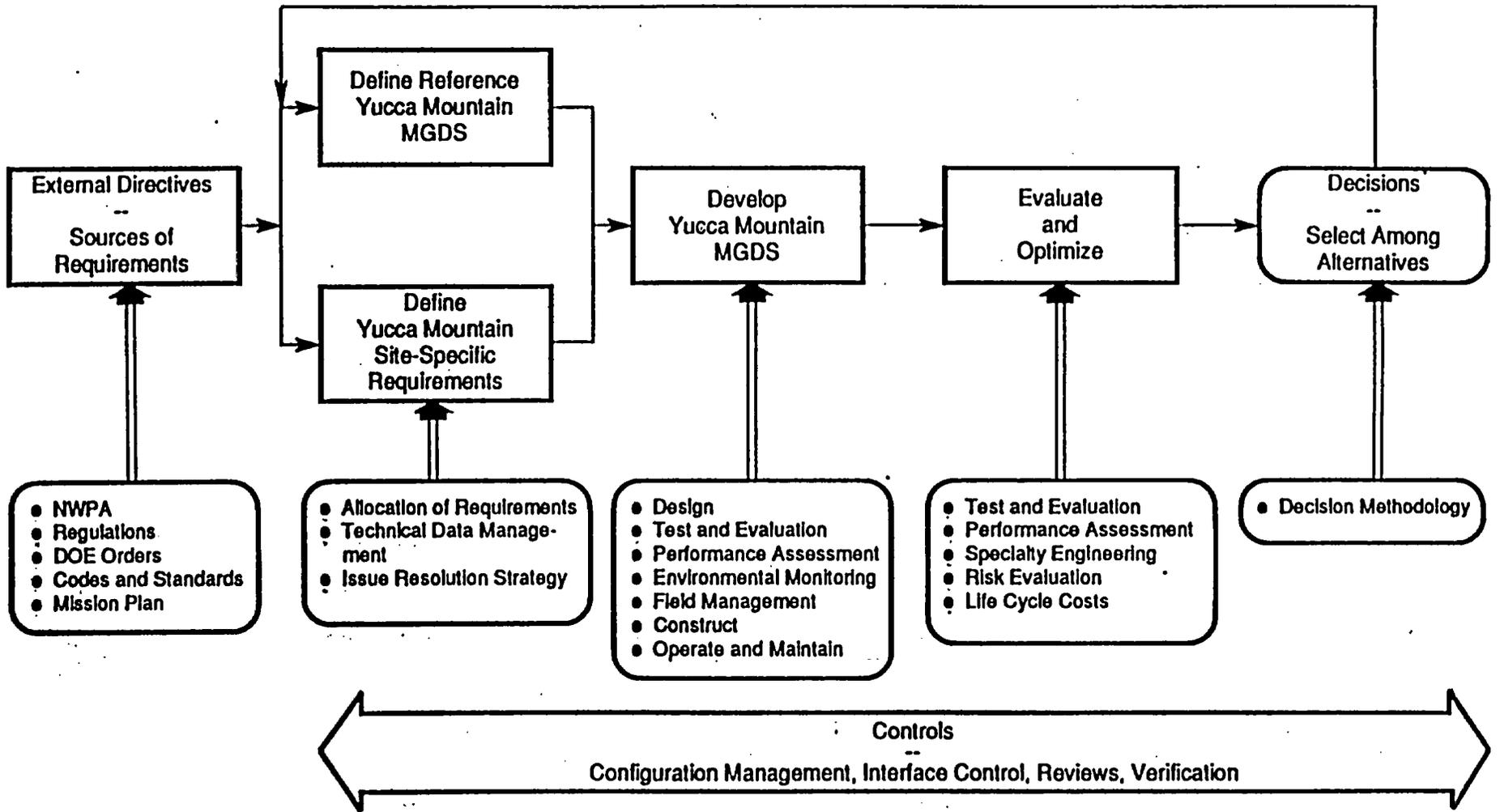
SEMP SCOPE AND APPLICABILITY

- **PROVIDES GENERAL GUIDELINES FOR THE IMPLEMENTATION OF SYSTEMS ENGINEERING BY THE PROJECT**
- **REQUIREMENTS DEFINED IN SEMP APPLY TO THE PROJECT OFFICE AND ALL PROJECT PARTICIPANTS**
- **ADDRESSES BOTH INTERNAL AND EXTERNAL PROJECT INTERFACES**
- **FOCUSES ON SITE CHARACTERIZATION AND SITE SELECTION AND APPROVAL PHASES OF THE MGDS**

YMP TECHNICAL BASELINE IMPLEMENTATION

- **BASELINING PROVIDES THE CRITERIA AGAINST WHICH PROJECT PROGRESS IS MEASURED AND SUPPLIES A TRACEABLE RECORD OF THE DESIGN AND SITING PROCESS**
- **BASELINES PROVIDE A "SNAPSHOT" OF PROJECT STATUS AT A PARTICULAR POINT IN TIME**
- **THE PROJECT BASELINE WILL ENCOMPASS THE COST AND SCHEDULE BASELINES REQUIRED BY DOE ORDER 4700.1**
- **BASELINES ARE MANAGED UNDER THE PROVISION OF THE CONFIGURATION MANAGEMENT PLAN (CMP)**

Iterate



YMPSEMP.018/3-21-90

The Yucca Mountain Project Systems Engineering Process.

INTEGRATION OF SYSTEMS ACTIVITIES

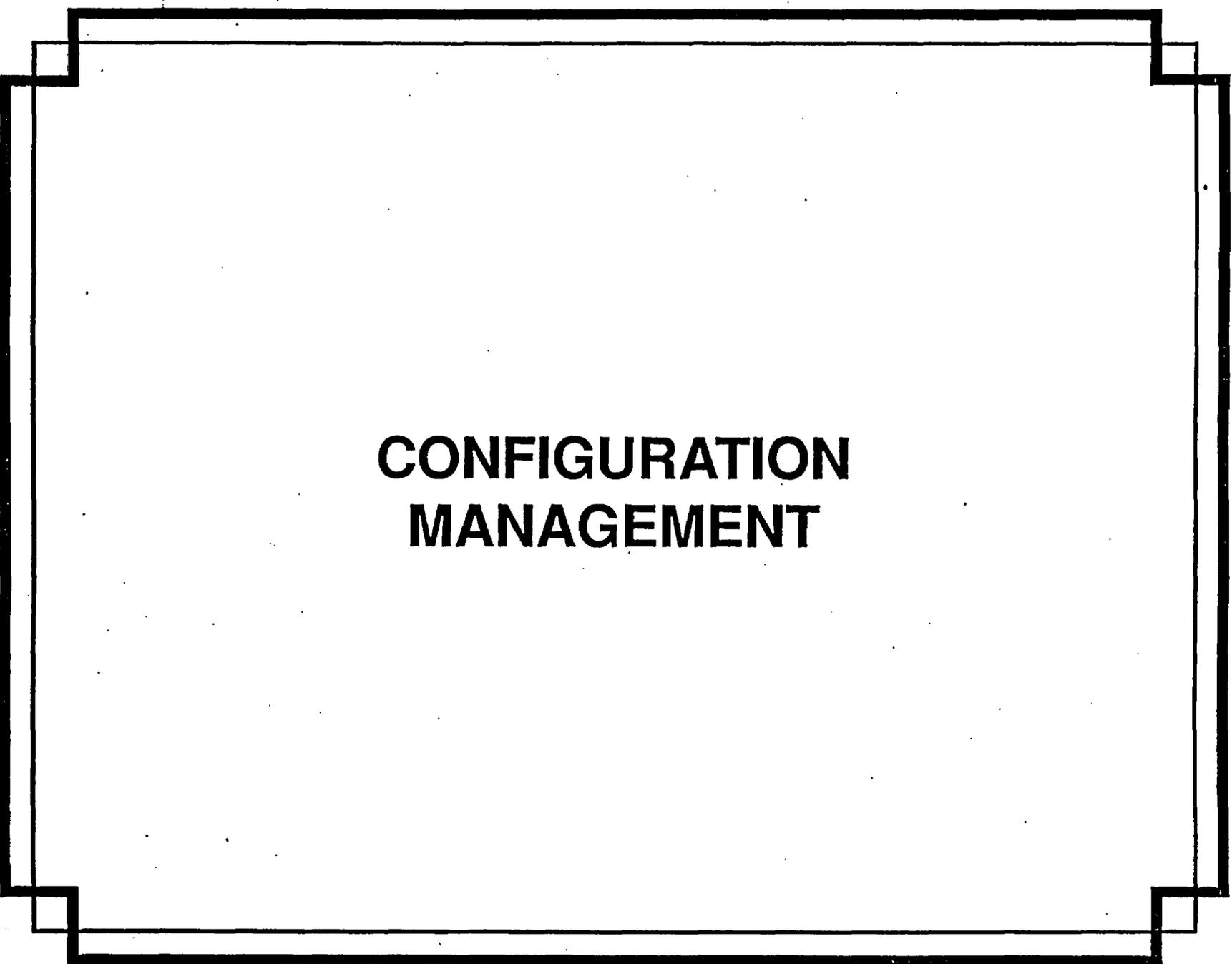
- **SPECIALTY ENGINEERING**

- RELIABILITY ENGINEERING
- MAINTAINABILITY ENGINEERING
- INTEGRATED LOGISTICS SUPPORT
- OPERABILITY ASSESSMENTS
- RISK MANAGEMENT
- LIFE CYCLE COST
- PERFORMANCE ASSESSMENT
- SAFETY/RISK EVALUATIONS

- **TECHNICAL DATA MANAGEMENT**

- **INTERFACE CONTROL**

- **CONFIGURATION MANAGEMENT**



**CONFIGURATION
MANAGEMENT**

CONFIGURATION MANAGEMENT

- **PREPARES, IMPLEMENTS, MAINTAINS PROJECT-LEVEL PLANS AND PROCEDURES**
- **MANAGES CHANGE CONTROL PROCESS ON PROJECT CONTROLLED DOCUMENTS**
- **ACTIVITIES PERFORMED SUPPORT SYSTEMS ENGINEERING APPROACH TO PROJECT MANAGEMENT**

PRIORITIES FOR CONFIGURATION MANAGEMENT, FY 90 AND 91

- **COMPLETE DEVELOPMENT (OR ACQUISITION) OF
CONFIGURATION INFORMATION SYSTEM (CIS) SOFTWARE**
- **DEVELOPING THE MASTER DOCUMENT TYPE LIST (MDTL)**
- **MERGING THE EXISTING CONTROLLED DOCUMENT SYSTEM
INTO THE MDTL**
- **CONTINUING TO REFINE THE CONFIGURATION HIERARCHY**
- **PLACING ALL PROJECT-LEVEL PLANS AND PROCEDURES
UNDER CM CONTROL**
- **TRAINING YMP CM AND DOCUMENT CONTROL STAFFS TO
IMPLEMENT THE SYSTEM**

SUMMARY STATUS OF CONFIGURATION MANAGEMENT

- **YMP CM PLAN, REV. 2 APPROVED BY YMPO,
SENT TO HQ FOR CONCURRENCE**

- **CM PROCEDURES APPROVED:**

AP-1.5 (Q)

**"ISSUANCE AND MAINTENANCE OF
CONTROLLED DOCUMENTS"**

APPROVED 6-1-90

SUMMARY STATUS OF CONFIGURATION MANAGEMENT

(CONTINUED)

● CM PROCEDURE REVISIONS IN REVIEW:

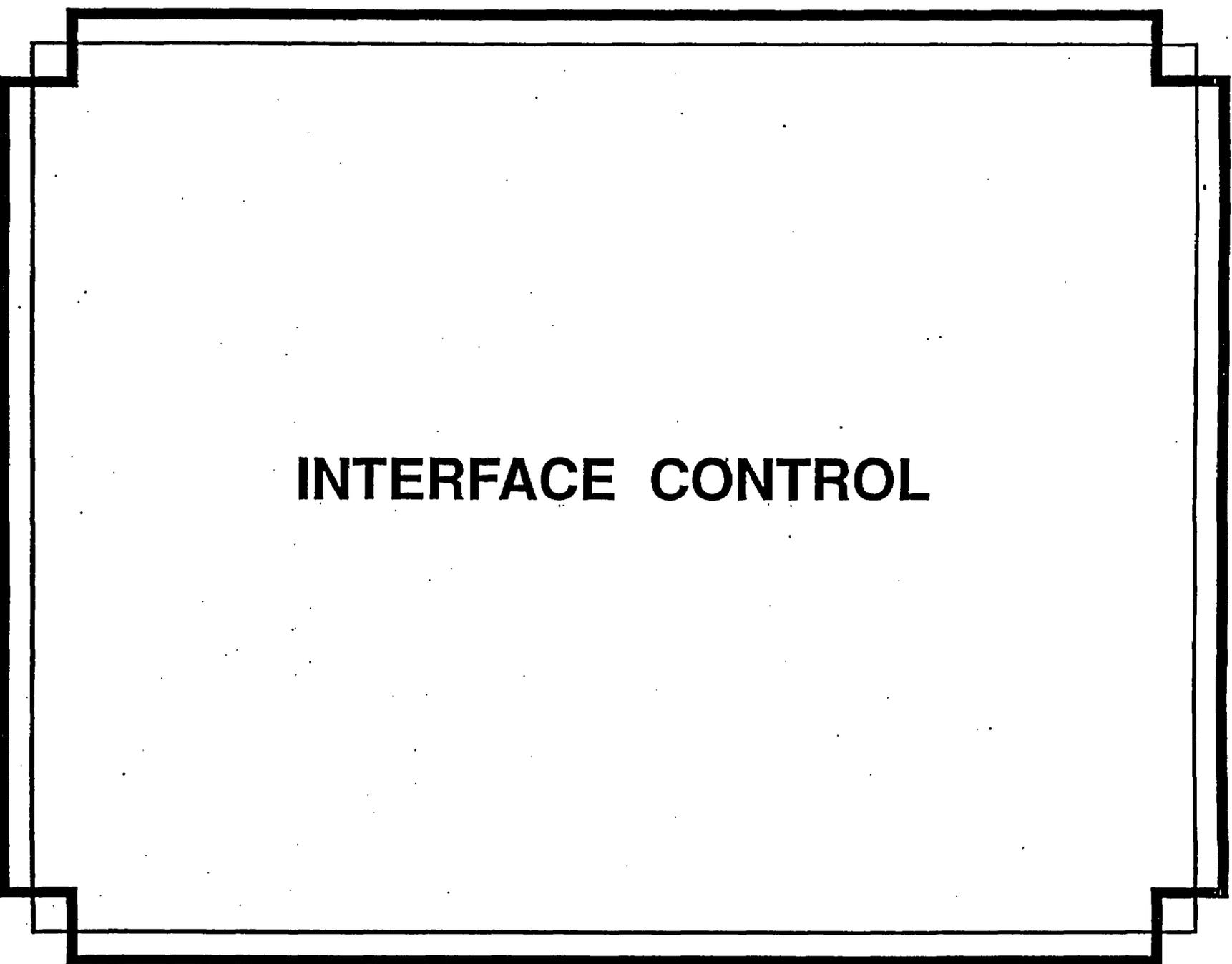
QMP 03-09 "CHANGE CONTROL PROCESS" (FORMERLY AP-3.3(Q))
NOTE: TECHNICAL CHANGE REQUESTS IDENTIFIED
IN AP-6.1 (Q) APPROVED 5-23-90

AP 3.5 "FIELD CHANGE PROCESS"

AP 3.6 "CONFIGURATION REVIEWS"
(EXISTING AP3.6(Q) RESCOPED)

AP 3.7 "COST/SCHEDULE CHANGE PROCESS"
(JOINT WITH PACSD)

AP 5.19(Q) "INTERFACE CONTROL"



INTERFACE CONTROL

INTERFACE CONTROL STATUS

JUNE 26, 1990

NUMBER OF I/Fs IDENTIFIED	NUMBER OF I/Fs DEFINED (MOUs)	PERCENTAGE DEFINED	NUMBER OF I/Fs COMPLETED	PERCENTAGE COMPLETED
110	26	23.6%	3	11.5%

ICWG REPRESENTATIVES

G.D. DYMMEL - - CHAIRMAN - - DOE

J.A. ROLL - - SECRETARY - - T&MSS

REPRESENTATIVE

ALTERNATE

ORGANIZATION

R.L. BULLOCK

B.R. CHYTROWSKI

FSN

R.L. SCHREINER

R.G. MUSICK

H&N

C. MILLIGAN

N.Z. ELKINS

LANL

D.W. SHORT

M.A. REVELLI

LLNL

B.R. GARDELLA

D.L. KOSS

REECO

J.D. WADDELL

K.R. HARBERT

T&MSS

D.A. BARR

A.R. MORALES

SNL

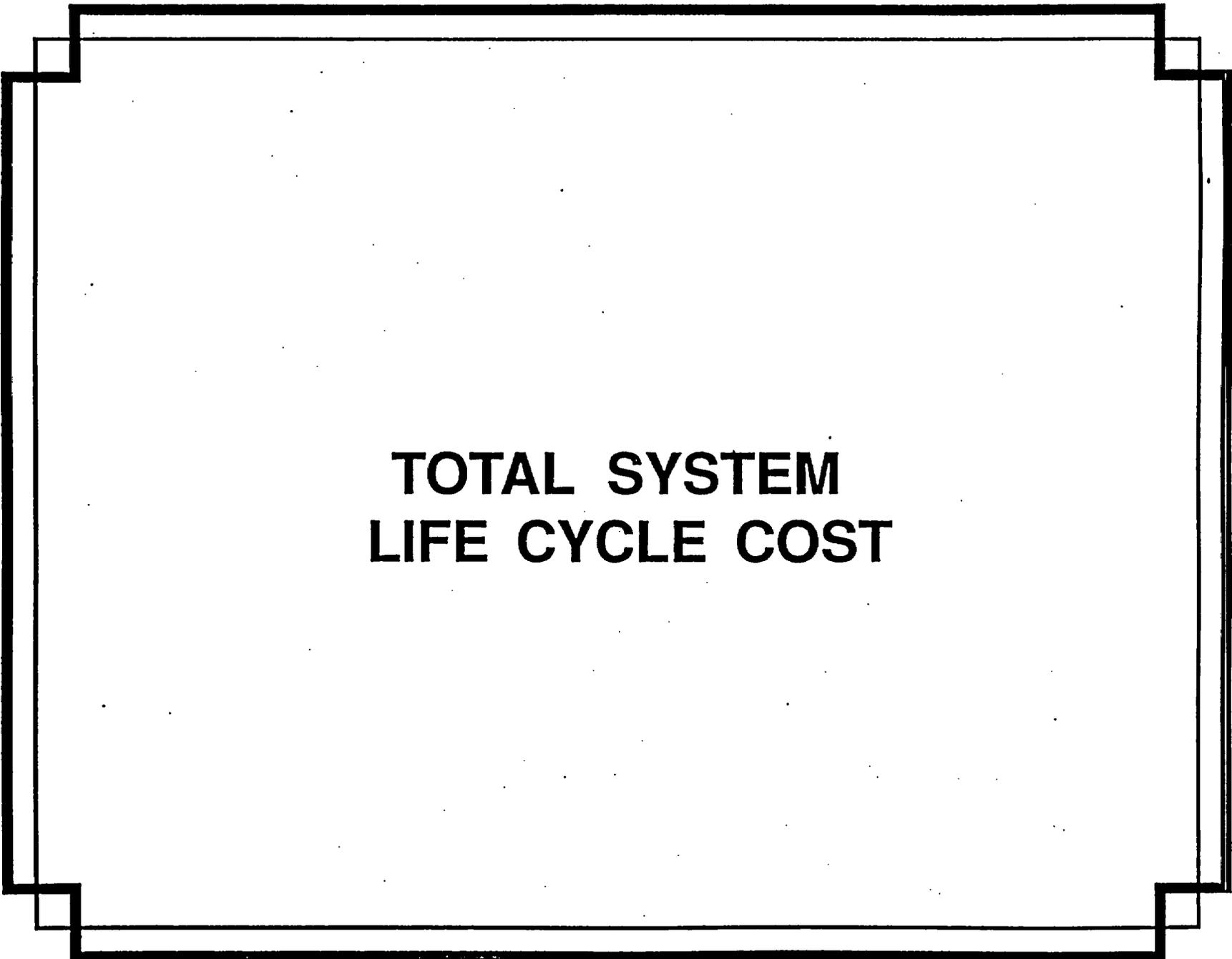
T. BUONO

R. CRAIG

USGS

ACTION ITEMS

- 1. REWRITE AP-5.19Q - INTERFACE CONTROL PROCEDURE TO THE NEW SCRIPT FORMAT**
- 2. HOLD A FAMILIARIZATION SESSION FOR ALL ICWG MEMBERS AND RESIDENT INTEGRATORS WHO WILL THEN TRAIN OTHER PROJECT STAFF**
- 3. CALL FOR IDENTIFICATION OF NEXT FISCAL YEAR'S INTERFACES ALONG WITH THEIR DEFINITION ON MOU's**



**TOTAL SYSTEM
LIFE CYCLE COST**

SUMMARY OF COST ESTIMATES, BILLIONS 1988 DOLLARS

<u>COST CATEGORY</u>	<u>SINGLE REPOSITORY</u>		<u>TWO REPOSITORIES</u>	
	<u>INTACT FUEL, BASIC MRS</u>	<u>CONSOLIDATE INTO CANNISTER AT MRS</u>	<u>INTACT FUEL, BASIC MRS</u>	<u>CONSOLIDATE INTO CANNISTERS AT MRS</u>
DEVEL & EVALUATION	9.7	9.7	13.1	13.1
TRANSPORTATION	2.6	2.6	2.3	2.3
FIRST REPOSITORY	9.1	8.7	7.0	6.7
SECOND REPOSITORY	NA	NA	6.6	6.8
MRS FACILITY	1.8	3.1	1.4	2.3
BENEFITS	.7	.7	.9	.9
TOTAL SYSTEM COST	23.8	24.8	31.2	32.0

CURRENT TOTAL SYSTEM LIFE CYCLE COST (TSLCC)

- **COST UPDATE KICKOFF MEETING JULY 13, 1989**
- **COST REVIEW MEETING HELD JUNE 7, 1990**
- **CURRENT TSLCC COST BEING DEVELOPED
BASED ON 1998 MRS AND 2010 REPOSITORY**
- **CURRENT TSLCC ESTIMATE WILL HAVE
INCREASES DUE TO:**
 - **NEW WASTE HANDLING BUILDING**
 - **NEW WASTE CONTAINER MATERIAL**
 - **TRANSPORTATION - RAIL SPUR ROUTE CHANGE**
 - **INFLATIONARY COST ESCALATION**

TPO PRESENTATION

**HAZARDOUS MATERIALS
MANAGEMENT AND HANDLING**

PRESENTED BY

GLENN DOYLE
YUCCA MOUNTAIN PROJECT OFFICE

JUNE 29, 1990

HAZARDOUS MATERIALS MANAGEMENT

- **YMPO IS DEVELOPING A COMPREHENSIVE PROGRAM FOR MANAGING AND HANDLING HAZARDOUS MATERIALS AND WASTES**
- **PROPER MANAGEMENT IS IMPORTANT**
 - **WORKER HEALTH AND SAFETY**
 - **ENVIRONMENTAL PROTECTION**
 - **LEGAL RESPONSIBILITIES**

NUMEROUS LAWS REGULATE USE OF HAZARDOUS MATERIALS

- RCRA
- CERCLA
- SARA
- OSHA
- HMTR
- TSCA
- CWA
- SDWA
- CAA

ONLY SOLID WASTES ARE REGULATED UNDER RCRA

- **“SOLID WASTE” CAN BE SOLID, LIQUID, SEMISOLID,
OR GASEOUS**

- **SOLID WASTE IS DISCARDED, ABANDONED, OR
INHERENTLY WASTELIKE MATERIAL**

- **SOME MATERIALS EXCLUDED FROM THE SOLID
WASTE DEFINITION ARE**
 - **DOMESTIC SEWAGE**
 - **IRRIGATION RETURNS**
 - **PERMITTED INDUSTRIAL POINT-SOURCE DISCHARGES**
 - **SOURCE, SPECIAL NUCLEAR, AND BY-PRODUCT MATERIAL
REGULATED UNDER THE AEA**

A SOLID WASTE IS HAZARDOUS IF

- **IT IS LISTED BY EPA AS HAZARDOUS;**
- **IT IS HAZARDOUS BY CHARACTERISTIC (IGNITABLE, CORROSIVE, REACTIVE, OR EP TOXIC);**
- **IT IS A MIXTURE OF A SOLID WASTE AND A LISTED HAZARDOUS WASTE; OR**
- **IT IS DERIVED FROM THE TREATMENT OF A LISTED WASTE**

OBJECTIVES OF THE HAZARDOUS MATERIALS MANAGEMENT PROGRAM

- **CONDUCT PROJECT ACTIVITIES IN COMPLIANCE WITH FEDERAL AND STATE REQUIREMENTS**
- **IDENTIFY HAZARDOUS MATERIALS AND SUBSTANCES TO BE USED BY THE PROJECT**
- **HANDLE AND DISPOSE OF HAZARDOUS MATERIALS PROPERLY**
- **PREPARE FOR SAFETY, TRAINING, EMERGENCIES, AND CONTINGENCY PLANNING**
- **AUTHORIZE, TRACK AND REPORT THE PROPER HANDLING AND DISPOSAL OF HAZARDOUS MATERIALS**

OTHER PARTS OF THE WASTE MANAGEMENT PROGRAM

- **OIL AND HAZARDOUS SUBSTANCES POLLUTION
CONTINGENCY PLAN**
- **POLLUTION PREVENTION AWARENESS TRAINING**
- **WASTE MINIMIZATION PLANNING AND TRAINING**
- **EMERGENCY PREPAREDNESS PLANNING**
- **UNUSUAL OCCURRENCE REPORTING**

PARTICIPANT RESPONSIBILITIES

- **FOLLOW AP 6.13 AUTHORIZATION FOR USE OF REGULATED HAZARDOUS MATERIALS AND SUBSTANCES**
- **REVIEW HAZARDOUS MATERIALS MANAGEMENT AND HANDLING PROGRAM (HMMHP)**
- **APPOINT HAZARDOUS MATERIALS COORDINATOR (HMC) AND AN ALTERNATE**
- **PREPARE MATERIALS REPORTING AND HANDLING PLAN (MRHP)**
- **SUBMIT FORM 1 – AUTHORIZATION REQUEST**

MATERIALS REPORTING AND HANDLING PLAN

- **HAZARDOUS MATERIAL IDENTIFICATION**
- **SITE LOCATION OF THE ACTIVITY**
- **WASTE ACCUMULATION AND HANDLING**
- **WASTE MINIMIZATION**
- **EMERGENCY PREPAREDNESS**
- **PARTICIPANT CONTINGENCY PLAN**

YUCCA MOUNTAIN PROJECT PROCEDURE

Y-AD-001
4/90

Title

ADMINISTRATIVE PROCEDURE AP-6.13 AUTHORIZATION FOR USE OF REGULATED HAZARDOUS
SUBSTANCES AND MATERIALS

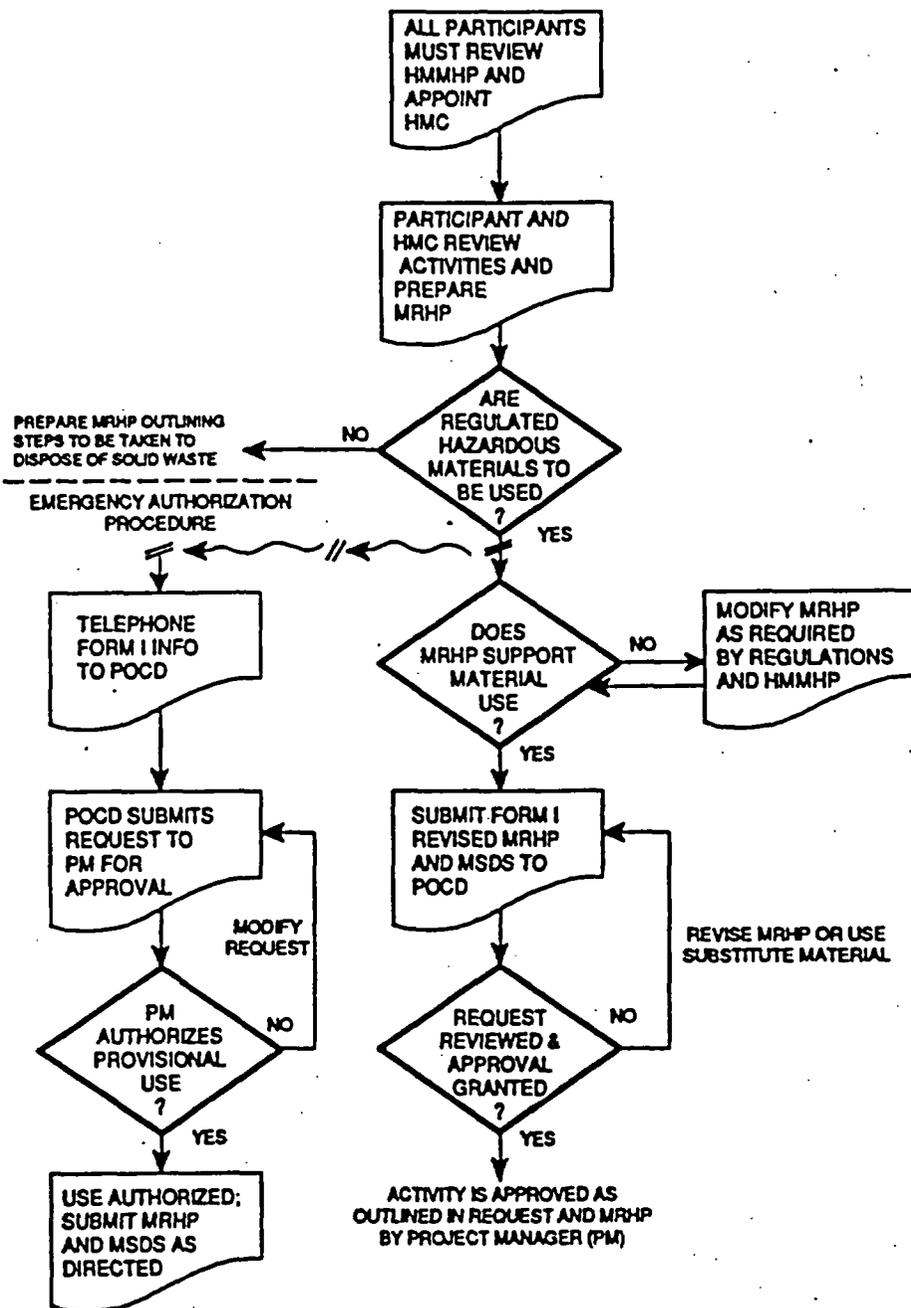


Figure 1 - Flowchart Illustrating Authorization for Use of Regulated Materials and Substances and Emergency Authorization Procedure

Effective Date	Revision	Supersedes	Page	No.
			8 of 10	AP-6.13

YUCCA MOUNTAIN PROJECT PROCEDURE

Y-AD-001
4/90

Title

ADMINISTRATIVE PROCEDURE AP-6.13 AUTHORIZATION FOR USE OF REGULATED HAZARDOUS
SUBSTANCES AND MATERIALS

REQUEST FOR AUTHORIZATION OF USE OF REGULATED HAZARDOUS SUBSTANCES AND MATERIALS		N-QA-107 5/90
1 DATE OF REQUEST: _____ (<input type="checkbox"/> INITIAL <input type="checkbox"/> RENEWAL) FILE NO. _____		
2 REQUESTOR (Firm, Contact, Address and Phone): _____ _____ _____		
3 MATERIAL REQUESTED (Brand name, chemical makeup, vendors name, and address): _____ _____ _____ _____		
4 JUSTIFICATION (Reason for Hazardous rather than nonhazardous material): _____ _____ _____		
5 WILL REGULATED HAZARDOUS WASTE BE GENERATED? (YES <input type="checkbox"/> NO <input type="checkbox"/>) IF YES, DESCRIBE: _____ _____ _____ _____		
6 RESPONSIBLE PARTY (Name and Title): _____ _____ Signature: _____		
FORWARD TO YUCCA MOUNTAIN PROJECT OFFICE, PROJECT AND OPERATIONS CONTROL DIVISION		

Attachment 1 - Request for Authorization of Use of Regulated
Hazardous Substances and Materials Form

Effective Date	Revision	Supersedes	Page 9 of 10	No. AP-6.13
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YUCCA MOUNTAIN PROJECT PROCEDURE

Y-AD-001
4/90

Title ADMINISTRATIVE PROCEDURE AP-6.13 AUTHORIZATION FOR USE OF REGULATED HAZARDOUS
SUBSTANCES AND MATERIALS

REQUEST FOR AUTHORIZATION OF USE OF REGULATED HAZARDOUS SUBSTANCES AND MATERIALS CONTINUATION PAGE		N-QA-107 5/90
1	DATE OF RECEIVED: _____	2 DATE ENTERED INTO HMHP: _____
3	MATERIAL REGULATED STATUS: _____ _____ CASRN _____ RCRA # _____ CERCLA RO _____ OTHER IDENTIFIERS: _____	
4	SAFETY EQUIPMENT REQUIRED: _____ _____ _____	
5	SAFETY PLAN APPROVED: YES _____ NO _____ BY: _____	
6	HAZARDOUS MATERIAL REPORTING AND HANDLING PLAN APPROVED? (YES _____ NO _____) BY: Signature _____ Date _____	
7	REMARKS: _____ _____ _____ _____ _____ INITIALED: _____	
8	RECOMMEND ACTION ON CHEMICAL REQUEST/USE: (___ APPROVED ___ DISAPPROVED) BY: Signature: _____ Date: _____	
9	CHEMICAL REQUEST/USE REQUEST: (___ APPROVED ___ DISAPPROVED)	

Attachment 1 - Request for Authorization of Use
of Regulated Hazardous Substances and Materials Form (continued)

Effective Date	Revision	Supersedes	Page 10 of 10	No. AP-6.13
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Union Calendar No. 329

101ST CONGRESS
2D SESSION**H. R. 5019**

[Report No. 101-536]

Making appropriations for energy and water development for the fiscal year ending September 30, 1991, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JUNE 13, 1990

Mr. BEVILL, from the Committee on Appropriations, reported the following bill; which was committed to the Committee of the Whole House on the State of the Union and ordered to be printed

A BILL

Making appropriations for energy and water development for the fiscal year ending September 30, 1991, and for other purposes.

1 NUCLEAR WASTE DISPOSAL FUND

2 For nuclear waste disposal activities to carry out the
3 purposes of Public Law 97-425, as amended, including the
4 acquisition of real property or facility construction or expan-
5 sion, \$292,833,000, to remain available until expended, to be
6 derived from the Nuclear Waste Fund. To the extent that
7 balances in the fund are not sufficient to cover amounts avail-
8 able for obligation in the account, the Secretary shall exer-
9 cise his authority pursuant to section 302(e)(5) of said Act to
10 issue obligations to the Secretary of the Treasury: *Provided*,
11 That of the amount herein appropriated not to exceed
12 \$5,000,000, may be provided to the State of Nevada, for the
13 conduct of its oversight responsibilities pursuant to that Act:
14 *Provided further*, That not more than \$5,000,000, may be
15 provided to affected local governments, as defined in the
16 Act, to conduct appropriate activities pursuant to the Act:
17 *Provided further*, That none of the funds herein appropriated
18 may be used directly or indirectly to influence legislative
19 action on any matter pending before Congress or a State leg-
20 islature or for any lobbying activity as provided in 18 U.S.C.
21 1913.

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS
BILL, 1991

JUNE 13, 1990.—Committed to the Committee of the Whole House on the State of
the Union and ordered to be printed

Mr. BEVILL, from the Committee on Appropriations,
submitted the following

REPORT

together with

ADDITIONAL VIEWS

[To accompany H.R. 5019]

The Committee on Appropriations submits the following report
in explanation of the accompanying bill making appropriations for
energy and water development for the fiscal year ending Septem-
ber 30, 1991, and for other purposes.

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NUCLEAR WASTE DISPOSAL FUND

Budget Request	Committee Bill
15,000	15,000
4,300	4,300
4,200	4,200
85,000	85,000
86,800	86,800
1,900	1,900
330,778	330,778
(218,829)	(218,829)
(26,700)	(26,700)
(86,900)	(86,900)
3,969	3,969
118,000	118,000
33,000	33,000
186,988	186,988
317,986	317,986
1,373,732	1,373,732
(829,834)	(829,834)
(147,880)	(147,880)
(296,218)	(296,218)

Appropriation, 1990.....	\$295,156,000
Budget Estimate, 1991.....	292,833,000
Recommended, 1991.....	292,833,000
Comparison:	
Appropriation, 1990.....	-2,323,000
Budget Estimate, 1991.....	

The Nuclear Waste Policy Act of 1982 and the Nuclear Waste Policy Act Amendments of 1987 provide for the development, construction and operation of a repository for the disposal of high-level nuclear waste and spent fuel. It also establishes the Nuclear Waste Disposal Fund to finance these activities through the collection of fees from the owners and generators of the waste. In FY 1991, the fund will generate revenues of \$775,000,000 derived from fees and interest income.

The goal of the Nuclear Waste Disposal Fund program is to obtain licenses for, construct, and operate a waste management system for the disposal of spent nuclear fuel and high-level radioactive waste from commercial and atomic energy defense activities in a manner that is safe and environmentally acceptable and in conformance with the Nuclear Waste Policy Act (NWPA) of 1982 and NWPA Amendments of 1987. Yucca Mountain, Nevada, has been designated as the site for detailed site characterization activities. The amended legislation also authorizes a Monitored Retrievable Storage (MRS) facility as an integral part of the overall waste management system and places certain conditions on its siting, construction, and operation.

The overall budget request for this activity is \$292,833,000 including \$10,000,000 for analysis of a Monitored Retrievable Storage site. The allowance provides the budget request.

The Committee notes with continuing concern that, despite the efforts of Congress to refocus the Department's efforts, the program has been plagued by the continuing schedule slips. The Department has continued to experience difficulties with the mandated characterization of the Yucca Mountain site. The Committee reiterates its belief that early and timely progress on this program is critical to the viability of the civilian nuclear power option. The program demands priority attention within the Department.

ISOTOPE PRODUCTION AND DISTRIBUTION FUND

Appropriation, 1990.....	\$16,243,000
Budget Estimate, 1991.....	
Recommended, 1991.....	
Comparison:	
Appropriation, 1990.....	-16,243,000
Budget Estimate, 1991.....	

The Department, through the Isotope Production and Distribution program, provides radioactive and stable isotope products and associated services to a wide and varied domestic and international market. These materials and services are produced, processed and provided through the utilization of DOE facilities and scientific capabilities which exist to satisfy other DOE research and production missions. Ultimate applications of isotope products include medical research and health care, industrial research and manufacturing.

national demonstrations that benefit persons and groups across the Nation.

OFFICE OF NUCLEAR WASTE NEGOTIATOR

Appropriation, 1990.....	\$1,972,000
Budget Estimate, 1991.....
Recommended, 1991.....
Comparison:	
Appropriation, 1990.....	-1,972,000
Budget Estimate, 1991.....

This appropriation provides for the Office of the Nuclear Waste Negotiator. The Nuclear Waste Policy Amendments Act of 1987 directed the Nuclear Waste Negotiator to attempt to find a state or Indian tribe willing to host a nuclear waste repository or monitored retrievable storage facility at a technically qualified site on reasonable terms and to negotiate with any state or Indian tribe which expressed an interest in hosting a repository or monitored retrievable storage facility. The Administration has not requested additional appropriations for this activity because of the availability of unobligated balances.

NUCLEAR WASTE TECHNICAL REVIEW BOARD

Appropriation, 1990.....	\$1,972,000
Budget Estimate, 1991.....
Recommended, 1991.....
Comparison:	
Appropriation, 1990.....	-1,972,000
Budget Estimate, 1991.....

This appropriation provides for the Nuclear Waste Technical Review Board. The Nuclear Waste Policy Amendments Act of 1987 directed the Board to evaluate the technical and scientific validity of the activities of the Department of Energy's nuclear waste disposal program. The Board must report its findings not less than two times a year to the Congress and the Secretary of Energy. The Administration has not requested additional appropriations for this activity because of the availability of unobligated balances.

TITLE V—GE

FUNDING

Language is included and payment of intervenors in r funded in this Act. This lan been included in past bills.

RATE REVISION FOR POW

A general provision is inc funds to conduct any studies pricing for the six Federal po

APPLICATION C

The Committee has recom tion for the application of G page and possible sequestrat anced Budget and Emerger amended.

For the purposes of the Er priations, programs, projects any and all individual item scribed, included in or in any rative or tabular documenta limited to the FY 1991 budge: porting justification material changed by Congressional ac Committee reports.

It is the intention that, for ductions, each program, proje be reduced proportionately 1 centage as the percentage by. It is not intended that this projects or activities, (2) to di to otherwise reorder funds or new programs, projects or act

PROCUREMENT O

The importance of our elec tion system to the national stated. Electrical power is cri ngly high-technology society.

In light of the important n zation interest in maintaini pability, the Committee beli extent practicable, should pu

NUCLEAR ENERGY PROGRAMS

1991 Year Estimate	Budget Request	Committee Bill
3,896	3,900	8,000
10,963 244	13,791 401	18,291 401
11,467	14,290	18,700
914	900	900
18,877	18,000	22,600
(17,821) (244)	(17,101) (401)	(22,181) (401)
---	970	970
---	80	80
---	1,000	1,000
2,978	2,900	2,900
2,434	1,872	1,872
11,831 ---	21,781 900	21,781 900
11,831	22,681	22,681
490	814	814
17,883	27,347	27,347
18,187 27	11,189 300	12,189 300
18,184	11,489	12,489
1,708	1,800	1,800
399	417	417
12,791	12,906	13,008
29,974	40,283	41,283
(29,947) (27)	(29,063) (1,200)	(40,063) (1,200)

Fiscal year 1990 appropriation.....	\$581,999,000
Fiscal year 1991 estimate.....	358,490,000
Fiscal year 1991 recommendation.....	313,490,000
Change from estimate.....	-45,000,000

Funds are included for civilian reactor research, space and defense power systems, and civilian waste research and development.

The Administration has proposed establishing a new appropriation for Environmental Restoration and Waste Management and has included approximately \$420,000,000 of programs that were previously funded under nuclear. The funding for Environmental Restoration and Waste Management is discussed later in this report.

Advanced Lightwater Reactor Certification.—The Committee supports the Department's efforts to work with the electric power industry to develop and certify designs for advanced nuclear reactors with inherent safety features. The Department has committed to support light water reactor design certification work on such projects which will be shared with the electric power industry and development teams. Key elements to the viability and public acceptance of this new generation of reactors are standardization and modular construction which will make extensive use of prefabrication and assembly of components under factory conditions prior to transportation to the reactor site. Modular engineering is as essential as design certification by the Nuclear Regulatory Commission since it will provide certainty that reactors can be built on time and within budget. The Committee understands the vendor teams involved are willing to pay back Federal funds invested in modular and first-time engineering costs from royalties based on the plants built as a result of these efforts. The Committee urges the Department to evaluate the need for Federal funding of first-time engineering and to make a recommendation as part of its FY 1992 budget request.

The Committee continues to be concerned about the future of the nuclear power option in the United States. The strategic plan for the nuclear reactor research and development program remains unfinished, and the program appears to lack focus and direction. The budget proposal for civilian nuclear research remains heavily skewed toward space and defense activities, and facility mortgages consume a significant portion of the remaining resources.

The Committee supports the Department's participation with industry to develop a reactor life extension plan and the development of standard reactor designs certified by the Nuclear Regulatory Commission for construction and operation.

The Committee has received testimony in support of the concept of testing actinide burning in the Fast Flux Test Facility in Richland, Washington. This concept involves the transmutation of long-lived radioactive actinides into short half-life isotopes in a liquid metal reactor. The Committee has been advised that this concept could have application to the Environmental Restoration and Waste Management program and has funded the FY 1991 operation of the Fast Flux Test Reactor in that account.

FFTF

Advanced Reactor Research and Development.—The recommendation provides a total of \$47,000,000 for advanced reactor R&D. The allowance includes \$3,500,000 for the continuation of the funding for the University Research Program in Robotics for Advanced Reactors at a minimum level of \$3,500,000.

The Committee recommendation includes \$3,700,000 for **Civilian Radioactive Waste Research and Development**, \$3,000,000 of which shall be available for the Department of Energy to pursue a cooperative research, development and demonstration project of Spent Nuclear Fuel Dual Purpose (Storage and Transportation) Casks. Current Dry Cask Storage programs call for fuel handling several times between plant in-pool storage, dry storage, transportation and ultimate disposal. Development and demonstration of a dual-purpose cask can help minimize this handling by reducing the number of transfers required. The Committee agrees with the Nuclear Regulatory Commission that radiation exposure and other handling risks should be minimized in the entire process from original removal of the fuel from the reactor pool through its ultimate disposal. Development of dual-purpose casks can help reduce these handling risks and thereby enhance public health and safety. It is the Committee's intent that this project be carried out in cooperation with a west coast utility which has a nuclear reactor prematurely shut down due to a citizen's initiative and has an immediate need for development of dual-purpose cask storage for timely removal of spent fuel to simplify repowering options.

The Committee has previously raised questions about the Department's progress in testing, evaluating and seeking to improve radioactive waste canister technologies in order to minimize public health and safety risks to the fullest extent. The Committee understands that attention is now being given by various laboratories and facilities to the availability of using a seamless deep drawn canister technology that could further reduce potential risks associated with seam and weld stresses, as well as reduce costs required to detect weld weaknesses. The Committee is encouraged by such developments and requests a report from the Department, by December 31, 1990, on its overall canister design programs for handling both defense and commercial radioactive waste, including planned activities and resource requirements for the application of seamless deep drawn technologies.

RECOMMENDATION SUMMARY

Details of the Committee's recommendations are summarized in the following table:

(\$ In thousands)

NUCLEAR	
I. Nuclear energy R & D	
A. Light water reactor	
Operating expenses.....	
Capital equipment.....	
B. Advanced reactor R & D	
Operating expenses.....	
Capital equipment.....	
Subtotal, Advanced reactor R & D.....	
C. Space & defense power systems	
Operating expenses.....	
Capital equipment.....	
Construction:	
DS-4-106 SP-100 Gen. mod. - MED....	
Subtotal, Space & defense power systems..	
D. Advanced nuclear systems	
Operating expenses.....	
Capital equipment.....	
Construction:	
SP-4-111 RFP.....	
Subtotal, Advanced nuclear systems.....	
E. Facilities	
Operating expenses.....	
Capital equipment.....	
Construction:	
SI-4-201 Modification to reactors...	
SP-4-102 RFP.....	
SP-4-202 Mod to reactors.....	
SP-4-118 Fire def. imp., AR.....	
Subtotal, Construction.....	
Subtotal, Facilities.....	
F. Program direction - OE	
Subtotal, Nuclear energy R & D.....	
(Operating expenses).....	
(Capital equipment).....	
(Construction).....	
II. Remedial actions and waste technology	
A. Formerly utilized sites	
Operating expenses.....	
Capital equipment.....	
Subtotal, Formerly utilized sites.....	
B. Uranium program mill tailings	
Operating expenses.....	
Capital equipment.....	
Subtotal, Uranium program mill tailings..	
C. Surplus facilities	
Operating expenses.....	
Capital equipment.....	
Subtotal, Surplus facilities.....	
D. Heat valley	
Operating expenses.....	
E. Low level waste	
Operating expenses.....	
F. Waste technology and by-products	
Operating expenses.....	
G. Program direction - OE	
Subtotal, Remedial actions and waste technology	

**ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT (NON-
DEFENSE)**

Year (100)	Budget Request	Committee Bill
174	---	---
188	---	---
193	---	---
129	---	---
113	---	---
787	23,743	23,743
874	---	---
1631	(23,743)	(23,743)
18	718,842	778,838
201	(848,246)	(801,829)
811	(27,818)	(27,818)
1201	(131,777)	(131,777)
84	888	888
88	22,821	22,821
141	1,888	1,888
78	28,438	28,438
888	18,188	28,188
127	888	888
187	---	---
788	18,888	28,888
882	3,848	3,848
144	17,888	17,888
238	---	---
482	17,888	17,888
674	28,848	28,848
848	---	---
188	3,888	3,888
144	3,888	3,888
408	28,848	28,848

Fiscal year 1990 appropriation.....	-----
Fiscal year 1991 estimate.....	-----
Fiscal year 1991 recommendation.....	\$563,685,000
Change from estimate.....	+563,685,000

As discussed elsewhere in this report, the Administration has proposed that a number of activities providing for environmental restoration and waste management be combined into a single appropriation. The Committee has no objection to the combination of these activities under a single manager, but does not recommend combining the defense and civilian work under a single appropriation. Accordingly, the Committee has included the civilian program proposed by the Administration under the Energy Supply, Research and Development appropriation and the defense program under the Atomic Energy Defense appropriation.

The Committee action recommends \$563,685,000 which increases the proposed non-defense program by \$134,000,000. This increase will provide for the full-year operation of the Fast Flux Test Facility (FFTF) and allow research to continue on a number of programs including research on actinide burning. The Committee remains concerned, however, about the long-term future missions for FFTF. For this reason, the Committee supports the efforts of a commercialization team assembled by the Governor of Washington State that is currently working to identify private sources who are willing to contribute to the operating costs of FFTF in exchange for valuable industrial and medical isotopes and irradiation services. It is anticipated that this marketing approach, over time, will help defray the Federal operating costs of the FFTF. The Committee recommendation includes the budget request of \$5,200,000 for the Environmental and Molecular Sciences Laboratory.

The Committee strongly urges the Department to expedite the program for environmental restoration and waste management, and has recommended a \$25,000,000 increase in the environmental restoration program and \$25,000,000 to the waste management program.

GENERAL REDUCTION

The Committee has increasing concerns with regard to the use of Independent Research and Development by the laboratories. During this period of tight fiscal constraints, the laboratories should restrict their programs to activities specifically identified in the budget and appropriation reports. Accordingly, the Committee recommends a \$20,000,000 general reduction to be applied to the Independent Research and Development funding that was to be made available to the laboratories.

RECOMMENDATION SUMMARY

Details of the Committee's recommendations are summarized in the following table:

(\$ in thousands)

ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT (DEFENSE)

The Administration proposed in the FY 1991 budget submission a new, single appropriation account for Environmental Restoration and Waste Management. This would have consolidated all defense and non-defense environmental cleanup activities that have historically been included in several appropriation accounts. The Committee's recommendation has maintained the separation of defense and non-defense funds for cleanup activities.

This program encompasses four categories of activities: Corrective Activities are activities necessary to bring DOE facilities into compliance with applicable local, state and Federal regulations; Waste Management includes the treatment, storage, and disposal of radioactive, hazardous, mixed or sanitary wastes generated as a result of ongoing operations at active facilities; Environmental Restoration includes the assessment and cleanup of surplus facilities and inactive sites; and Technology Development is an applied research and development initiative to support environmental restoration and waste management activities.

The Committee has recommended \$2,714,807,000 for environmental cleanup activities at the Department's defense facilities. The recommendation increases funding by \$353,056,000 over the budget request. This funding should enable the development of new techniques for elimination of problems associated with cleanup activities, and ultimately, lower the overall cost of the program. This is a substantial increase over the FY 1990 program of cleanup of defense sites and facilities. In FY 1990, \$1,634,082,000 was provided for the Defense Waste and Environmental Restoration program.

General.—The Committee is aware that the Department has entered into agreements with various states outlining required cleanup activities. To the extent that these funds were included in the budget request and funds were appropriated, the Department should ensure that funds are provided to honor such agreements.

It is the Committee's intent that the Department should ensure that funds are used only for waste cleanup purposes identified in the budget or as directed by Congress in the appropriation reports.

Corps of Engineers Services.—The Secretary of Energy is directed to use the engineering services of the Secretary of the Army, Corps of Engineers, Walla Walla District, to manage and carry out the environmental remediation activities and restoration of the Hanford Site, Richland, Washington, using funds appropriated to the Department of Energy.

The task of identifying and either permanently and safely isolating or cleaning up the hazardous, toxic, and radioactive waste contamination at Department of Energy (DOE) sites throughout the country is one of the major environmental and engineering challenges facing our Nation today. At stake are not only public health and safety and environmental quality, but also our national defense and the public trust in its Government's willingness and ability to protect its citizens. Current estimates of the total cleanup costs for the DOE sites range from \$60 billion to \$200 billion over the next 20 to 50 years. The size and complexity of this challenge require the Nation's best public and private engineering resources.

The Committee recognizes national priority to the missions at DOE's nuclear facilities that DOE, through its Environmental Management Five-Year Plan, has a strategy for dealing with the wastes from its operations over the long term to ensure, however, that adequate resources are brought to bear on the task.

As indicated above, the task is primarily an engineering and construction task and the private sector will have a major role. At DOE sites, there is also a valuable expertise within the Army Corps of Engineers. The Corps is addressing the controversial aspects associated with such project management. The Defense Environmental Management Department of Defense and a new fund program for the Environment which involve the cleanup of sites directly applicable to the cleanup of the Corps' hydrologic and water resources are available with respect to those activities involving navigable waters.

The Committee is convinced that the DOE site are critical. The Army Corps of Engineers has the necessary management capability, experience in managing complex projects. Use of this resource while also providing for the program.

Accordingly, after careful consideration, it is determined that, in light of the complexity of the DOE sites and the progress in dealing with them, the Corps should remain responsible for the cleanup of the sites. However, the Committee has decided that the Corps for the cleanup of the sites rather than individual tasks. As a management approach, the Corps should be transferred to the maximum extent possible to the maximum extent possible to the maximum extent possible. During the oversight process, whether the Army's responsibility for the cleanup of the remaining DOE sites.

Fernald Litigation.—Within the next few months, the Department is expected to make the second payment with the Department in the Fernald litigation. This requirement arose out of the environmental mishaps which occurred at the Fernald Center in Fernald, Ohio.

Groundwater Monitoring.—In the Department of Natural Resources

States

Hanford

DEFENSE ENVIRONMENT (DEFENSE)

budget submission
Environmental Restoration
Consolidated all defense
sites that have historical
significance. The Commit-
tee's authorization of defense

of activities: Correc-
tion of DOE facilities into
Federal regulations;
decontamination, storage,
and disposal of wastes
generated as a result of
an Environmental Res-
toration Program for
surplus facilities
is an applied re-
environmental resto-

\$200 million for environmen-
tal facilities. The
Department has en-
acted over the budget
authorization of new tech-
nology with cleanup activi-
ties program. This is a
total of cleanup of de-
contamination was provided
for the program.

The Department has en-
acted required clean-
up activities included in the
program, the Department
for such agreements.
The Department should ensure
that the program's purposes
are identified in the
appropriation reports.
The Department of Energy is directed
by the Army, Corps
of Engineers and carry out the
authorization of the Han-
ford Site appropriated to the

isolation and safely isolat-
ing radioactive waste con-
sistencies throughout the
program and engineering chal-
lenges to our national health
and safety. The Department's
willingness and abil-
ity to meet the total cleanup
costs of \$200 billion over
the life of this challenge
will require engineering resources.

The Committee recognizes that the Administration has assigned
national priority to the mission of correcting environmental prob-
lems at DOE's nuclear facilities. The Committee further recognizes
that DOE, through its Environmental Restoration and Waste Man-
agement Five-Year Plan, has recently begun to develop a long-term
strategy for dealing with the environmental problems resulting
from its operations over the last forty years. The Committee wants
to ensure, however, that all of the Government's available re-
sources are brought to bear on this problem.

As indicated above, the task of cleaning up the DOE sites is pri-
marily an engineering and environmental challenge. And, while
the private sector will have an important role in the cleanup of the
DOE sites, there is also a valuable source of construction manage-
ment expertise within the Federal Government—the U.S. Army
Corps of Engineers. The Corps is experienced at evaluating and ad-
dressing the controversial and sensitive environmental problems
associated with such projects. Moreover, the Corps' expertise in
managing the Defense Environmental Restoration Program for the
Department of Defense and executing a large portion of the Super-
fund program for the Environmental Protection Agency, both of
which involve the cleanup of hazardous and toxic waste sites, is di-
rectly applicable to the cleanup of the DOE sites. Further, the
Corps' hydrologic and water resources experience will be inval-
uable with respect to those aspects of the cleanup effort which in-
volve navigable waters.

The Committee is convinced that the environmental problems at
the DOE site are critical. The Committee is further convinced that
the Corps of Engineers has valuable technical expertise, the neces-
sary management capability, and a proven track record in manag-
ing complex projects. Use of the Corps would take advantage of
this resource while also providing Federal technical oversight over
the program.

Accordingly, after careful consideration, the Committee has de-
termined that, in light of the recent priority placed on cleanup of
its sites and the progress in developing a management plan, DOE
should remain responsible for the overall cleanup program. Howev-
er, the Committee has decided that DOE should use the services of
the Corps for the cleanup of the Hanford Site. The Committee di-
rects DOE to assign the Corps full management responsibilities,
rather than individual tasks. Consistent with its program/project
management approach, the Corps is directed to use the private
sector to the maximum extent feasible in executing the environ-
mental remediation activities and restoration of the Hanford Site.
During the oversight process, the Committee will be evaluating
whether the Army's responsibility should be expanded to include
the cleanup of the remaining DOE sites.

Fernald Litigation.—Within available funds, \$20,500,000 is pro-
vided to make the second payment for the settlement arrived at
with the Department in the *In Re Fernald* class action litigation.
This requirement arose out of a litigation settlement involving en-
vironmental mishaps which occurred at the Feed Materials Produc-
tion Center in Fernald, Ohio.

Groundwater Monitoring.—In cooperation with the Georgia De-
partment of Natural Resources, the Department of Energy shall

env.
cleanup

construct a groundwater monitoring network in the vicinity of the Savannah River Site, but within the boundaries of the State of Georgia. Establishment of such a groundwater monitoring network, including 10 years of monitoring, shall not exceed \$300,000. The monitoring will be conducted by the State of Georgia.

Report Requirement.—The Department should submit to the House and Senate Committees on Appropriations a report detailing how the fiscal year 1990 Environmental Restoration and Waste Management funds for defense and non-defense activities have been expended and the accomplishments to date compared to the milestone for each task. The report should be prepared at the following level of detail: operations office, installation, budget category, and task. The information provided should include a description of the tasks performed at each site as well as obligation and cost data, and be submitted to the Congress at the same time as the fiscal year 1992 President's budget. The report should also include any proposed schedule changes or modifications to tasks which were approved and funded for FY 1991.

RECOMMENDATION SUMMARIES

Details of the Committee's recommendations, current year estimates, and the budget request are shown in the following table:

(\$ in thousands)

ENVIRONMENTAL RESTORATION AND WASTE MGR

I. Corrective activities

A. Environmental management

Operating expenses.....
 Capital equipment.....
 Construction:
 89-0-171 General Plant Project
 89-0-172 Hanford environmental
 87-0-199 Environmental, health, improvements, Phase I, II, III
 Materials Production Center, Fe
 Construction.....

Subtotal, Environmental management..

B. Defense programs

Operating expenses.....
 Construction:
 89-0-171 General plant projects
 90-0-182 Environment, safety and improvements, various locations
 Y-12 Plant, Oak Ridge, TN
 89-0-178 Environmental, safety, upgrade, Phase II, Brook Plant, Blainburg, OH

89-0-167 Reactor effluent cooling thermal mitigation, Savannah R.

88-0-182 Sanitary waterworks consolidated, LAMP, Los Alamos, NM

Subtotal, Construction.....

Subtotal, Defense programs.....

Subtotal, Corrective activities.....

(Operating expenses).....
 (Capital equipment).....
 (Construction).....

II. Environmental restoration

Operating expenses:
 1. Facilities and sites.....

DRAFT

Nos. 86-7308 & 90-70004

IN THE UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

STATE OF NEVADA, ET AL.

Petitioners

v.

JAMES D. WATKINS, SECRETARY OF ENERGY,

Respondent

ON PETITIONS FOR REVIEW OF DECISIONS OF THE
UNITED STATES DEPARTMENT OF ENERGY

BRIEF FOR THE RESPONDENT

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IN THE UNITED STATES COURT OF APPEALS
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Petitioners

v.

JAMES D. WATKINS, SECRETARY OF ENERGY,

Respondent

ON PETITIONS FOR REVIEW OF DECISIONS OF THE
UNITED STATES DEPARTMENT OF ENERGY

BRIEF FOR THE RESPONDENT

OPINIONS BELOW

The State of Nevada seeks review of the failure of the Department of Energy to stop site characterization of a site in Nevada, known as Yucca Mountain, for possible development as a nuclear waste repository. Because the State alleges a failure to act, there is no formal administrative opinion by the Department of Energy. The Secretary did, however, report to Congress on the direction of this program and did respond to a request by the State of Nevada to consider the State's objections. These documents are found at pages 77-78 of the Excerpt of Record ("ER") and pages 172-202 of the Petitioner's Appendix ("Pet. App."), respectively.

JURISDICTION

Jurisdiction over Nevada's petition for review is grounded in Section 119(a) of the Nuclear Waste Policy Act, as

- 2 -

amended, which grants exclusive jurisdiction to the courts of appeals for any action "alleging the failure of the Secretary * * * to make any decision, or take any action, required under this part; * * * [or] challenging the constitutionality of any decision made, or action taken, under any provision of this part; * * * ." 42 U.S.C. 10139(a)(1)(B) & (C).

QUESTIONS PRESENTED

1. Whether the 1987 amendments to the Nuclear Waste Policy Act, directing the characterization of a potential site for a nuclear waste repository on public land in the State of Nevada, was a valid exercise of Congress' powers to enact legislation governing the use of the public lands, to regulate interstate commerce, or to legislate with respect to the national defense.
2. Whether the 1987 amendments to the Nuclear Waste Policy Act infringe on the State of Nevada's sovereignty in violation of the Equal Footing Doctrine, the Tenth Amendment, the Federal Enclave Clause, the Privileges and Immunities Clause, or the Port Preference Clause.
3. Whether, under the Supremacy Clause, the 1987 amendments to the Nuclear Waste Policy Act preempt legislative enactments of the State of Nevada that purport to veto the designation of Yucca Mountain as a potential site for the repository and that ban the storage of high-level nuclear waste in the State.

4. Whether these legislative enactments of the State of Nevada are an effective exercise of its right under the Nuclear Waste Policy Act to disapprove a recommendation by the President that the site be developed as a nuclear waste repository.

5. Whether the Nuclear Waste Policy Act imposes on the Secretary of Energy a mandatory, enforceable, duty to establish a formal process, in addition to the structure of the program for characterizing the site, for evaluating whether Yucca Mountain is technically unsuitable for use as a repository.

6. Whether the Secretary's General Guidelines for the Recommendation of Sites for the Nuclear Waste Repositories must require the evaluation of the public perception of risk from the operation of a repository as a potentially disqualifying factor.

STATUTE AND REGULATIONS INVOLVED

The pertinent provisions of the Nuclear Waste Policy Act are included in the Addendum to the Petitioner's Brief and in the Addendum to this brief.

STATEMENT OF THE CASE

A. Nature of the case. -- The disposal of the by-products of generating nuclear energy has been a concern of the Federal government since the development of this new technology during World War II and especially since the Federal government decided in 1954 to allow private development of nuclear power plants. See Atomic Energy Act of 1954, 42 U.S.C. 2011 et seq. The largely unsuccessful efforts of the Atomic Energy Commission

and its successor agencies, acting under the authority of the Atomic Energy Act, to solve this pressing national problem led Congress in 1982 to establish a specific program for siting and operating geologic repositories for high-level nuclear waste. 42 U.S.C. 10101 et seq. As required by the provisions of the Nuclear Waste Policy Act of 1982, the Department of Energy evaluated many potential sites and concluded that three of them, located in the States of Nevada, Texas, and Washington, had sufficient potential to justify a multi-year intensive characterization of their potential to store nuclear waste safely for the indefinite future.

Before this program could begin, however, Congress amended the statute and required the Department of Energy to limit site characterization to only one site, Yucca Mountain in the State of Nevada. Under the amended statute, Congress directed the Department of Energy to complete site characterization at Yucca Mountain and prepare a recommendation to the President as to whether a repository should be constructed and operated at the site. If the Department of Energy so recommends, and if the President approves that recommendation and sends it to Congress, and if Congress allows that recommendation to become effective, and if the Nuclear Regulatory Commission grants a license to construct and operate the repository, then a repository will be built and nuclear waste will be stored in the facility.

The State of Nevada, however, opposes the siting of a nuclear waste repository within the state, and has passed three legislative enactments purporting to veto the designation of Yucca Mountain as a potential site for the repository. In addition, the State has refused to process the Department of Energy's applications for various permits necessary to begin characterizing the site, claiming that the State's veto has terminated the Department of Energy's authority to undertake this project. In these petitions for review, the State seeks review of the Department of Energy's refusal to accept the State's contention that its veto prevents the Department of Energy from proceeding.

In addition, the State claims that apart from the characterization program required by Congress, the Department of Energy must establish a formal process for evaluating whether the information gathered to date discloses that the site is unsuitable for use as a repository.

B. Statutory background.

1. The Nuclear Waste Policy Act of 1982 -- As originally enacted, the Nuclear Waste Policy Act required the Secretary of Energy to search for potentially suitable sites for a repository and, by a process of elimination, to winnow the candidate list to three sites that warranted a period of intensive on-site investigation, termed "site characterization." From those three sites, the Secretary was required to recommend one site for the development of a repository and, if that

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selection was approved, to construct and operate the repository under a license issued by the Nuclear Regulatory Commission ("the NRC").

Section 112(a) of the 1982 Act required the Secretary to issue general guidelines to serve as the primary criteria for the selection of sites in various geologic media. 42 U.S.C. 10132(a) (1982 ed). Section 112 then required the Secretary to use the Guidelines to nominate at least five sites for the first repository that were suitable for site characterization. 42 U.S.C. 10132(b) (1982 ed.). The nomination of a site had to be accompanied by a detailed environmental assessment that included an evaluation of the suitability of the site under the Guidelines, an evaluation of the effects of site characterization activities, a comparative evaluation with other sites, a description of the decision process leading to the site's nomination, and an assessment of the impacts of locating a repository at the site. 42 U.S.C. 10132(b)(1)(E) (1982 ed.).

After nominating at least five sites, the Secretary was required to recommend three of those sites to the President for site characterization. 42 U.S.C. 10132(b)(1)(B) (1982 ed.). Following Presidential approval of the sites to be characterized, Section 113 authorized the Secretary to conduct site characterization at each site pursuant to published site characterization plans. Ibid. Upon the completion of site characterization at each site, the Secretary was required to recommend approval of a single site to the President for

development as a repository. 42 U.S.C. 10134(a)(1) (1982 ed.). The Secretary's recommendation had to be accompanied by a comprehensive statement of the basis of such recommendation, including an environmental impact statement ("EIS") prepared pursuant to Section 114(f) of the 1982 Act and the National Environmental Policy Act of 1969. Ibid.

If the President approved the recommendation of the Secretary, the President was required to transmit the recommendation to Congress. 42 U.S.C. 10134(a)(2) (1982 ed.). The statute provided that at this point the state where the site was located could submit a notice of disapproval to Congress, which had 90 days within which to override the state's veto with a joint resolution signed into law. 42 U.S.C. 10135, 10136(b).

C. The Secretary's implementation of the 1982 Act. --

On February 2, 1983, the Secretary, pursuant to Section 116(a) of the 1982 Act, notified the Governors and state legislatures of six states -- Louisiana, Mississippi, Nevada, Texas, Utah, and Washington -- that the Department of Energy had identified nine potentially acceptable sites for a repository in those states.

The Department next began the process of issuing the Guidelines and preparing the environmental assessments required by Section 112. The Guidelines were issued in November 1984 and, shortly thereafter, the Secretary issued draft environmental assessments for nine different sites in six states. 49 Fed. Reg. 49540 (Dec. 20, 1984). The draft environmental assessments identified five of these sites as the Secretary's proposed

nominations of sites as suitable for site characterization, and further proposed the recommendation of three of these sites for site characterization.

After a period of comment by the public and the affected states and Indian tribes, and a round of public hearings, the Secretary issued final environmental assessments on May 28, 1986, for five sites, one each in the states of Mississippi, Texas, Utah, Nevada, and Washington. The Secretary also announced the nomination of those five sites as suitable for site characterization. 51 Fed. Reg. 19783-19784 (June 2, 1986). On the same day, the Secretary announced that he had recommended three of the sites, one in Deaf Smith County in Texas, one at Yucca Mountain in Nevada, and one on the Hanford Reservation in Washington, for site characterization, and that the President had approved that recommendation. In addition, the Secretary announced that he had made a preliminary determination, as required by Section 114(f) of the 1982 Act, 42 U.S.C. 10134(f), that each recommended site was suitable for development as a repository.

3. The 1987 Amendments. -- In the Omnibus Budget Reconciliation Act of 1987, Congress amends the Nuclear Waste Policy Act to designate the Yucca Mountain site as the only site to be characterized for possible development as a repository site. Pub. L. 100-203, 100th Cong., 1st Sess., Sections 5011(e), (f), and (g) (1987) ("the 1987 Amendments"). Section 113(a) of the amended act directs the Department of Energy to "carry out

appropriate site characterization activities at the Yucca Mountain site." 42 U.S.C. 10133(a). In addition, the procedures prescribed in Section 114 for the Department of Energy and the President to make their final determinations as to the suitability of any characterized site were made applicable only to the Yucca Mountain site. 42 U.S.C. 10134. The 1987 Amendments did not, however, change the provision permitting the State to disapprove the President's recommendation and allowing Congress to override that disapproval.^{1/}

Thus, Congress eliminated the costly, time consuming, and potentially redundant process of characterizing three different sites simultaneously in favor of characterizing just one, the Yucca Mountain site. See 133 Cong. Rec. S18671 (daily ed., Dec. 21, 1987) (remarks of Senator Johnston). The enactment of this amendatory legislation was the culmination of a lengthy process of Congressional review of the nuclear waste program that began after the May 28, 1986, announcement by the Department of Energy of the selection of the three candidate sites for site characterization. See S. Rep. 100-152, 100th Cong., 1st Sess., 5-6, 9-10 (1987). The direct origin of the relevant provisions of the Reconciliation Act can be traced to the consideration by the Senate of S. 1668, introduced and sponsored by Senator Johnston, Chairman of the Senate Committee on Energy and Natural Resources. This bill proposed to amend the Nuclear Waste Policy Act to direct the Department of Energy to select a single,

^{1/}

preferred site for site characterization from the three candidates. S. 1668, Section 2, pages 2-10. The Committee concluded that this redirection was necessary to avoid an undue delay in the development of the repository and to avoid the cost of simultaneous site characterization. S. Rep. 100-152, at 5, 11. After extensive hearings and consideration of the Department of Energy's work to date, the Committee concluded that (S. Rep. 100-152, at 8; emphasis supplied):

the problems that confront the nuclear waste program are political rather than technical. Technical experts from the Nuclear Regulatory Commission and the National Academy of Sciences confirmed that the Department [of Energy] has done adequate technical preparation to proceed with site characterization at the three candidate sites. While there are legitimate technical issues that have been raised by the States and other interested parties, it is clear from the record of these hearings that the Department is committed to resolving these issues. This can only occur through continuation of the ongoing work and through detailed site characterization.

Further consideration of S. 1668 by the Senate occurred in the consideration of H.R. 2700, the bill making appropriations for energy and water development for fiscal year 1988. The Senate Committee on Appropriations reported H.R. 2700 with amendments on September 16, 1987, two weeks after S. 1668 was reported by the Senate Committee on Energy and Natural Resources. S. Rep. 100-159, 100th-Cong., 1st Sess. (1987). Title III of H.R. 2700, as reported, provided for appropriations for the nuclear waste program as redirected by the provisions of S. 1668; Title III also expressly provided that "S. 1668, Nuclear Waste Policy Act Amendments Act of 1987, as reported to the Senate on

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September 1, 1987, is included herein and shall be effective as if it had been enacted into law."

H.R. 2700, with its incorporation of amendments of the NWPA, came to the Senate floor on November 4, 1987. 133 Cong. Rec. S15722, S15732 (daily ed., Nov. 4, 1987). The Senate first rejected a motion by Senator Reid of Nevada to strike the amendments to the NWPA from the bill. Id. at 15748-15797. H.R. 2700, with the essential elements of S. 1668's amendment of the NWPA, then passed the Senate. Id. at S16439.

The House version of H.R. 2700 had no provisions amending the NWPA, and the Senate insisted on its amendments to H.R. 2700, thus requiring a conference on the disagreeing versions. 133 Cong. Rec. S17589 (daily ed., Dec. 9, 1987). The Senate then agreed to attach the provisions of H.R. 2700 dealing with the nuclear waste program to the Senate's version of the Omnibus Budget Reconciliation Act, S. 1920. 133 Cong. Rec. S17709-S17711 (daily ed., Dec. 10, 1987).^{2/} Since the House had no corresponding provisions in its version of the Reconciliation Act, the final legislation was written by the Conference Committee, which made the important decision to designate the Yucca Mountain site as the only site to be characterized. H.R. Rep. No. 100-495, 100th Cong., 1st Sess., 775-776 (1987). The Omnibus Budget Reconciliation Act, containing the 1987 Amendments, passed Congress on December 21, 1987. 133 Cong. Rec.

^{2/} The Senate did so by adopting Amendment No. 1263, offered by Senator Johnston. 133 Cong. Rec. S17709-S17711, S17769-S17774.

The 1987 Amendments also provide that if, during site characterization of Yucca Mountain, the Department of Energy determines that the site is unsuitable for development as a repository, the Department of Energy must terminate site characterization activities and provide recommendations within six months to Congress on further action, including the need for new legislation. 42 U.S.C. 10133(c)(3).

4. The Secretary's efforts to implement the 1987 Amendments. -- In December 1988, after several public hearings, the Department of Energy issued its final Site Characterization Plan outlining its proposed characterization activities at Yucca Mountain.^{3/} In order to continue the site characterization activities at Yucca Mountain, as mandated by section 114 of the Act, the Department of Energy submitted to Nevada state agencies applications for certain environmental permits.^{4/}

^{3/} In January 1988, the Department of Energy obtained from the Bureau of Land Management a right-of-way issued under the Federal Land Policy Management Act, 43 U.S.C. 1701 et seq., which authorizes the Department of Energy to conduct site characterization activities on some 50,000 acres of public land in the vicinity of the Yucca Mountain site. The State challenged the issuance of the right-of-way in an action filed in the United States District Court for the District of Nevada, which dismissed the case for lack of standing and failure to state a claim. Nevada v. Burford, 708 F. Supp. 289 (D. Nev. 1989). The State's appeal from that dismissal has been brief and will be argued and submitted to the same panel hearing the instant cases.

^{4/} The agency submitted an application to the Department of Environmental Protection, pursuant to RAC §§ 445.704-.711, for an Air Quality Surface Disturbance Permit. The State's regulatory requirements are integral parts of Nevada's state implementation plan for particulate matter under the Clean Air Act. The federal government's sovereign immunity to the application of this regulatory scheme is waived by 42 U.S.C. 7418 (a). Site

(continued...)

While these applications were pending, however, the Nevada Legislature passed two joint resolutions in January 1989. The first, Assembly Joint Resolution ("AJR") 4 (Pet. App.) passed on January 17, 1989, expressed the legislature's "adamant opposition to the placement of a high-level nuclear waste repository in the State of Nevada." The second resolution, AJR 6 (Pet. App.), passed on January 23, 1989, resolved that "the Federal Government, its agencies and instrumentalities shall not establish a repository for high-level radioactive waste at Yucca Mountain, Nevada, without the prior consent of the Nevada Legislature or a cession of jurisdiction pursuant to chapter 328 of the Nevada Revised Statutes, which consent and cession are hereby refused" (Pet. App.). Both resolutions were transmitted to the President of the United States and the United States House

4/ (...continued)

characterization activities will create surface disturbance in the form of particulates. The Department also submitted an application to the State Engineer for a water appropriation permit, pursuant to NRS §§ 534.010-.190, to appropriate 402 acre-feet (131 million gallons) of water over seven years for purposes of site characterization. Finally, the Department submitted an application for an underground injection control ("UIC") permit to conduct tracer tests at Yucca Mountain. Nevada has enacted an Underground Injection Control ("UIC") Program pursuant to the requirements of the federal Safe Drinking Water Act, 42 U.S.C. § 300f et seq. To proceed with site characterization at Yucca Mountain, DOE must do geohydrological studies of underground flow patterns of water through subsurface rocks and aquifers in order to identify pathways of any radioactive material which might escape the repository and the rate of escape. The testing will involve injecting "tracer" fluids to monitor the flow in three existing drillholes which were drilled in 1983 and 1984. The State notes in passing (Br. 19) that it believes that the exploratory shaft planned for the site is a Class IV injection well prohibited under this regulatory scheme. The Department of Energy disagrees with this conclusion, but the resolution of that issue must await the outcome of the permit proceedings.

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of Representatives on April 19, 1989. Congress took no action on the resolutions.

Subsequently, on June 22, 1989, the Nevada Legislature passed Assembly Bill ("AB") 222, which was signed into law by the Governor on July 6. NRS § 459. This law states that "It is unlawful for any person or governmental entity to store high-level radioactive waste in Nevada" (Pet. App.).

In response to a request by the Governor, the Nevada Attorney General issued an Opinion Letter on November 1, 1989, in which he concluded that the Governor and the legislature had lawfully withheld consent for a federal repository and therefore the Department of Energy must cease all site characterization activities (ER). First, relying on his construction of Section 116(b) of the Nuclear Waste Policy Act, the Attorney General determined that AJR 4 and 6, which the State transmitted to Congress, constituted a valid and effective notice of disapproval under the Act. Based on this interpretation, the Attorney General concluded that Congress failed to act to override the State's purported disapproval within 90 days under the procedures set forth in Section 115, and that, accordingly, Yucca Mountain has been "vetoed" as a repository site (ER). In addition, he determined that AB 222, together with AJR 4 and 6, establish a "comprehensive legislative scheme of high-level radioactive waste exclusion from the state which is not pre-empted" by the Nuclear Waste Policy Act (ER). Accordingly, the Attorney General concluded that the Department of Energy's permit applications are

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moot. "We advise you therefore to direct the agencies considering such permits to consider action upon the applications as unnecessary" (ER).

On November 14, 1989, the Governor wrote to the Secretary of Energy, demanding that he terminate site characterization at Yucca Mountain because of the State's veto (ER). The Governor also contended that a review of available information and data showed that the site was technically unsuitable, and therefore characterization should stop for this reason as well (ER). In the interim, the Secretary has been conducting his own review of the program, and on November 29, 1989, the Secretary reported to Congress that the site characterization program should go forward but that a near-term program of surface-based testing to provide an early evaluation of the site's suitability should be instituted in response to the concerns of Nevada and others (ER). On February 28, 1990, the Secretary responded directly to the Governor, rejecting his demand to terminate site characterization, stating that "only site characterization can produce the scientific data needed to determine whether or not the site is suitable" (ER 77).

On December 26, 1989, the State's administrative officers returned the permit applications to the Department of Energy. In the accompanying letters, these officials, citing the actions of the Nevada legislature and the Attorney General's November 1, 1989 Opinion Letter, stated that "these applications

are now moot because the Yucca Mountain Repository is prohibited* (ER).

On January 4, 1990, the State filed its petition for review in No. 90-70004, challenging the failure of the Secretary to terminate site characterization activities because of the State's purported veto and the failure to find the site is technically disqualified. The case was consolidated with No. 86-7308, an earlier filed petition for review, in which the State challenged the Secretary's decision, announced in the Environmental Assessment for Yucca Mountain, to proceed with site characterization without obtaining the consent of the State pursuant to the Federal Enclave Clause of the Constitution, Article 1, Section 8, Clause 17.^{5/}

^{5/} In related litigation, the United States has filed a complaint in the United States District Court for the District of Nevada seeking injunctive relief to require the State to process the applications. United States v. State of Nevada, Civ. No. CV-S-90-065-HDM-RJJ, filed January 25, 1990. That action has been stayed pending disposition of the instant petitions for review by this Court. In two other cases pending in this Court, State of Nevada v. Watkins, No. 85-7308, and State of Nevada v. Watkins, No. 86-7309, the State is challenging the Department of Energy's Guidelines for evaluating the suitability of the site and the environmental assessment issued by the Department of Energy in support of the agency's choice of Yucca Mountain as a site to be characterized. Each of these actions is premised on the validity of the statute that the State attacks in the instant cases.