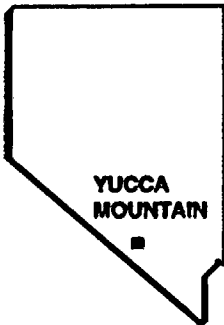


U.S. DEPARTMENT OF ENERGY

**OC  
RC  
WM**



**YUCCA MOUNTAIN**

**SITE CHARACTERIZATION**

**PROJECT**

# **OVERVIEW OF EXPLORATORY STUDIES FACILITY (ESF) 90% DESIGN REVIEW - PACKAGE 1A TITLE II**

*PRESENTED BY*

**JIM REPLOGLE**

**ENGINEERING & DEVELOPMENT DIVISION**



*by Bullock.*

**JULY 27, 1992**

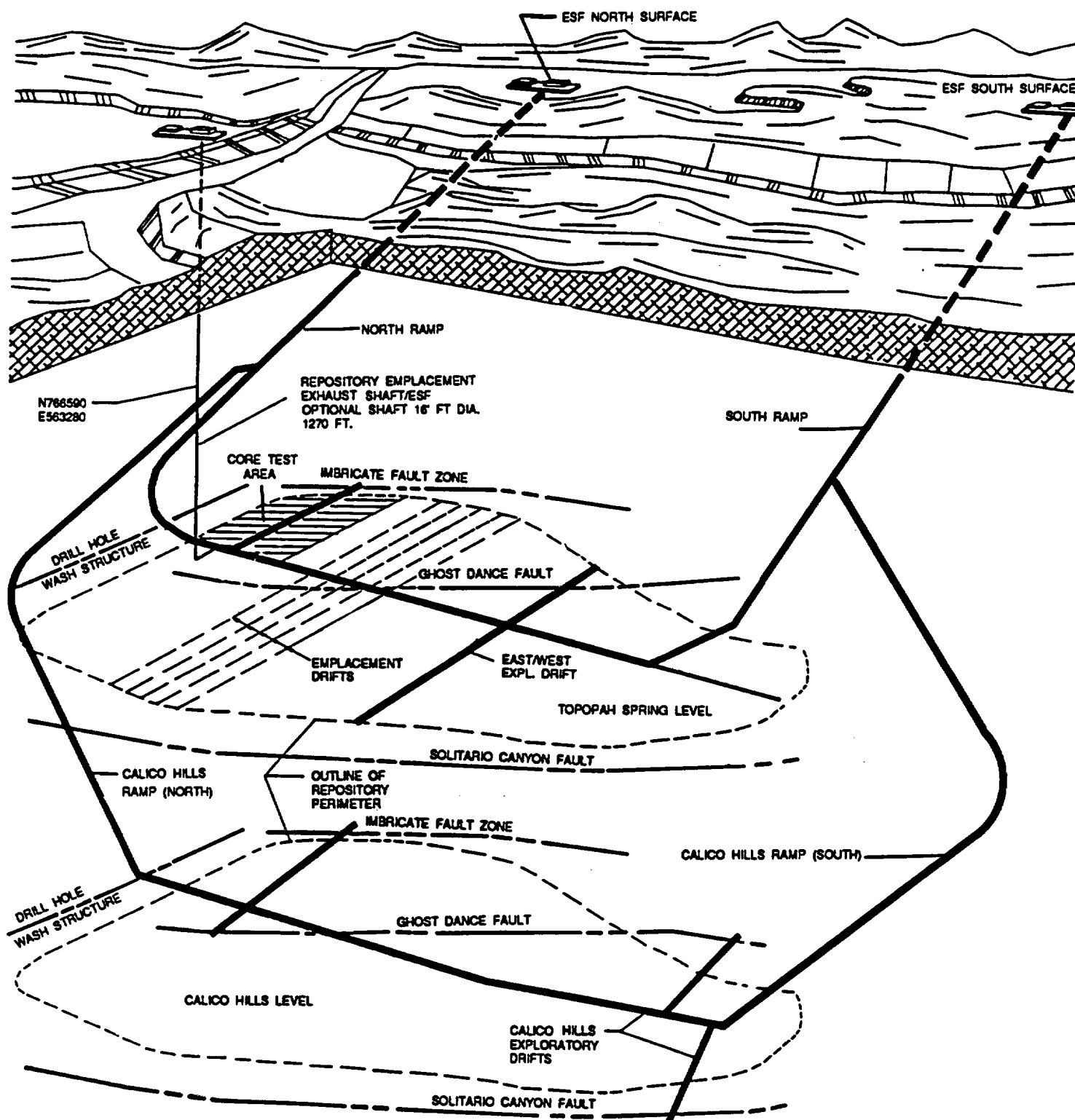
# **SCOPE OF ESF**

## **PROPOSED DESIGN/CONSTRUCTION/TEST PHASES**

- \* 1A Site preparation and partial portal of north ramp**
- 1B Surface facilities at north portal**
- 2 North ramp from portal to Topopah Spring (TS)**
- 3A Site preparation and partial portal of south ramp**
- 3B Surface facilities at south portal**
- 4 South ramp from portal to TS level**
- 5 North ramp from Calico Hills (CH) turnout to CH level**
- 6 South ramp from CH turnout to CH level**
- 7 Exploration drifts at CH level**
- 8 Exploration drifts at TS level**
- 9 Main test level core area at the TS level**
- 10 Shaft at north end: surface to TS level**

**\* Not necessarily the order of construction**

# CONCEPTUAL ILLUSTRATION OF THE EXPLORATORY STUDIES FACILITY



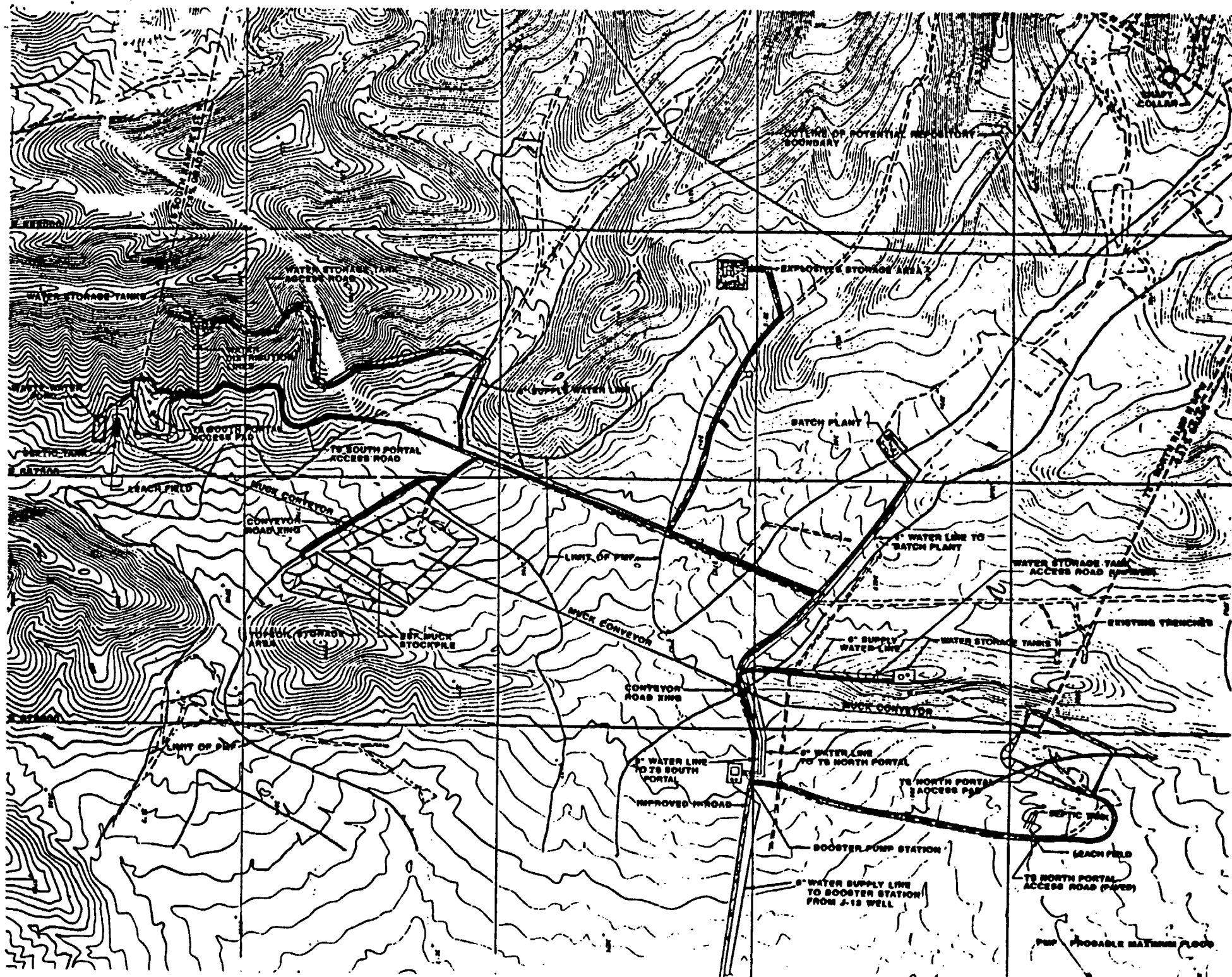
# **SCOPE OF THIS REVIEW**

## **ESF Design Package 1A-90% Review**

- **North portal surface preparation**
- **North portal and launching chamber**
- **North portal electrical distribution**
- **North portal water distribution**
- **TBM specifications**
- **Topsoil and rock storage**
- **Stormwater runoff control**
- **Portal/launch chamber rock support**
- **Material reviewed during 50% reviews is included**

## **✓ Package consists of:**

- **186 drawings**
- **45 analyses**
- **115 specifications**



# **ITEMS IMPORTANT TO WASTE ISOLATION AND SAFETY**

- **Analyses are being performed to determine which items and activities are important to waste isolation and safety. These analyses will be complete by the verification review (Scheduled to start 8-17-92)**

# **PURPOSE OF INDEPENDENT TECHNICAL REVIEW**

- **Provide assurance that the design is technically correct and satisfactory**

# **STATUS OF REVIEW MATERIAL**

- **All material to be considered as draft**
- **All material is to be returned to the custodian,  
Mr. Rodney Drake of RSN**
- **No material is to be removed from the  
Valley Bank Center**



# **TYPES OF REVIEWS**

## **Management Review (50% and 90% complete)**

- **Accomplished by representatives of affected participants**
- **Qualifications and training documented as QA records**
- **Assure design is consistent with known requirements as provided by participants**

# **TYPES OF REVIEWS**

**(CONTINUED)**

## **Independent Technical Review (50% and 90% complete)**

- **Accomplished by qualified individuals knowledgeable of technical disciplines used during design**
- **Qualifications and training documented as QA records**
- **Provides management assurance the product is suitable for construction and procurement**

# TYPES OF REVIEWS

(CONTINUED)

## ✓ Verification

- The act of reviewing, inspecting, testing, checking auditing, or otherwise determining and documenting, whether or not items, processes, services, or documents conform to specified requirements

# **SUITABLE PRODUCT**

**Implementation of design criteria yields products that:**

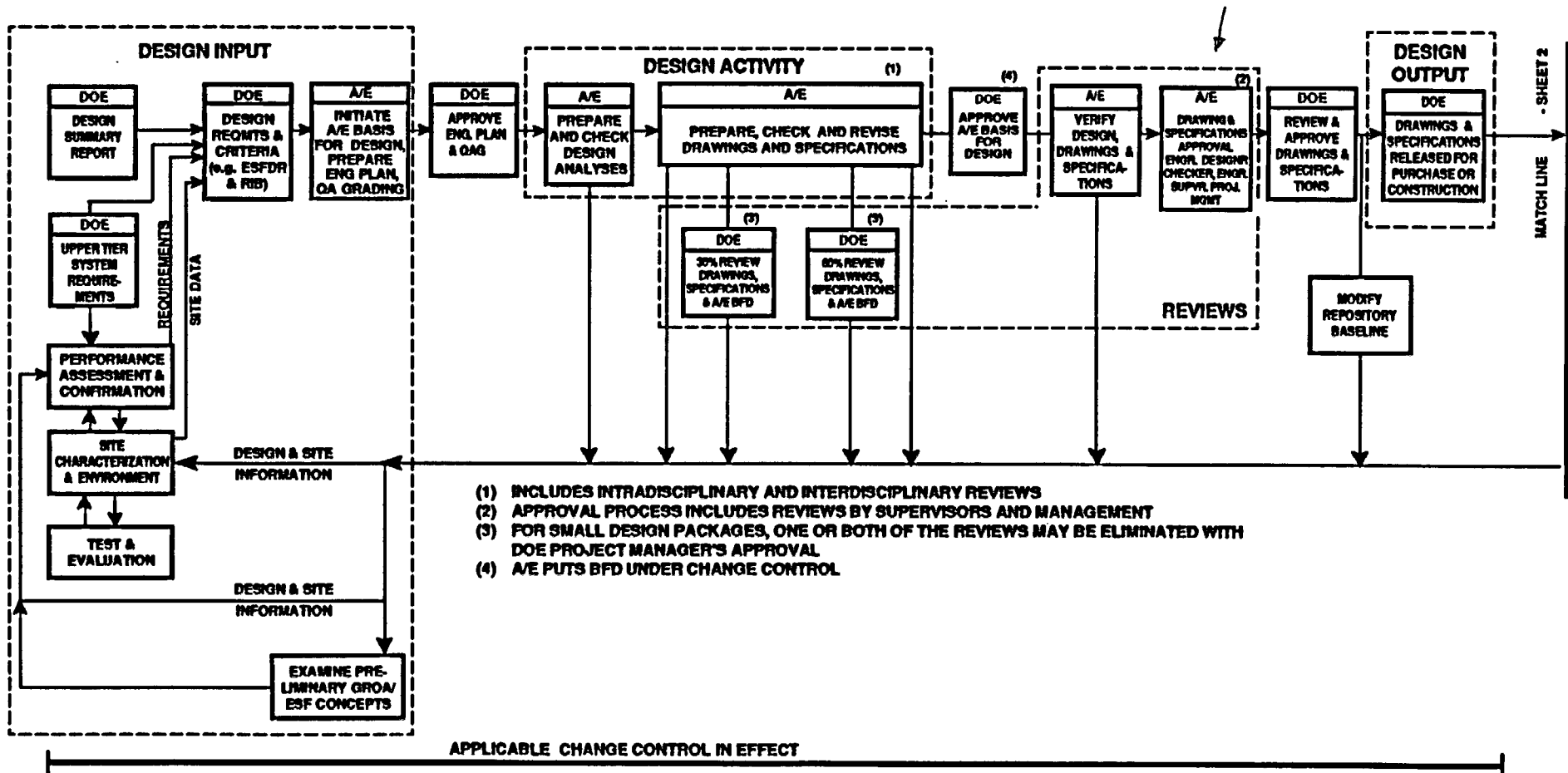
- **Meets mission needs**
- **Complies with Federal and State regulations**
- **Complies with DOE orders**

# **BACKGROUND**

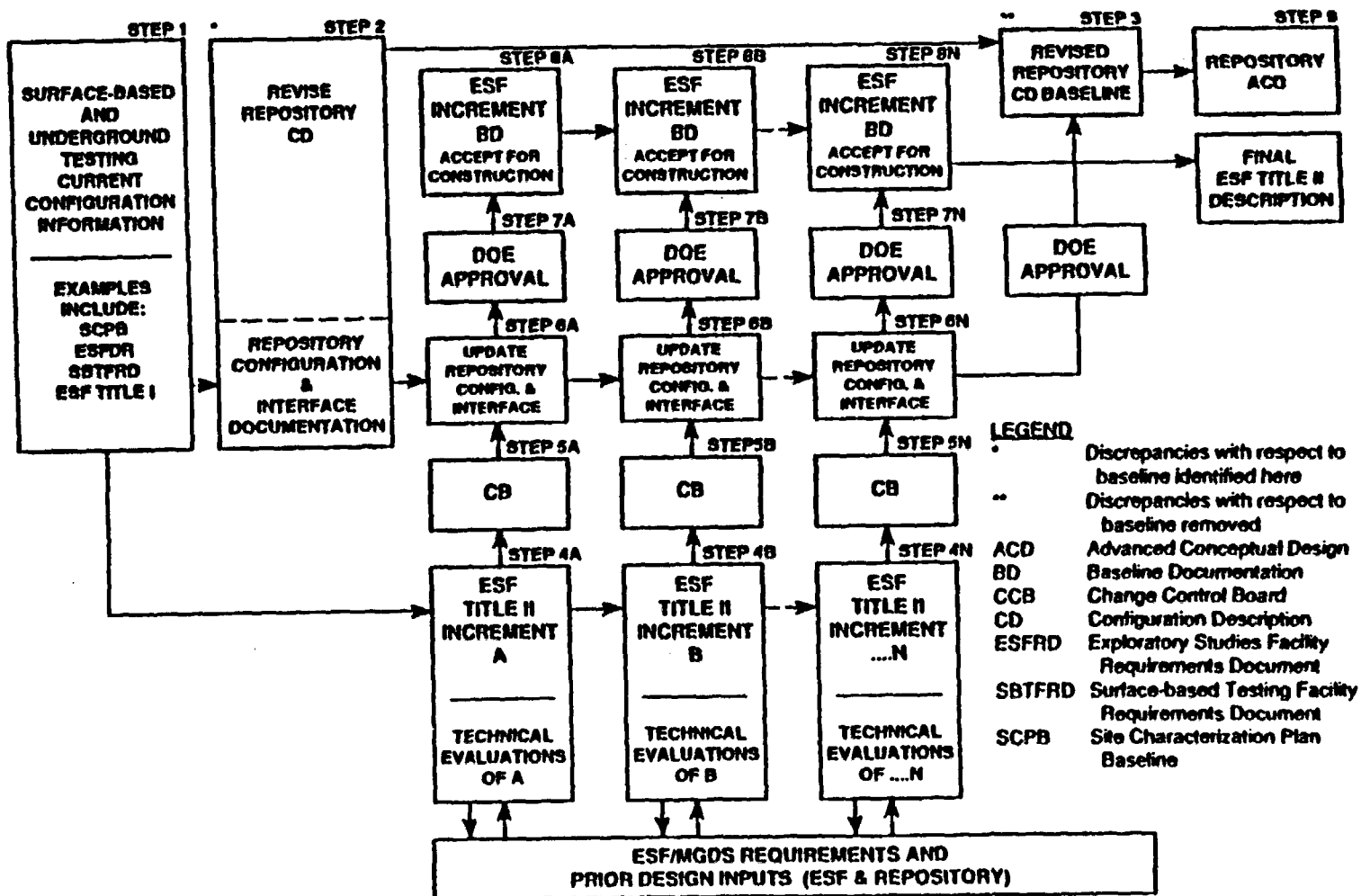
- **Where we have been,  
where we are, and  
where we intend to go**

# ESF DESIGN PROCESS

MONTHLY DESIGN PROGRESS MEETINGS CONDUCTED BY DOE



# INCREMENTED DEVELOPMENT OF ESF/REPOSITORY CONFIGURATION



# **ESF BASIS**

- **Design basis is approved ESF design presented in Title I Design Summary Report, Rev. 1**



# **ROLL OF INDEPENDENT TECHNICAL REVIEWERS**

- **Review design in their area of technical expertise in accordance with criteria provided**
- **Part of formal process. Receive specialized training; formally qualified; adhere to quality assurance procedures**
- **Verbatim compliance to procedures**
- **Assure comments satisfactorily resolved**

# **OBSERVERS INFORMATION**

- **Become familiar with the plan for implementation of the ESF mission**
- **Become familiar with design status**
- **Become familiar with DOE design phases**
- **Note the potential for future participation and make your needs known**
- **Request clarification during presentation**

# **INFORMATION FOR FEDERAL CONSULTING ORGANIZATION REVIEWERS**

- **Representatives from Bureau of Mines, MSHA, DOE/NTSO, DOE/HQ and DOE/YMP**
- **Point of contact for comments and clarifications is Mr. Jim Gardiner, DOE/YMP**

✓

## INFORMATION FOR OVERSIGHT ORGANIZATION OBSERVERS

- Representatives from NRC, NWTRB, State of Nevada, Nevada counties, others *Jim Gardner*
- Point of contact for questions regarding the review, reviewers and designers is Mr. Steve Leroy, CRWMS M&O
- Positive and negative concerns may be addressed daily, at 4 p.m., with Jim Replogle and Regulatory Interactions Branch Representatives, DOE/YMP, in DOE small conference room 203 ✓

# **POINTS TO CONSIDER**

- **This review material is only part of Package 1. Comments should be limited to the scope of this review material and direct interfaces with other parts of the design**
- **Comments should be objective, clear, concise and to the point as they will become part of the public record**
- **Utilize your designated point of contact to discuss questions/concerns**
- **DOE management committed to addressing your concerns**
- **Welcome**