



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

Reply to:
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Las Vegas, NV 89101

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M E M O R A N D U M

DATE: March 25, 1992
FOR: Joseph Holonich, Director, HLPD
FROM: Paul T. Prestholt, Sr. DR - YMP *PJP*
SUBJECT: YMP Site Report

I. EXPLORATORY STUDIES FACILITY (ESF) DESIGN STATUS

The 50% review of design package 1A began on March 3 with the Management Review. This portion of the review ran through March 13, 1992. The Independent Technical Review (DOE participants, NRC, TRB, State of Nevada and local government representatives) will begin on March 30, 1992 and run through that week.

Design package covers:

- ◆ North portal surface preparation
- ◆ North portal high wall and launching chamber
- ◆ North portal electrical distribution
- ◆ North portal water distribution

The package consists of:

- ◆ 25 drawings
- ◆ 12 analyses
- ◆ 74 specifications

The launching chamber mentioned above refers to the first footage advanced from the surface to accommodate the tunnel boring machine. The launching chamber is constructed by the drill and blast method.

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PDR WASTE
WM-11 PDR

*102
WM-11
NH03*

Insert I is a map showing (in heavy black shading) the work described in Design Package 1A. Insert II shows the proposed ESF Design and construction activities for fiscal years 1992 and 1993. This schedule depends on budget and availability of equipment.

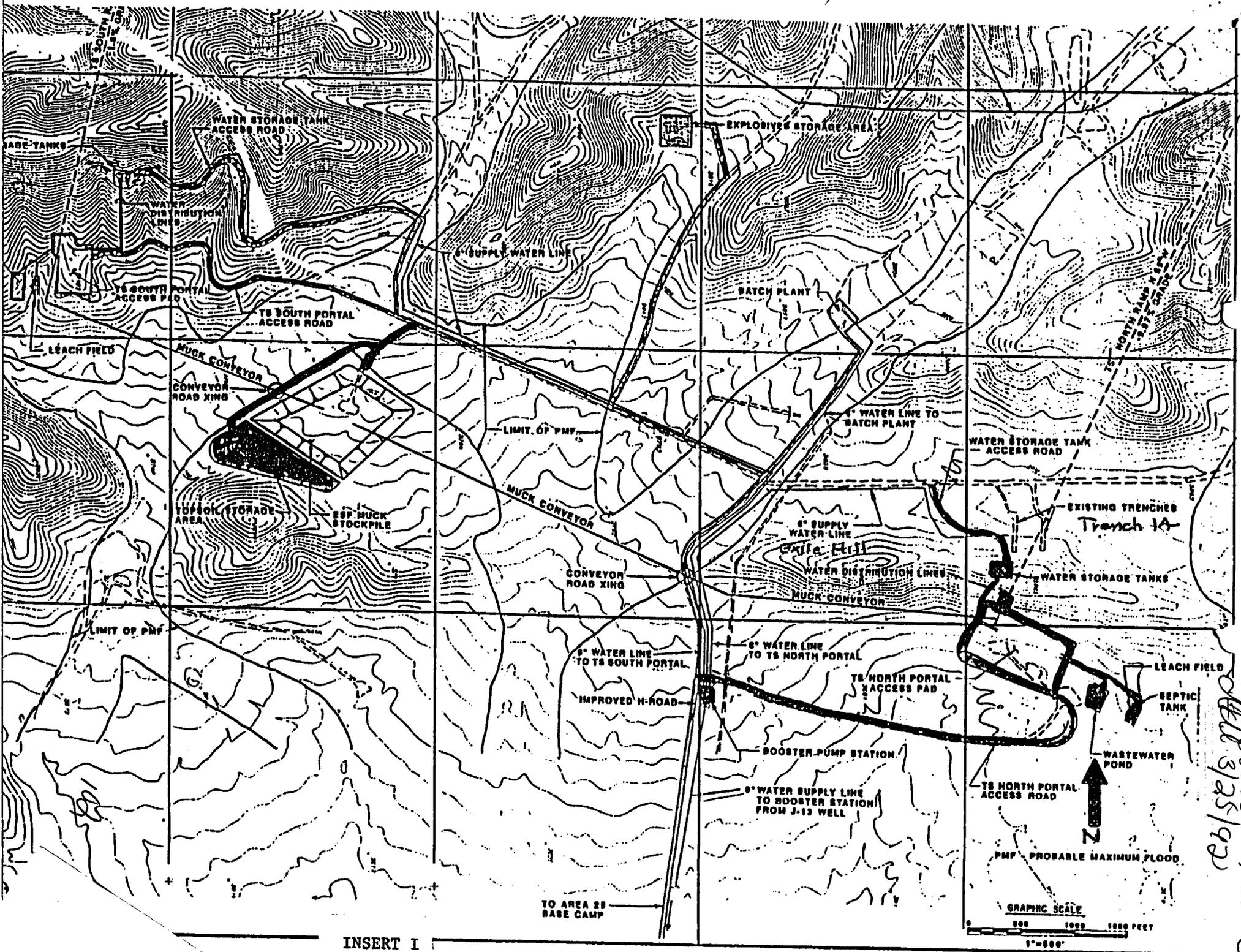
Insert III shows milestones along a time line that the Project considers critical. If these events (milestones) are delayed, the program schedule will be seriously impacted.

The DR office plans to represent the NRC at the 50% ESF design review.

II. SURFACE BASED TESTING PROGRAM STATUS

Insert IV shows the present schedule for surface based testing activities.

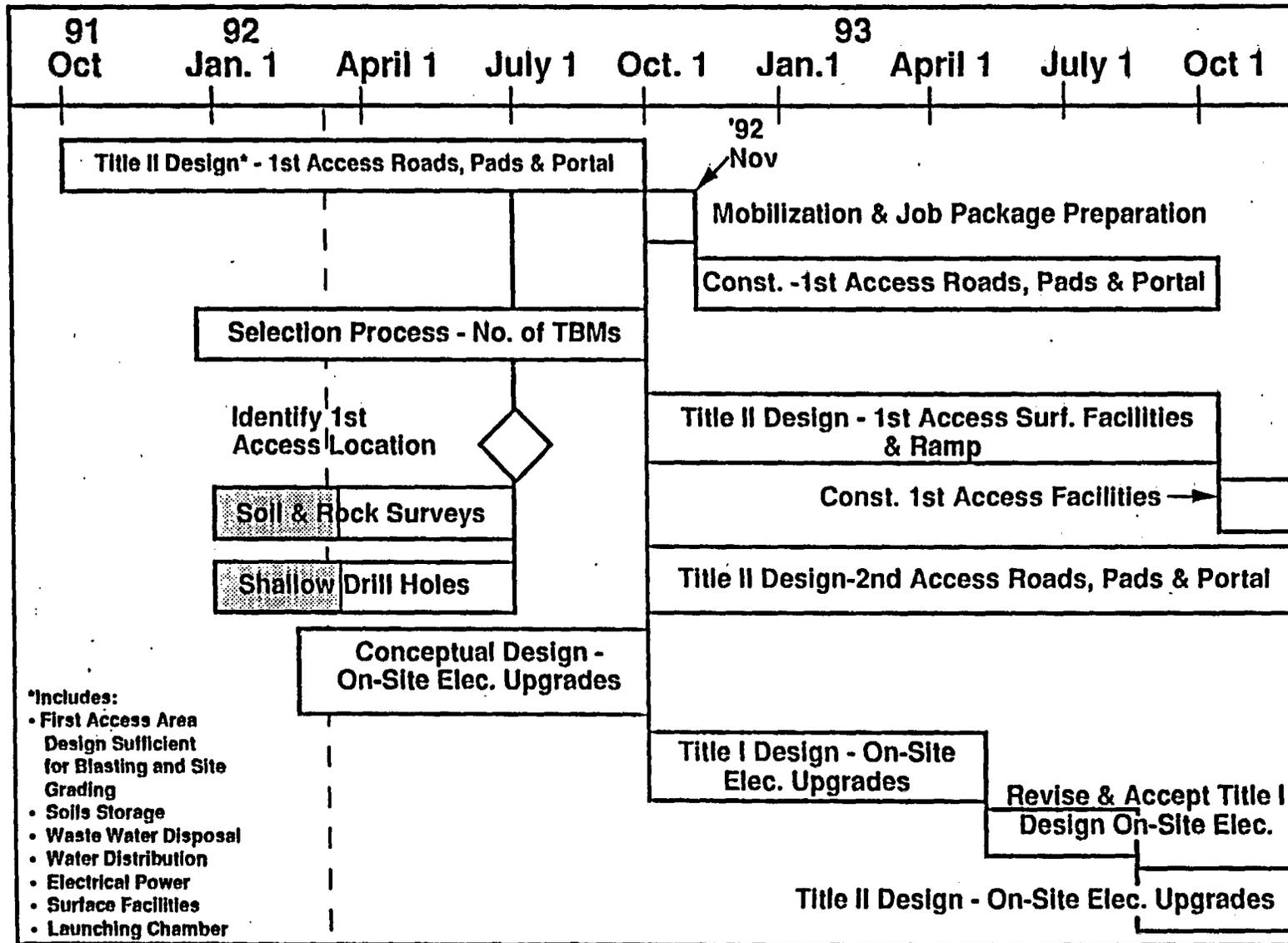
- A. Midway Valley: This activity is in progress. Test pit excavation near Exile Hill is in progress. It is planned that excavation and testing will be completed prior to the start of the ESF North access. Site preparation is scheduled to begin in November of 1992.
- B. Quaternary Faulting in the Site Area: Trenching is scheduled to begin in June, 1992. The TPP is to be initiated in March, 1992. The study plan was approved (for start of work) on 10/3/91.
- C. Quaternary Faulting - Region: The planned start date is late 1992. YMPD is presently waiting for the study plan from the USGS.
- D. Unsaturated Zone Natural Infiltration (neutron holes): This activity started in September, 1991. To date, 6 holes have been completed. It is expected that funds will be depleted before all 12 holes that are planned can be completed in FY 92.



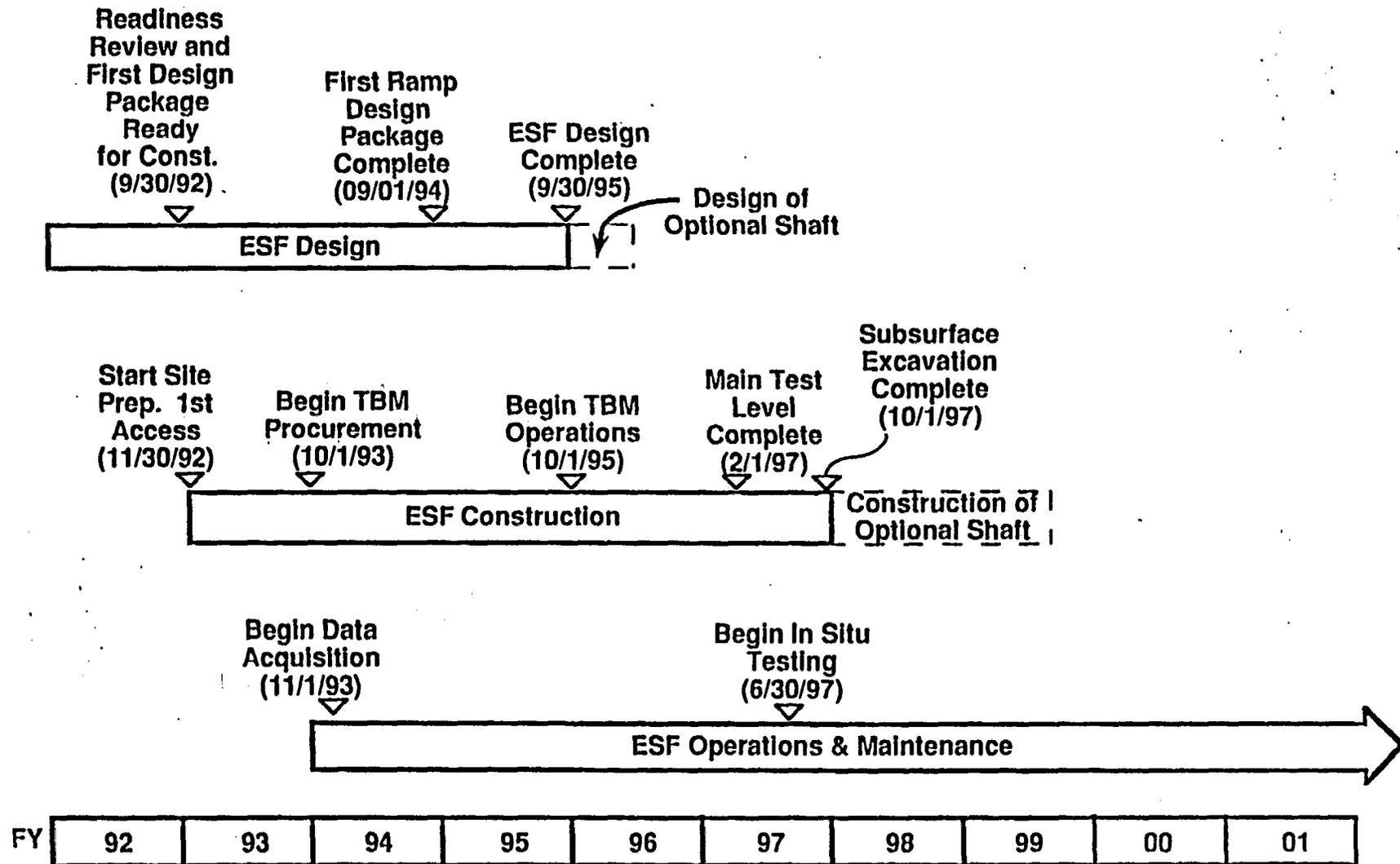
INSERT I

corrected with letter
 of 11/3/85/192

PROPOSED ESF DESIGN/CONSTRUCTION ACTIVITIES FY 1992 & 1993



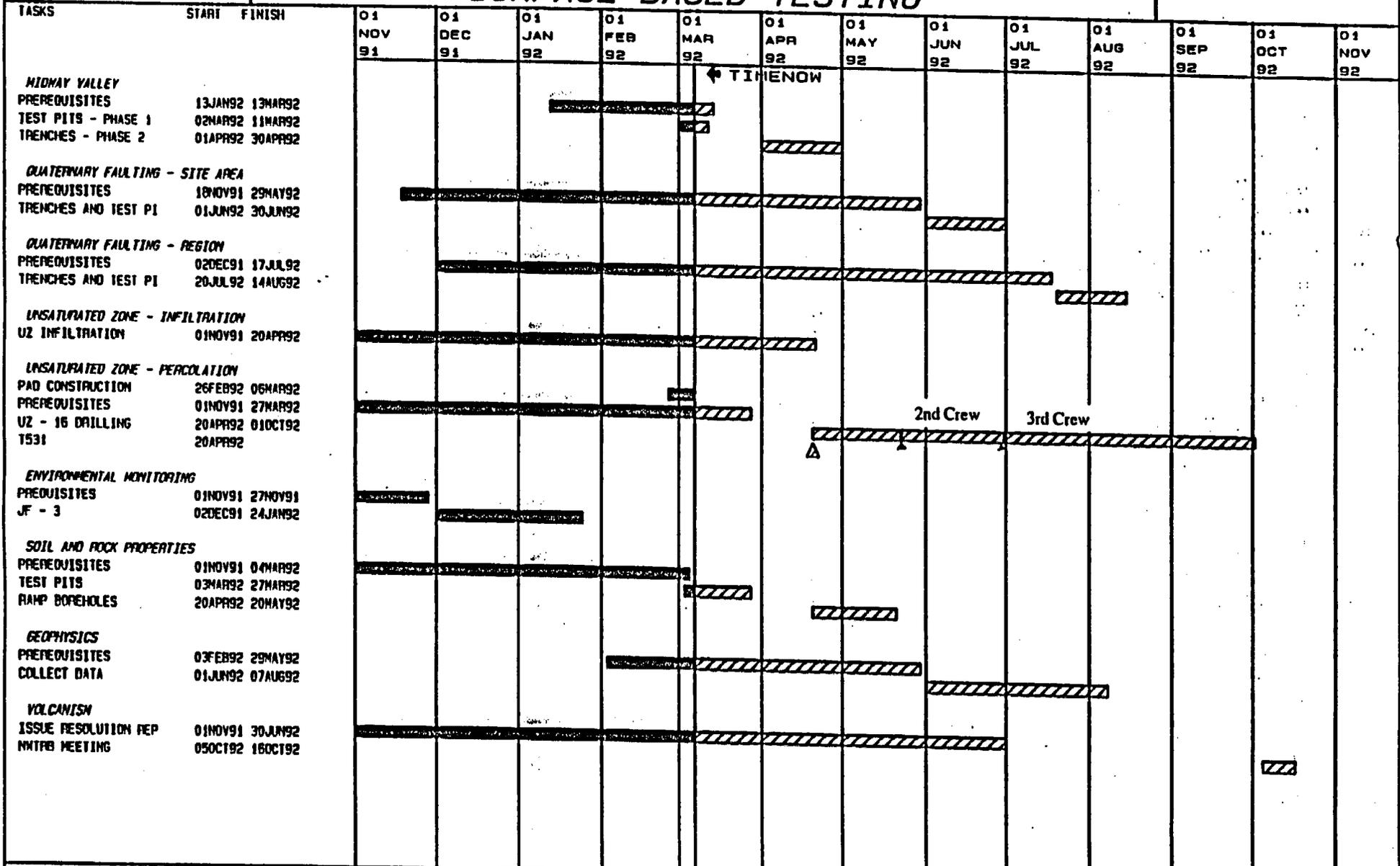
ESF CRITICAL MILESTONES



Report: SURFBAR
 Project: FY92SURF
 Title: Now: 07MAR92
 Date: 05MAR92
 Page: 1

YUCCA MOUNTAIN PROJECT SURFACE BASED TESTING

OCRWM



Legend
 = In progress
 = Planned
 = Critical

Russ Dyer, Division Director

Signatures
 Prep: *Robin K. McClain 3/5/92*
 Apprv: *R. Dyer 3/5/92*

There are safety limitations on use of the CME-550 drilling rig. This is a small rig not designed for use in rugged terrain. Procurement of a new drilling rig is in progress.

- E. **Unsaturated Zone Percolation:** The planned start date for this activity, using the LM-300 drill rig, is April, 1992. The drill pad was completed on March 19. A permit is needed from the State of Nevada for the use of a chemical tracer that will be mixed with the air used to drill with the LM-300. It is planned to use a tracer for the total length of this borehole (below the surface casing set at a 50 foot depth). There could be a delay if the State Engineer insists on a public hearing. It is optimistically estimated that the permit will be issued by mid-April.
- F. **JF-3 Environmental Monitor Hole:** This activity is completed.
- G. **Soil and Rock Properties Ramp Boreholes:** Construction of test pits started on 3/9/92. Drill hole NRG-1 will start when DOE receives the tracer permit. NRC approved the study plan (for start of activity) on 1/23/92. Test Planning Package (TPP) and the Job Package (JP) were approved in February, 1992.
- H. **Geophysical Reflection Survey:** This activity is planned to start in June, 1992. The TPP will be initiated in March, 1992. All data collection is to be performed by a subcontractor (to the USGS) through an RFP. This activity may be delayed because of Study Plan review and delay in awarding the subcontract.
- I. **Volcanism Studies:** This work is ongoing and proceeding on schedule. Twenty trenches have been dug in the Lathrop Wells area. There is progress on the Geochronology studies. Concerns include the schedule for drilling the Aeromagnetic anomalies; land access; uncertain Geochronology and the possible existence of magma chambers.

III. NUMERICAL STUDIES OF ROCK-GAS FLOW IN YUCCA MOUNTAIN

Benjamin Ross with Disposal Safety Inc., of Washington, D.C. gave a talk with the above title. Enclosed is a copy of Dr. Ross' handout.

IV. DOE ENVIRONMENTAL PROGRAM MILESTONES

The following are the important milestones in the DOE's environmental program as of this date.

WORK AREA (PARTICIPANT ENVIRONMENTAL (DOE))

MILESTONE NUMBER	ACTION/MILESTONE	SCHEDULED DATE	ACTUAL/EXPECTED DATE
YMPO 110	AIR QUALITY FOR LAND DISTURBANCE	-	12 JUNE 91 (A)
YMPO 130	WATER APPROPRIATION (J-13)	-	2 MAR 92 (A)
YMPO 200	STORMWATER DIS- CHARGE	(15 OCT 92)	
YMPO 220	FLOODPLAIN ASSESS- MENT/COMPLIANCE	(30 SEP 92)	
YMPO 230	FREE USE (SELECT FILL) FORTY MILE WASH GRAVEL PIT NEW GRAVEL PIT	(15 MAR 92) (30 SEP 92)	13 MAR 92 (E)
YMPO 080	UNDERGROUND INJECTION CONTROL (TRACERS)	(15 MAR 92)	15 APR 92 (E)
YMPO 260	(2) AIR QUALITY	(30 JUN 93)	
YMPO 100	PERMITS IN PLACE FOR ESF PAD CONSTRUCTION	OCT 92	
YMPO 240	BACKGROUND ENVIRON- MENTAL DATA ACQUIRED FOR SOUTH PORTAL AREA	JUN 93	
YMPO 140	COMPLETE ENVIRONMENTAL PREACTIVITY SURVEYS (AP-8.1)	SEP 92	

YMPD 160	RELOCATE DESERT TORTOISE	OCT 92
YMPD 180	COMPLETE ARCHAEOLOGICAL	OCT 92
	DATA RECOVERY	
YMPD 280	(2) AIR QUALITY FOR	(30 JUN 93)
	GRAVEL SCREENING	
YMPD 300	(1) AIR QUALITY FOR	(30 MAR 95)
	ESF VENTS	
YMPD 320	(1) WASTEWATER DISCHARGE	(30 MAR 95)
YMPD 340	(2) SANITARY SEWAGE	(30 JAN 94)
	SYSTEM	
YMPD 360	(2) DRINKING WATER	(30 JAN 94)
	SYSTEM	
YMPD 380	(1) UIC FOR TRACERS/	(30 MAR 95)
	FLUIDS	

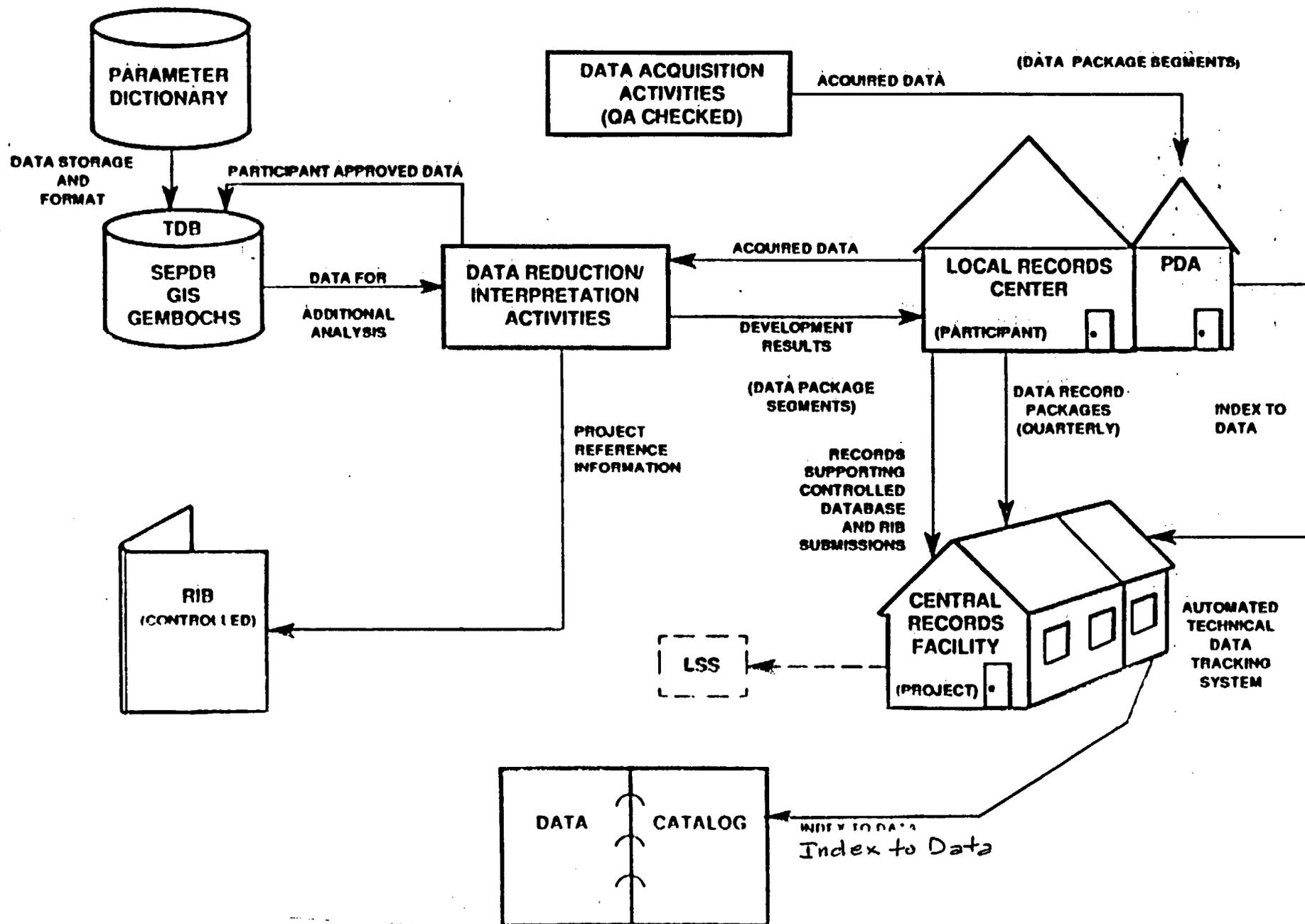
V. TECHNICAL DATA MANAGEMENT PROGRAM

The current status of the Technical Data Management Program includes:

- ◆ Automated technical data tracking system on line
- ◆ First quarterly data catalog issued in October, 1991
- ◆ Technical data base quarterly report issued in October, 1991
- ◆ Technical data base handbook issued in October, 1991
- ◆ Site Atlas prepared for issue - scheduled for January, 1992, but this office hasn't seen it yet
- ◆ GENISES available for use
- ◆ Normalization of parameters is ongoing

Insert V is a depiction (overview) of the technical data management system.

SYSTEM OVERVIEW



INSERT V

Parameter Normalization is (from DOE handout): The process of creating taxonomy for uniquely classifying the parameters required to complete project site characterization activities.

- ◆ Provides the basis for the parameter dictionary
- ◆ Used as the underlying structure for integrating the project technical data bases

The contents of the parameter dictionary include (from the handout):

- ◆ Parameter name and unique ID number
- ◆ Parameter definition
- ◆ Parameter category
- ◆ Data submission standards
 - location information
 - derivation information
 - conditions
 - type
 - method
 - dates
 - uncertainties
 - SCP activity number or governing plan
 - units

The initiatives for the remainder of FY 1992 are (from the handout):

- ◆ Issue the first version of the Parameter Dictionary
- ◆ Merge SEPDB and GENISES
- ◆ Continue publication of the Catalog and the Quarterly Report
- ◆ Familiarize participants with the Technical Data Management program objectives
- ◆ Get data into the data base
- ◆ Release data from the data base

VI. MEETINGS

A. On January 10, 1992, the U.S. House of Representatives Committee on Interior and Insular Affairs, Subcommittee on Energy and Environment conducted a field hearing on H.R. 1301, Title V, Subtitle B, High-Level Radioactive Waste Legislation, in Las Vegas. The hearing was chaired by Congressman Peter H. Kostmayer. This is the legislation that would remove the State of Nevada's permit authority over the Yucca Mountain Project.

Giving testimony before the committee were representatives from the DOE, State of Nevada, local government bodies and private individuals. Included were: Governor Bob Miller; Nevada Attorney General Frankie Sue Del Papa; Clark County Commissioners Thalia Dondero and Don Schlesinger; Dr. John Bartlett; Las Vegas Mayor Jan Laverty Jones and others.

The outcome of this meeting is best expressed in Congressman Kostmayer's own words (see insert VI).

B. On February 4 the Task Force on Civilian Radioactive Waste Management conducted a two day meeting in Irvine, California.

In October, 1991, the National Academy of Sciences sponsored a two day workshop to review the literature in the area of organizational theory and design. In November, the National Academy of Public Administration sponsored a two day workshop to assist the Task Force in identifying "best practices" for sustaining public trust and confidence. Both groups prepared summaries for the task force to study.

On the first day of the meeting in Irvine, California, the Task Force discussed the insights the two Academies gained during the October and November Workshops. On February 5, the Task Force discussed all the information they have gathered to date and considered future plans for developing recommendations to the Secretary of Energy.

FOR ITS OWN GOOD, STATE SHOULD PERMIT YUCCA STUDY

by Peter H. Kostmayer

Yucca Mountain will eventually be studied by the Federal Government to determine its suitability as the nation's high-level radioactive waste repository. No Nevadan should misunderstand that fact.

In fact study is underway as you read this.

It's not the desire of the majority of Nevada citizens. Certainly, it's not the desire of the state's elected officials, who have fought long and hard against the proposal.

But it's going to happen.

That's a fact.

The reason it's going to happen is simple -- because the President of the United States and the majority of Members of Congress want it to.

Washington has lost patience with what it perceives to be Nevada's attempts to delay study activity at Yucca Mountain at all costs.

As a result, Congress, with the support of the President, is well on its way to approving legislation that would strip Nevada of its authority to process environmental permits for the Department of Energy -- the state's recalcitrant regulators would be replaced with federal ones willing to act more expeditiously. The bill has considerable momentum -- two important committees, one in the House and one in the Senate, have acted in rare bi-partisan agreement in approving it.

The President and Congress are willing to take the extraordinary step of usurping a state's legitimate rights for two reasons. First, there remains a strong desire to begin work on a permanent repository for high-level nuclear waste.

Second, there remains the understanding that, just as in 1987, singling out Nevada as the sole study site is less difficult than any alternative course of action.

In 1987, Congress enacted legislation to instruct DOE to cease activities at two of three sites it had been studying as possible repositories for spent reactor fuel and other high-level radioactive waste. Known by the vulgarity "Screw Nevada", the law eliminated Texas and Washington and left Yucca Mountain as the single site to be studied.

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INSERT VI

In passing that bill, Congress made a political, not a scientific judgement. The bill's sponsor in the Senate picked up the votes of other Senators in the easiest way possible -- by promising them the waste wouldn't be buried in their state.

The Nevada delegation fought the 1987 bill and in the end they nearly succeeded.

In 1992, their efforts will surely match or surpass those of four years ago, but they will probably meet the same fate. The forces against them are simply too strong.

There are 531 non-Nevadans in Congress and only four Nevadans, and the 531 have the President on their side.

All this having been said, this is simply not the time to pass preemption legislation overriding Nevada. Evidence suggests that since losing a critical court case in early 1991 Nevada officials have been processing DOE's permits in due course. The state has issued two permits already, and is in the process of deciding a water use permit. Together, these should be adequate for DOE's needs for at least a couple of years. During hearings my Subcommittee held in Las Vegas on January 10, DOE Waste Program Director John Bartlett conceded that the Department is not currently inhibited by lack of any state permit. Rather, he thinks the state will someday try again to stop DOE from characterizing Yucca, and he wants Congress to block Nevada before Nevada blocks DOE.

The extraordinary step of preempting a state's legitimate authority is not a reasonable response to this potentiality, even though Nevada's past record of cooperation is poor.

But the merits of the arguments aren't really the point. Nevada officials must understand that the President and most in Congress simply have no stomach for changing the fundamental direction of the waste program -- at least without first gauging the suitability of Yucca Mountain. And, of course, it may turn out that Yucca is unsuitable.

The state is now faced with two choices. Neither provides much hope to those who want to keep DOE off the mountain. One, however, has several advantages for the state.

First, state officials could choose to unduly delay issuance of the water permit (or any other pending permits), in which case passage of the preemption is all but assured.

The better choice would be for the state to process and eventually issue the permits in good faith. This would leave the state with important and potentially potent authority over federal activities at the mountain. It would also leave the crucial question of water appropriations with the state engineer, not a Washington bureaucrat.

It could prevent the President and Congress from creating an unfortunate precedent of running roughshod over a state's environmental laws. Finally, it could lead to a more.

attractive financial settlement with a Washington grateful to see the state cooperating at long last.

This argument won't be persuasive to most Nevadans. For most in the state, it is not a pretty picture. But it is the best course for a state quickly running out of choices.

There is a strong feeling among Task Force members that it may be too late for the DOE to gain public trust and support. A prime recommendation will probably be that the High-Level Waste Program be turned over to a Government owned corporation such as the ComSat (Communication Satellite) program and that the 1987 amendment act be changed to include other sites besides Yucca Mountain. The Task Force did not perceive regulation as a problem.

The materials developed by the two Academies can be obtained by contacting:

Dr. Daniel Metlay
Sec. of Energy, Advisory Board
AC-1 1000 Independence Avenue, SW
Washington, D.C. 20585

C. On February 27, 1992, the Nevada Legislature's Committee on High-Level Radioactive Waste, Chaired by Senator Thomas Hickey, held a meeting in Las Vegas. Presentations to the Committee were given by Mr. Robert Loux and Carl Johnson for the State of Nevada, and Mr. Carl Gertz, Dr. William Dudley, and Dr. Bruce Crowe for the DOE-YMPO.

The Legislative Committee was interested in an update on the hydrology and volcanology investigations and on the status of payments equal to taxes to local governments.

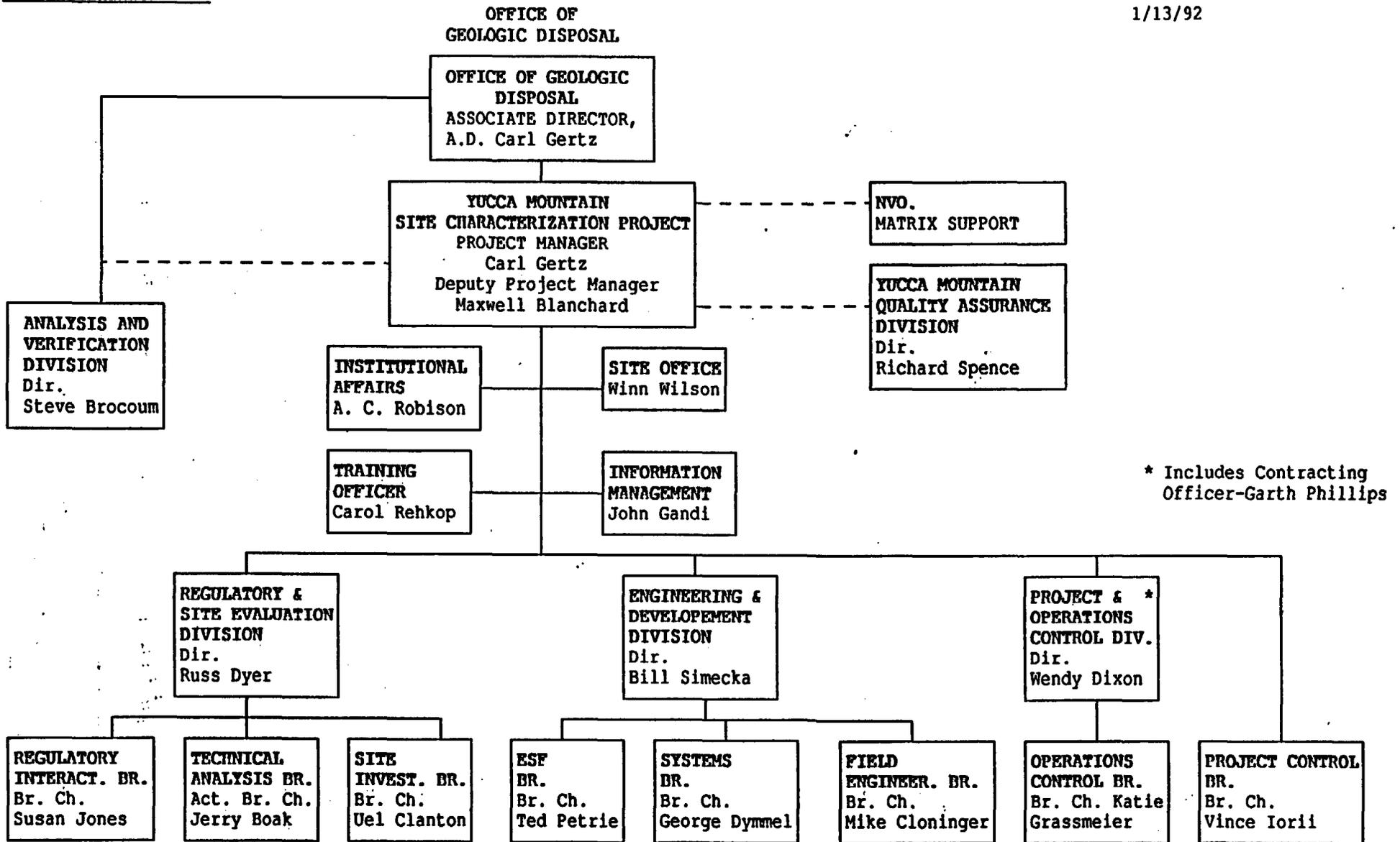
Enclosed are the handouts by Mr. Gertz titled "Yucca Mountain: Progress, Policy and Politics", and by Dr. Crowe titled "Volcanism Studies".

VII. GENERAL

Insert VII is the present organization chart for YMPO. Insert VIII is the present organization chart for the M&D in Nevada. Enclosed is a copy of the Yucca Mountain Site Characterization Project Master Calendar (YMPMC) for the period March 23, 1992 through April 30, 1992.

PRESENT ORGANIZATION

RVB
1/13/92



* Includes Contracting Officer-Garth Phillips

INSERT VII

M & O NEVADA SITE ORGANIZATION

Revised: January 28, 1992

L. D. Foust
NV Site Manager

Date

NEVADA SITE
L. DALE FOUST

QUALITY ASSURANCE
JACK A. JACKSON

- Hodgeon, Nathaniel W.
- Justice, B. Robert
- Talpele, James M.
- Wade, C. Wallace

-- Reers, Karen C.

SENIOR STAFF
SCOTT BRINOCK

BUSINESS MANAGEMENT
DAVID B. ABEL

OUTREACH
G. DALE VAN NATTA

-- Kaleb, Todd A.

TRAINING
TBD

- Justice, Judy B.
- Watson, James V.

HUMAN RESOURCES
SHERRY A. ADAME

-- Nelson, Patricia A.

FINANCIAL ANALYSIS
TBD

PROJECT CONTROL
TBD

ADMINISTRATION
MAQDALENA G. HANRIGAN

- Barrett, Kristen C.
- Bass, Suzanne
- Evans, Linda J.
- Germaine, Alicia B.
- Gutierrez, Gabriel L.
- Gutierrez, Leah A.
- Kuthenc, Betty J.
- Muehl, Candace L.
- Saldovar, Michael D.
- Valadez, Yolanda T.

SYSTEMS
TBD
J. Yunker

Yunker

MOGS DEVELOPMENT
JAMES K. CLARK

SUPPORT OPERATIONS
JAMES W. FRANK

REGULATORY & LICENSING
TBD / M. L. G. O.

- Geer, Thomas C.
- Goswert, Clement J.
- Leonard, Wilfred J.
- LeRoy, Steven E.
- Weaver, Marshall E.
- Willerton, Thomas M.

PERFORMANCE ASSESSMENT & MODELING
SURESH PANWA

- Gauthier, John R.
- Mann, E. Bartlett
- Nelson, R. William
- Van Luit, Abraham E.
- Watkins, Arthur T.

ENVIRONMENTAL COMPLIANCE & SOCIOECONOMICS
HOLLISTER A. HARTMAN

RECORDS MANAGEMENT
TBD

- Ebner, Hans
- Lee, Lynda J.
- Mlinchuk, Cathy A.
- Roberts, Lisa G.
- Tate, Laura M.
- Yorden, Jan D.
- Zimmerman, Judith E.

MS/ADP OPERATIONS
JAMES LOW

-- Pjero, Keen

HEALTH & SAFETY
TBD

-- Alshar, Fatimah

MOGS INTEGRATION
W. DONOVAN SCRUTT

- Abbold, Mark E.
- Abbold, Hilary M.
- Beyer, James R.
- Bodnar, Steve J.
- Bupp, Frank E.
- Dokuzoguz, Hatt Z.
- Fortsch, Mark E.
- Goodman, Leonard
- Hahn, Arthur P.
- Ju, Richard
- McKenzie, Daniel G.
- McKinney, Gregg W.
- McNeill, Jerry A.
- Myona, Thomas F.
- Plinski, Milton S.
- St. Clair, Robb K.

SUBSURFACE DESIGN
PAUL W. MCKIE

- Saunders, Robert S.
- Van Der Laan, W. Frank

SITE CHARACTERIZATION
THOMAS C. STATTON

- Agnew, James D.
- Bhattacharyya, Kaylen K.
- Datta, Robin N.
- Dietel, B. William
- Johnson, Cady L.
- McCleary, Jeff R.
- Patwardhan, Ashok
- Quilmeyer, Richard C.
- Rogers, Raph D.

SURFACE DESIGN
GERALD G. FREDRICKSON

-- Whiton, Ronald W.

WASTE PACKAGE DEVELOPMENT
HUGH A. BENTON

- Doering, Thomas W.
- Fish, Robert L.
- Stahl, David

ESP CONSTRUCTION MGMT
JAMES H. ALLAN

- McDonald, Richard C.
- Peters, John W.

INSERT VIII

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

cc: w/encs: C. Abrams, 4H3, J.E. Latz

cc: w/o encs: J. Roberts, C.P. Gertz, R.E. Loux, C. Pflum, J. Martin, G. Cook, D.M. Kunihiro, D. Weigel, J. Linehan, 4H3; B.J. Youngblood, 4H3; R. Bernero, 6A4; H. Thompson, 17G21; H. Denton, 17F2; S. Gagner, 2G5; E. O'Donnell, NLS 260

Encs: Numerical Studies of Rock-Gas Flow in Yucca Mountain (Benjamin Ross); Yucca Mountain: Progress, Policy and Politics (Carl Gertz, 2/27/92); Yucca Mountain Site Characterization Project Master Calendar (YMPMC) System (Time Period 3/23-4/30/92); Field Hearing on H.R. 1301, Title V, Subtitle B, High-Level Radioactive Waste Legislation (Presentations on 1/10/92), i.e., Bartlett, Del Papa, Echohawk, Bilbray, Bryan, Vucanovich, Anderson, III, Miller, Schlesinger, Garrett, Resolution 91-013 (7/23/91, Rapid City, SD)

NUMERICAL STUDIES OF ROCK-GAS FLOW IN YUCCA MOUNTAIN

Benjamin Ross

**Disposal Safety Inc.
Washington, DC 20036
(202) 293-3993**

Significance of Rock-Gas Flow

- **Carbon-14 migration**
- **Heat transfer**
- **Water balance (reduction of net infiltration)**

Two Models

(1) Gas flow model - TGIF

- **Steady-state gas flow**
- **Constant temperature**
- **Results available (SAND91-7034)**

(2) Coupled gas flow & heat transfer model - TGIF2

- **Steady-state gas flow**
- **Transient conductive & convective heat transfer**
- **Preliminary results only**

Outline of This Talk

- **General modeling approach**
- **Results of uncoupled gas flow model**
- **Preliminary results of coupled heat & gas model**

Part 1

Modeling Approach

Forces Driving Rock-Gas Flow

- **Geothermal gradient beneath mountain**
- **Repository heat**
- **Humidity difference between atmosphere and subsurface**
- ***Seasonal & diurnal temperature fluctuations***
- ***Barometric pressure fluctuations***
- ***Wind***

Physical Model

- **Rock gas always at 100% humidity**
- **Liquid water flows readily to replenish evaporation areas and drain condensation areas**
- **Liquid flow is not modeled explicitly**

Underlying Assumptions

- **Thermodynamic equilibrium**
- **Ideal gas behavior**
- **Gas composition gradients have no direct effect on pressure**
- **Molecular diffusion neglected**

Additional Simplifying Assumptions

- **Single-porosity behavior**
- **Viscosity & permeability independent of pressure**
- **Steady-state gas flow**
- ***Constant temperature (uncoupled model only)***
- ***Neglect heat capacity of gas in place (coupled model only)***

Basic Gas Flow Equations

- **Volume balance**
- **Darcy's Law**
- **Ideal gas law**
- **Vapor pressure vs. temperature**

Terms in Heat Balance

- **Conduction**
- **Convection of sensible heat**
- **Convection of latent heat**
- **Work done when gas changes volume**
- **Heat capacity of rock**

Boundary Conditions

- **Elevation-dependent atmospheric pressure & temperature**
- **No-gas-flow boundaries at bottom and sides**
- **Conduction-only zone added to bottom of heat model to provide distant temperature boundary**
- **Side temperature boundaries require delicate treatment**

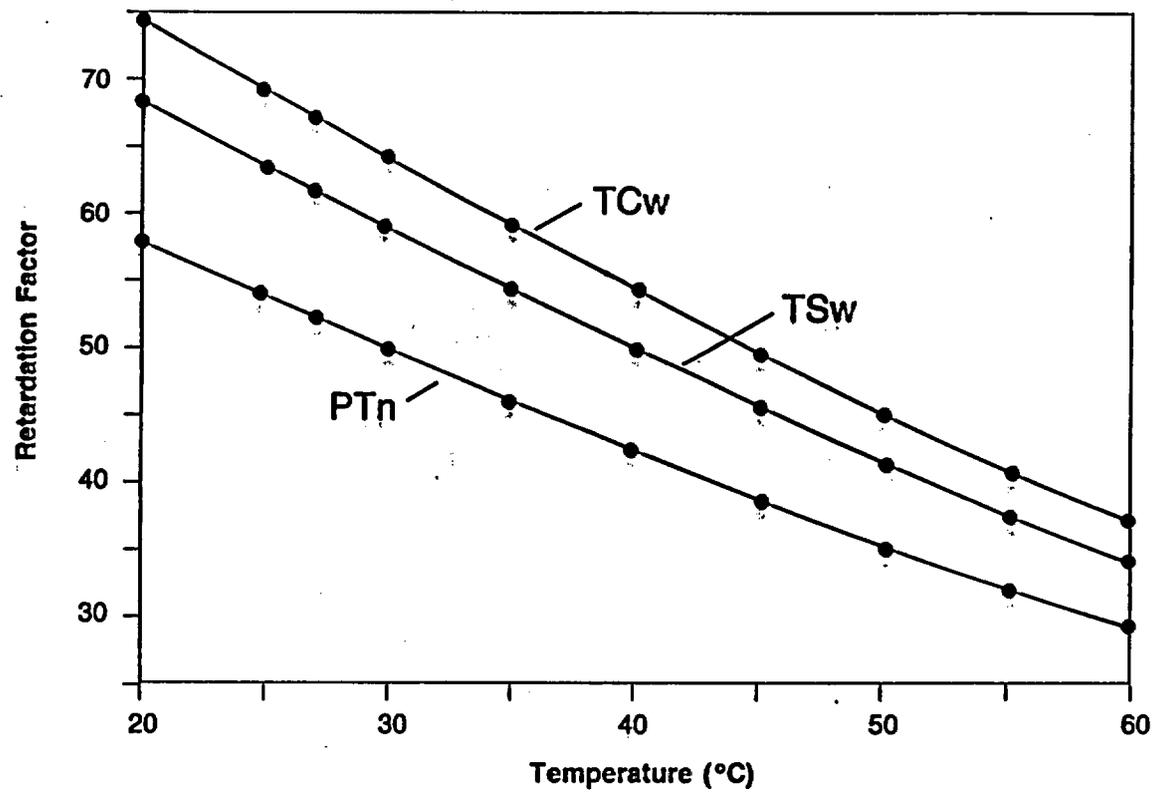
Particle Tracker

- **Integrates velocity across grid block**
- **Travel times**
 - **Unretarded gas "particle"**
 - **Retarded carbon-14 "particle"**
- **Only steady-state particle-tracking currently implemented**

Carbon-14 Retardation

- Mechanism is isotopic equilibrium of CO_2 gas and aqueous HCO_3^-
- Water chemistry controlled by equilibrium with solid calcite and measured gas chemistry -- but no ^{14}C enters solid phase
- Major ion composition of water (except pH and HCO_3^-) from USGS measurements
- Equilibria calculated by PHREEQE

Calculated Retardation Factors



Implementation

- **Node-centered finite differences**
- **Gauss-Seidel iteration and SOR**
- **Runs on PC with 640K memory**
- **6000-node uncoupled problems converge in 2 hours on 486**
- **Current version of coupled model solves 500-node 2000-year problem in 6 hours on 486 -- 10,000-year problem would run overnight**

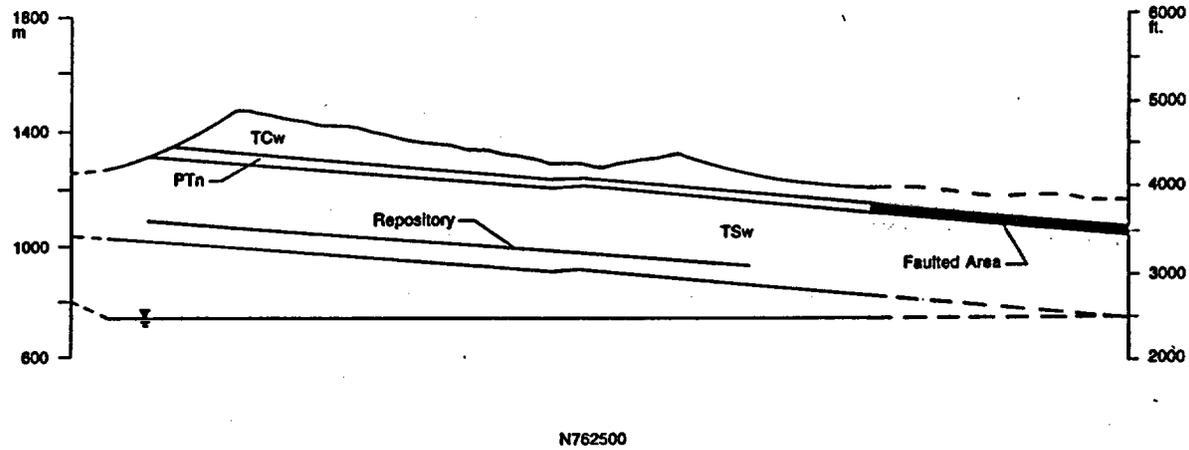
Part 2

Steady-State Gas Flow Simulations of Yucca Mountain

Modeling Approach

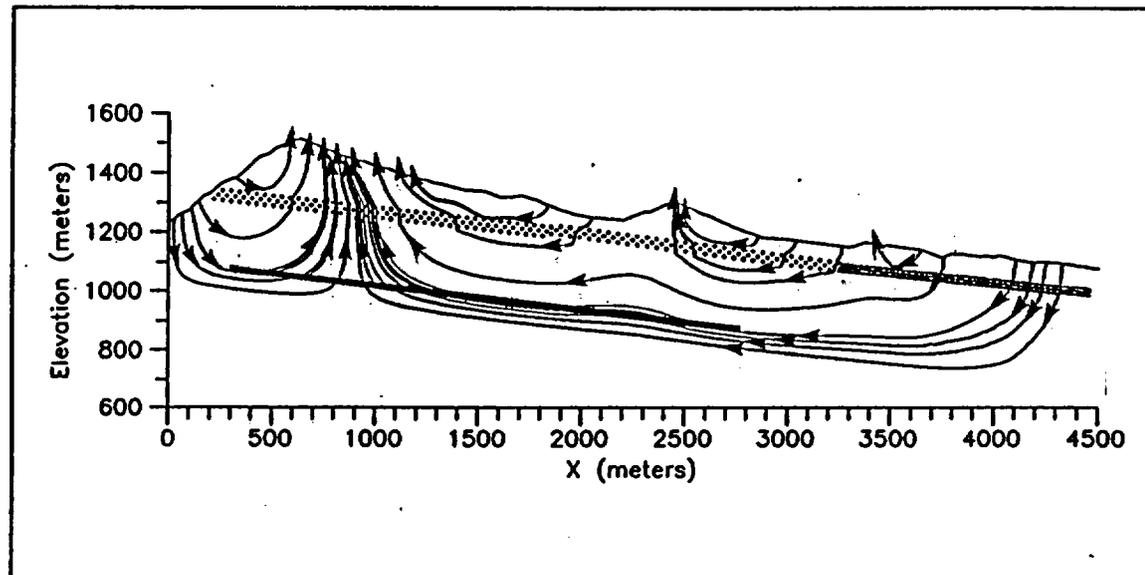
- **Simulate 4 east-west cross-sections through repository**
- **Start one particle from each 25-meter section within the repository**
- **Present histograms of travel times**

Typical Cross-Section Geometry



Three different material zones

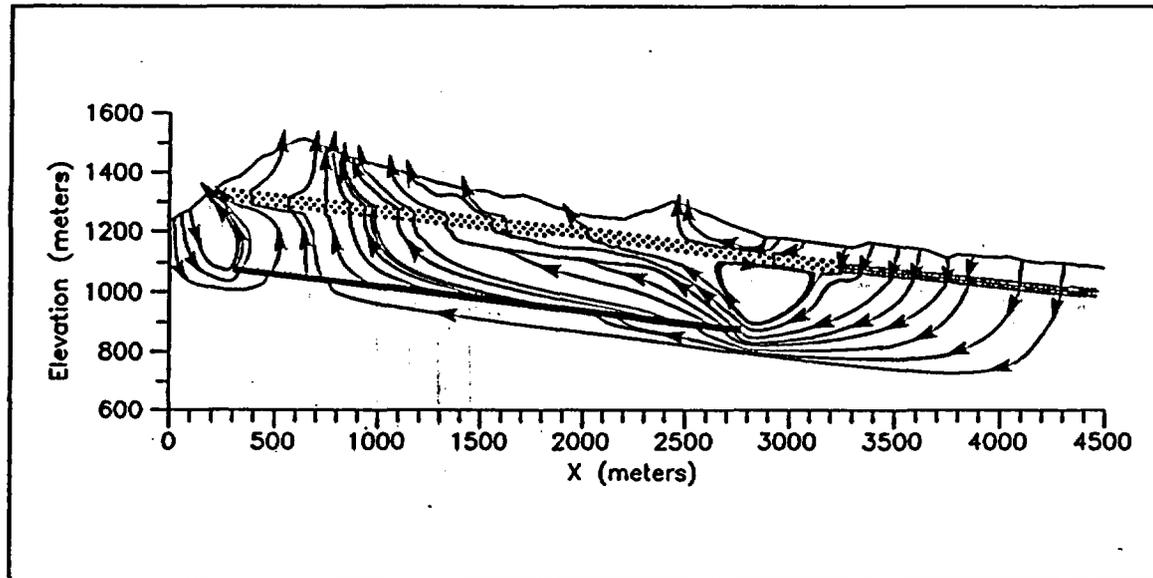
Calculated Flow Lines



Current temperatures

10 × permeability contrast

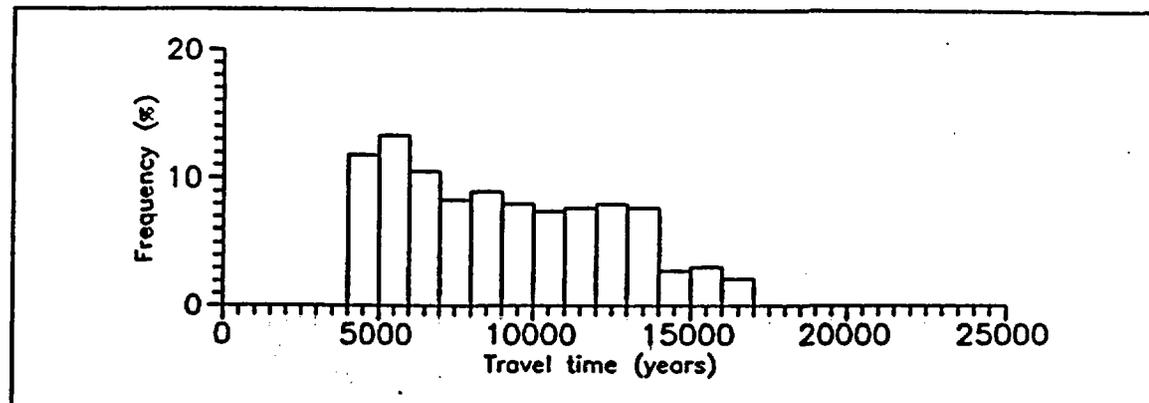
Calculated Flow Lines



Repository at 57°C

100 × permeability contrast

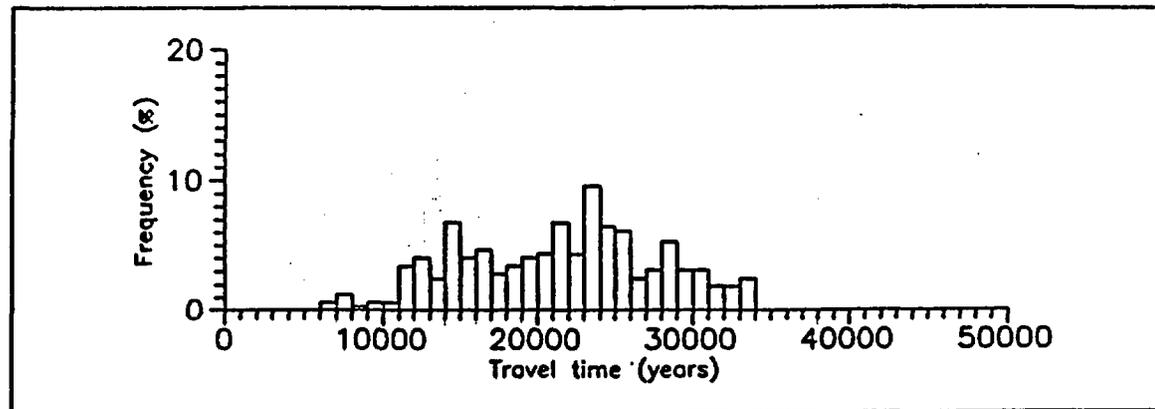
Carbon-14 Travel Times



Current temperatures

10 × permeability contrast

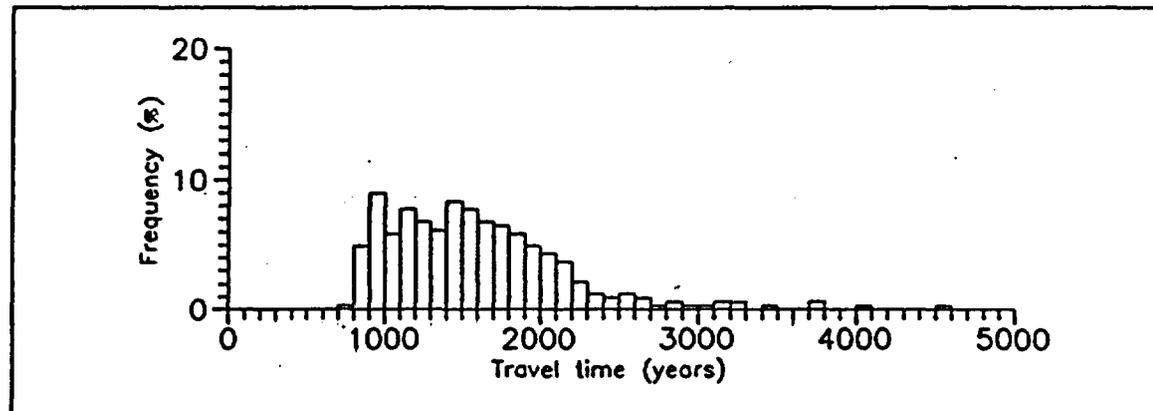
Carbon-14 Travel Times



Current temperatures

100 × permeability contrast

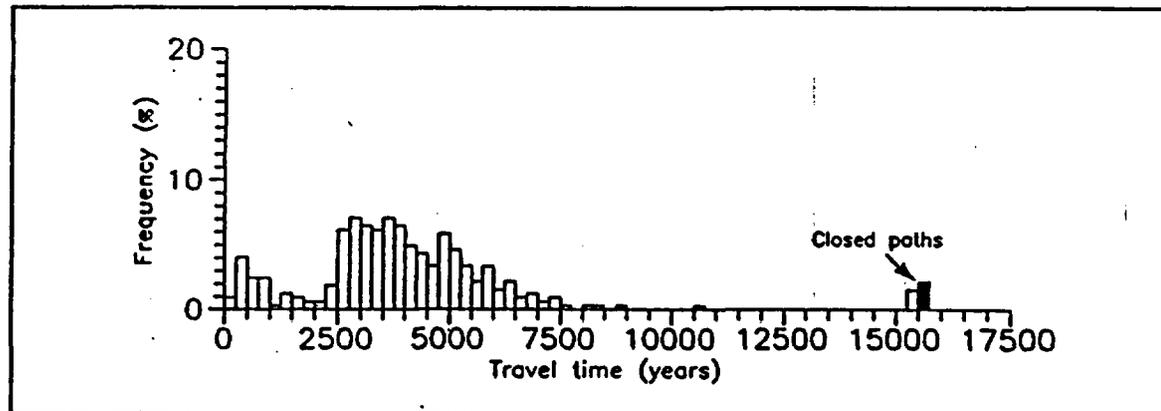
Carbon-14 Travel Times



Repository at 57°C

10 × permeability contrast

Carbon-14 Travel Times



Repository at 57°C

100 × permeability contrast

Conclusions of Simulation Study

- With $100\times$ or more permeability contrast, two separate flow systems form. (This agrees with measured ^{14}C in rock gas.)
- At current temperatures, travel times are comparable to 10,000 years or slightly longer.
- Travel times decline rapidly with increasing temperature.
- Greater confinement generally increases travel times, but allows a small amount of ^{14}C to escape rapidly to Solitario Canyon.

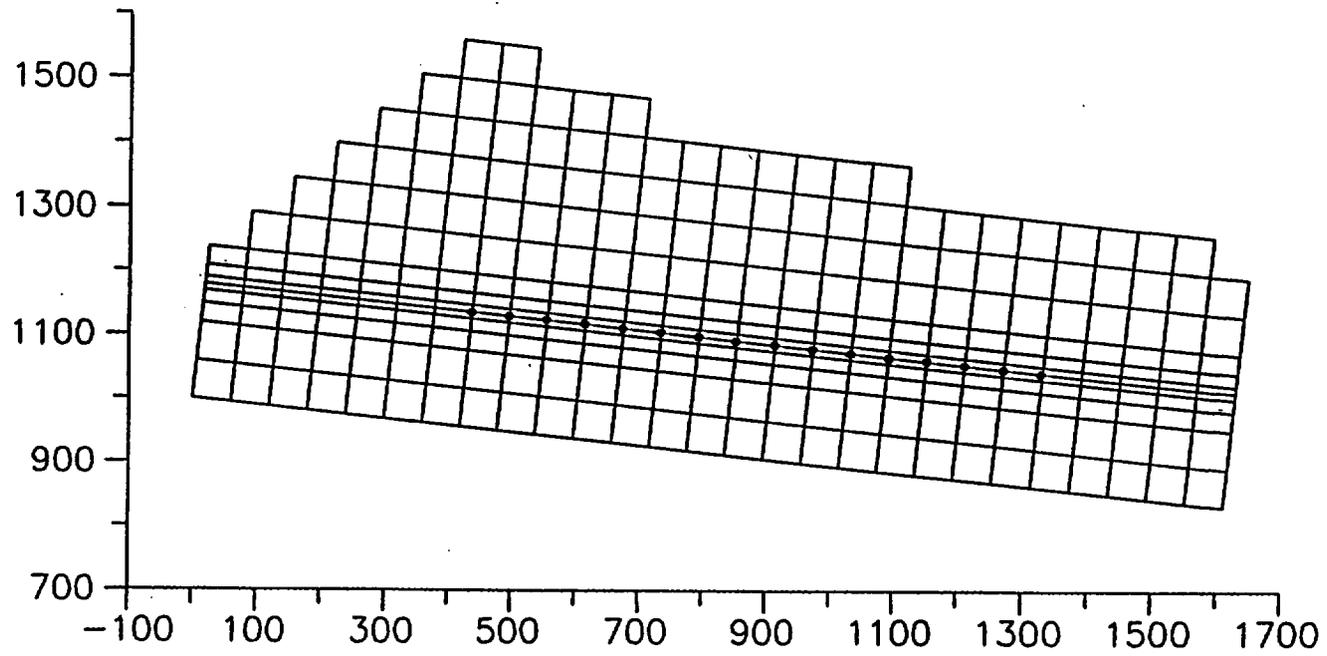
Part 3

Coupled Thermopneumatic Model (Heat Transfer and Gas Flow)

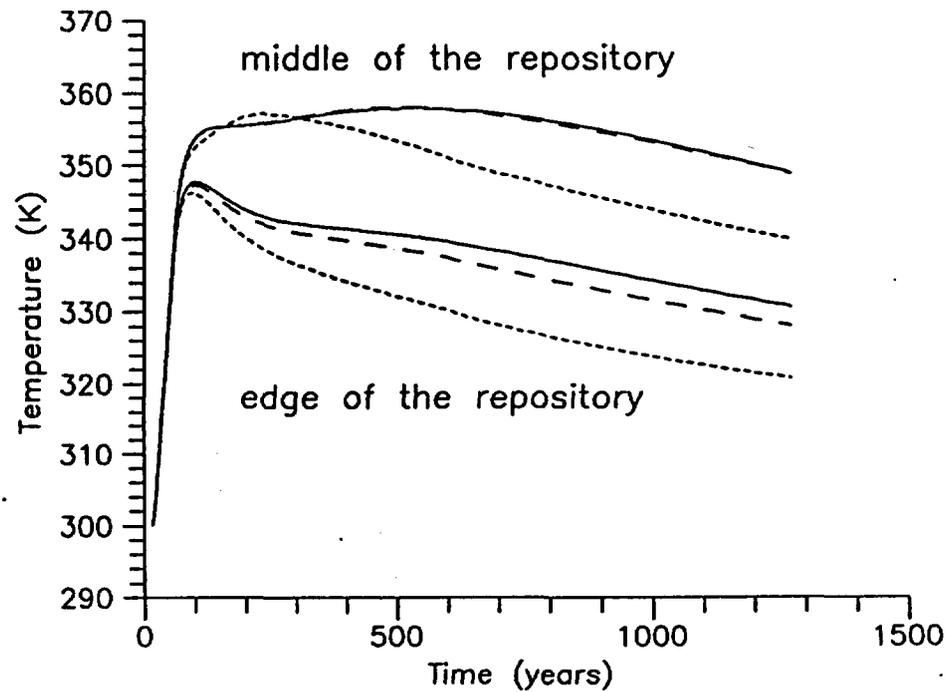
Preliminary Simulations

- **Objectives are model verification and understanding physics**
- **Permeability and thermal conductivity are high but close to realistic ranges**
- **Heat source ramps up from 15 to 60 years**
- **No confining bed**
- **Coupled model compared with conduction-only results**

Grid Geometry



Temperature vs. Time



solid line - conduction only
dashed line - gas permeability 10^{-11} m^2
dotted line - gas permeability $5 \times 10^{-11} \text{ m}^2$

Current Status

- **Coupled model is running**
- **Numerical stability improved**
- **Benchmark versus TOUGH defined**

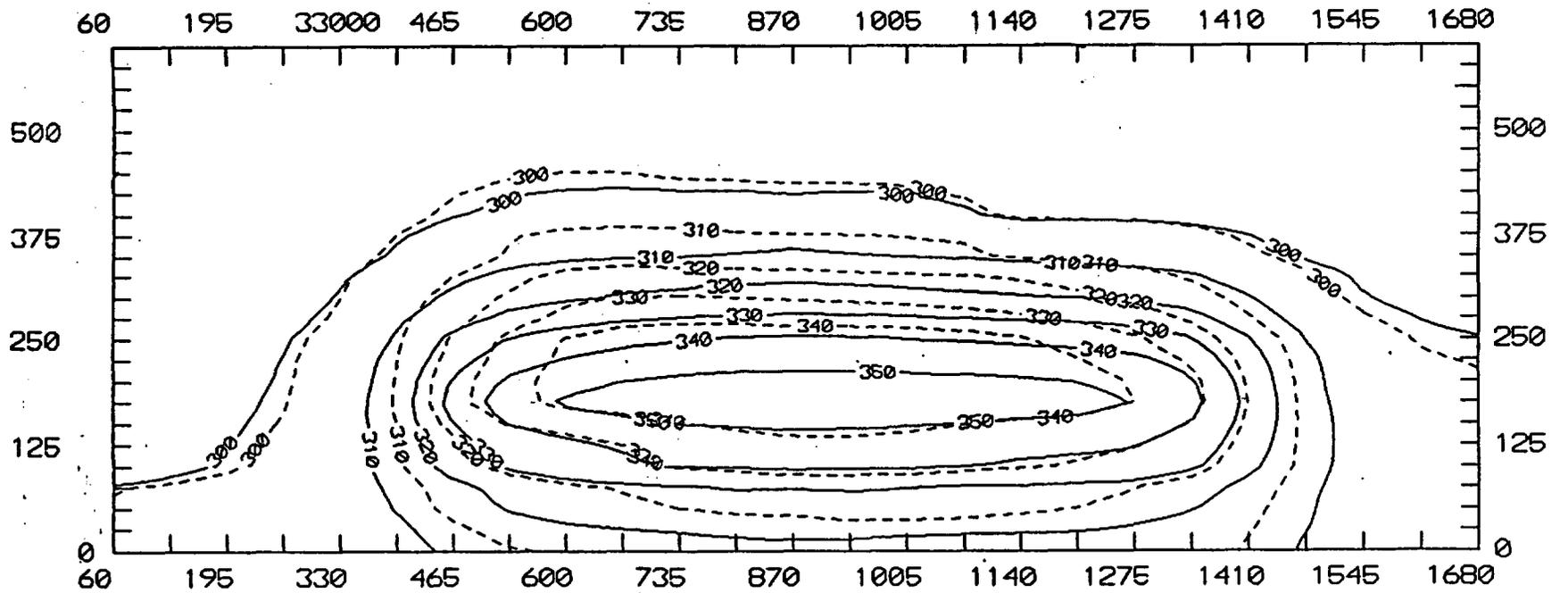
Possible Model Improvements

- **Improve stability**
- **Include rough approximation to heat pipe to allow small regions to go over boiling point**
- **Improve run-time efficiency**
- **Restart capability**

Potential Applications

- **Better carbon-14 travel times**
- **Repository-scale temperature calculations**
- **Flux boundary condition for canister-scale temperature calculations**
- **Test alternative emplacement schemes (such as denser waste packing to keep repository hot)**
- **Gas flow through mine wastes, where oxygen supply controls acid formation**

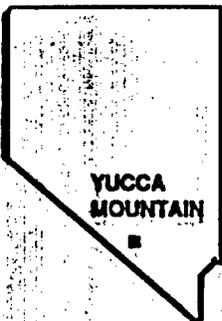
Temperature Contours



at 600 years

U.S. DEPARTMENT OF ENERGY

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YUCCA MOUNTAIN

SITE CHARACTERIZATION

PROJECT

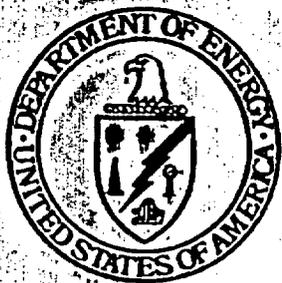
**YUCCA MOUNTAIN:
PROGRESS, POLICY AND POLITICS**

PRESENTED TO

**NEVADA LEGISLATURE'S COMMITTEE ON
HIGH-LEVEL RADIOACTIVE WASTE**

PRESENTED BY

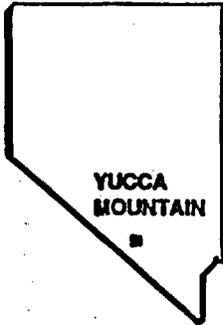
**CARL GERTZ
PROJECT MANAGER**



FEBRUARY 27, 1992

U.S. DEPARTMENT OF ENERGY

**DOE
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YUCCA MOUNTAIN

SITE CHARACTERIZATION

PROJECT

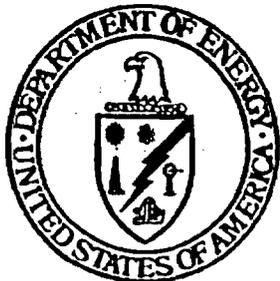
**YUCCA MOUNTAIN:
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**CARL GERTZ
PROJECT MANAGER**



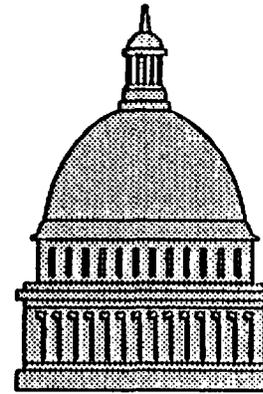
FEBRUARY 27, 1992

**IS YUCCA MOUNTAIN
A SAFE PLACE FOR A HIGH-LEVEL
NUCLEAR WASTE REPOSITORY?**

GOAL

- **SOLVE EXISTING ENVIRONMENTAL PROBLEM**
 - **20,000 METRIC TONS OF SPENT FUEL CURRENTLY IN STORAGE**
- **MAINTAIN A BALANCED AND DIVERSIFIED ENERGY MIX**

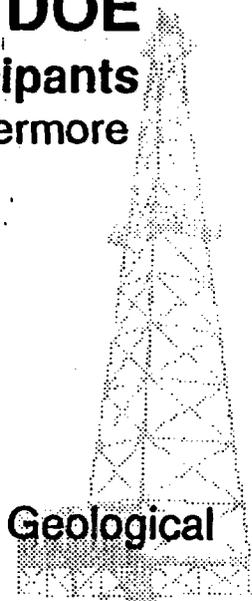
PROJECT ELEMENTS



CONGRESS

**U.S. DOE
Participants**

- Lawrence Livermore
- Los Alamos
- MACTEC
- Raytheon
- REECo
- SAIC
- Sandia
- TRW
- United States Geological Survey



REGULATORS



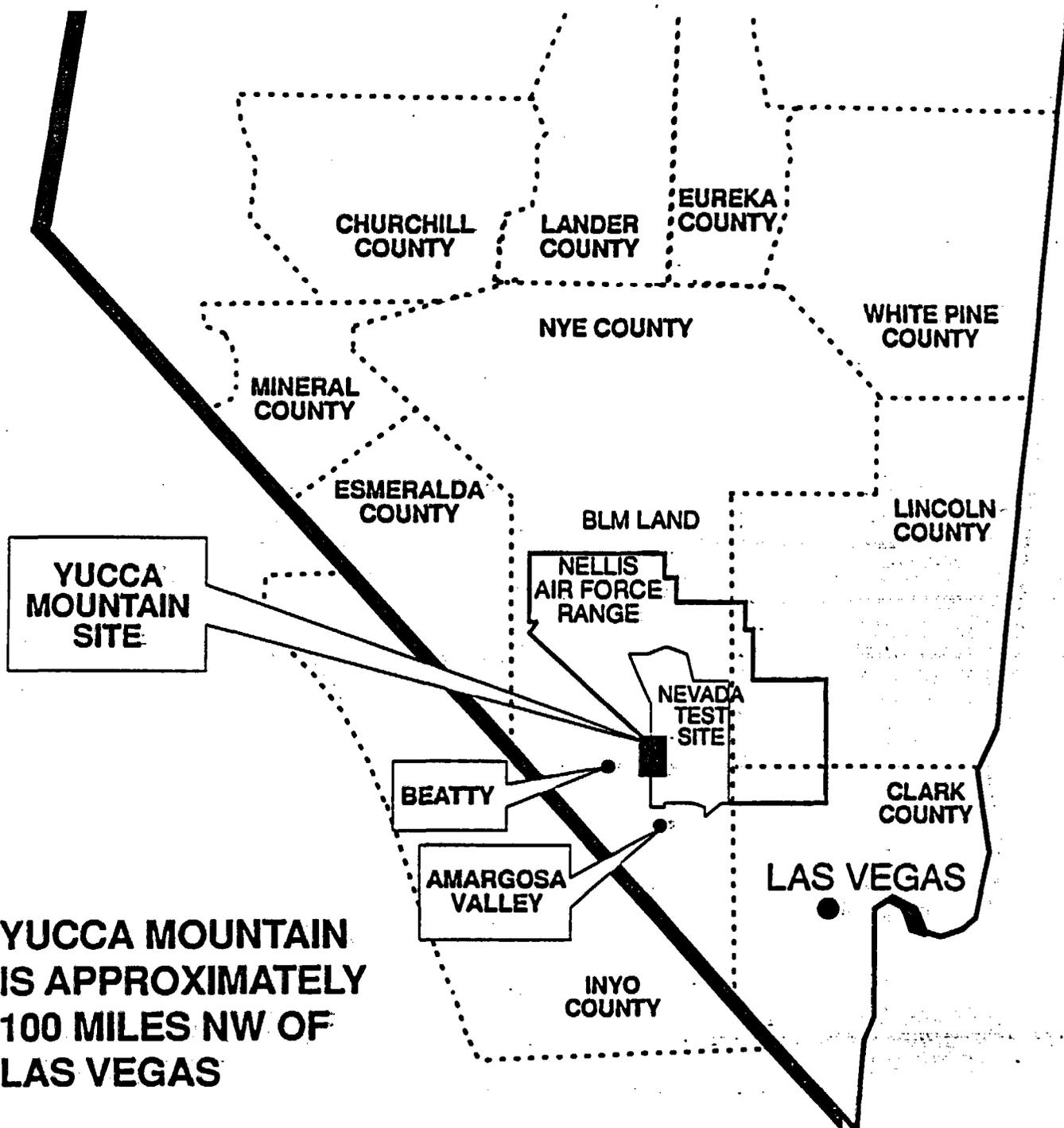
**BENEFITS
AVAILABLE**

- Benefits Package
- Impact Assistance
- Work with Negotiator

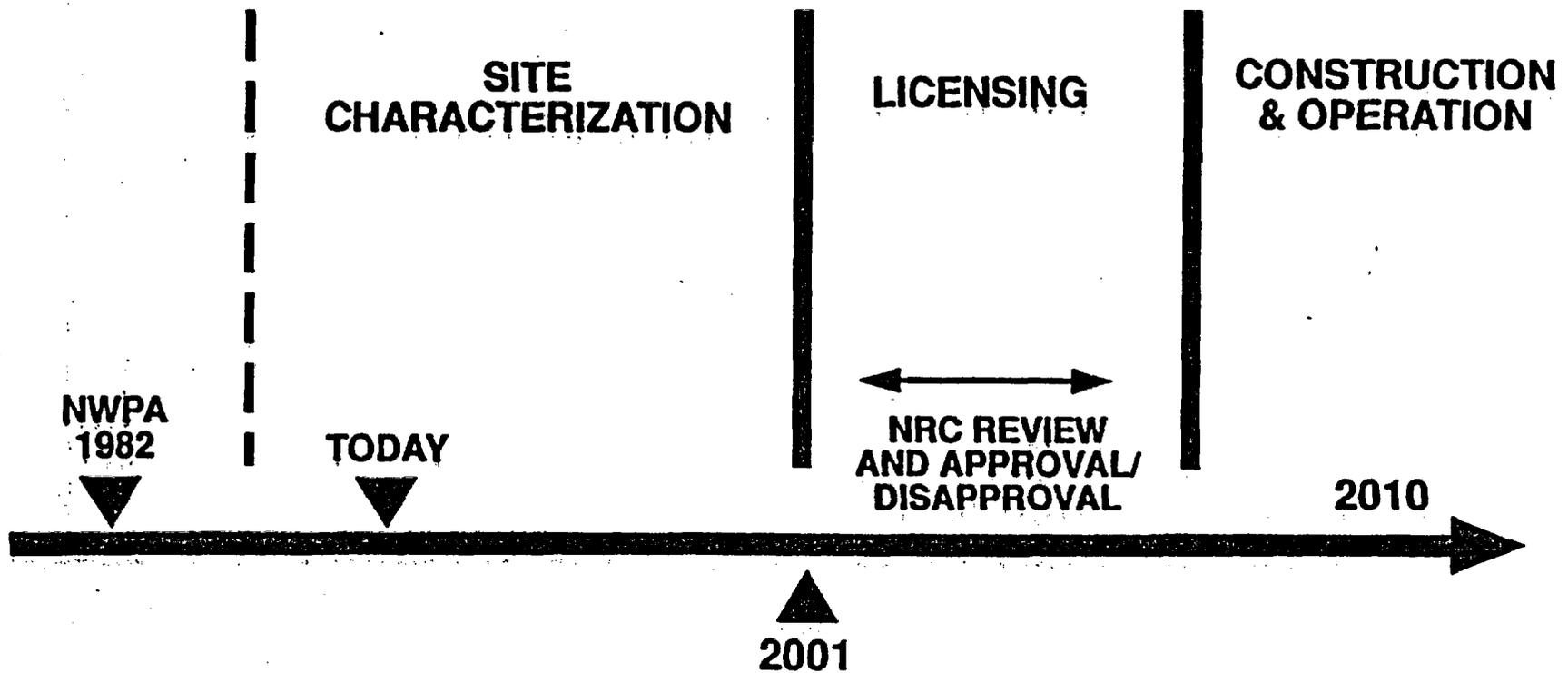
OVERSIGHT

- Federal Government
- State/Local Government
- Independent Groups
- National Academy of Sciences
- Nuclear Waste Technical Review Board

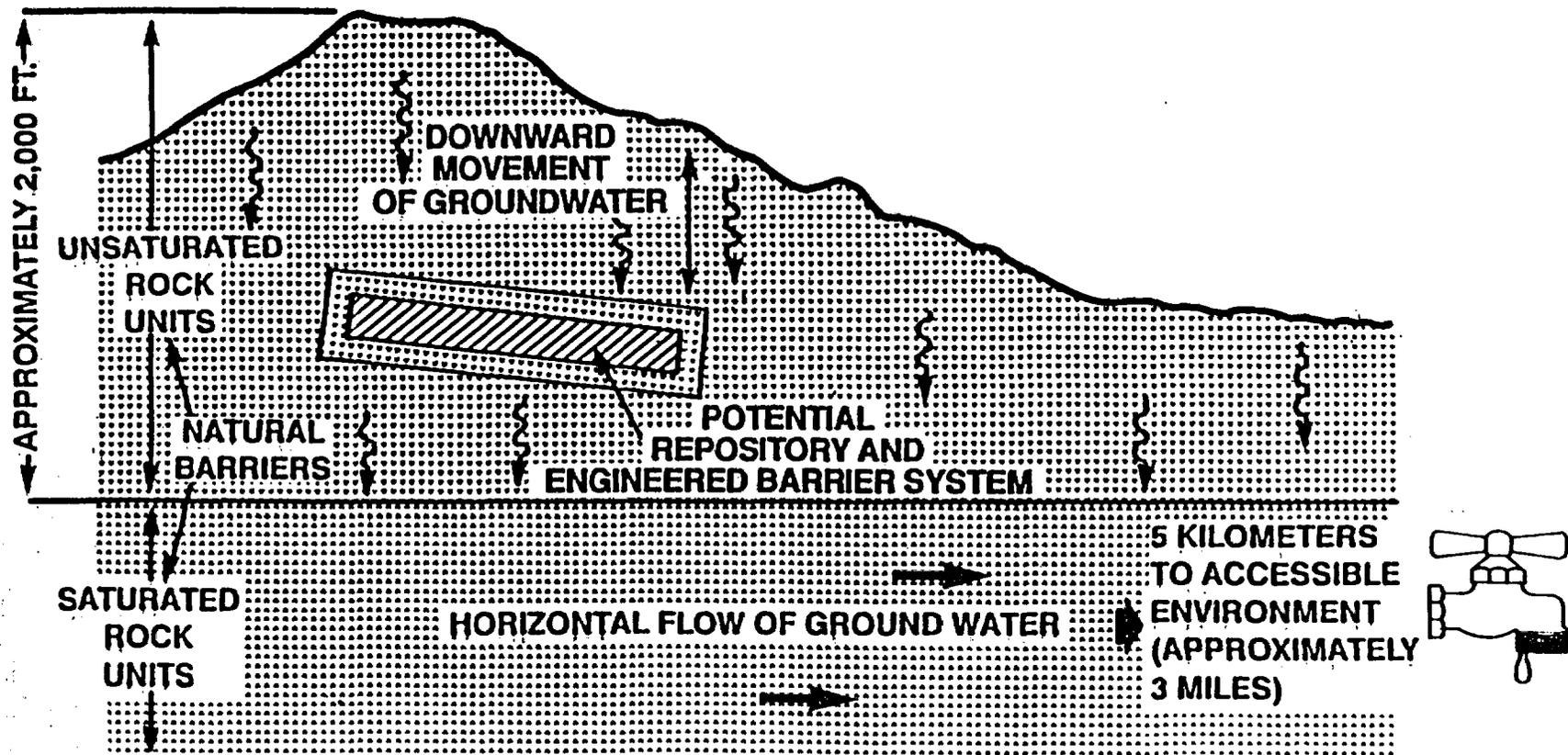
IN 1987, CONGRESS TOLD DOE TO STUDY ONLY YUCCA MOUNTAIN



SCIENTIFIC STUDIES WILL DETERMINE IF YUCCA MOUNTAIN CAN BE RECOMMENDED AS A REPOSITORY



OBJECTIVE OF SCIENTIFIC STUDIES IS TO DETERMINE IF YUCCA MOUNTAIN CAN ISOLATE RADIOACTIVE MATERIALS BY USING NATURAL AND ENGINEERED BARRIERS



DOE MAKING PROGRESS WITH LITIGATION TO CONDUCT SCIENTIFIC STUDIES

- **STATE LAWSUIT FILED AGAINST DOE IN
JANUARY 1990 IS CLOSED**
 - **U.S. SUPREME COURT UPHELD LOWER COURT
UNANIMOUS RULING**
- **DOE FILED LAWSUIT AGAINST STATE OF NEVADA
IN JANUARY 1990 TO OBTAIN PERMITS**

DOE HAS OBTAINED PERMITS TO START MAJOR NEW SCIENTIFIC STUDIES

- **AIR QUALITY - JUNE 1991**
- **UNDERGROUND INJECTION CONTROL (UIC) - JULY 1991**
 - **FOR C WELL COMPLEX**
- **WATER APPROPRIATIONS HEARING HELD SEPTEMBER 1991 - AWAITING RULING FROM STATE ENGINEER**
- **OTHER INCIDENTAL PERMITS RECEIVED**
 - **PERMIT FOR LM-300 DIESEL ENGINES**
 - **PERMIT WAIVER FOR DRILL HOLES JF3 AND UZ16**
- **ADDITIONAL PERMITS WILL BE REQUESTED AS APPROPRIATE**

CONGRESSIONAL LEGISLATION IS NEEDED TO ASSURE STUDIES CONTINUE UNINTERRUPTED

- **INCLUDED IN THE PRESIDENT'S PROPOSED
NATIONAL ENERGY STRATEGY**
- **HOUSE AND SENATE COMMITTEES PASSED
LEGISLATION**
- **HOUSE AND SENATE LEADERSHIP TO
DETERMINE NEXT STEPS**

PREREQUISITES FOR NEW SURFACE-BASED WORK HAVE BEEN COMPLETED

- **LAND ACCESS (COMPLETED 10/89)**
- **SITE CHARACTERIZATION PLAN REVIEW BY NRC
(COMPLETED 7/89)**
- **STUDY PLANS ON TRENCHING IN MIDWAY VALLEY
AND QUATERNARY REGIONAL HYDROLOGY
ACCEPTED BY NRC (12/89)**
- **ENDANGERED SPECIES ACT (DESERT TORTOISE-NON-
JEOPARDY BIOLOGICAL OPINION ISSUED 2/90)**
- **FULLY QUALIFIED QA PROGRAM ACCEPTED BY
NRC FOR WORK TO BE PERFORMED (1/91)**
- **ENVIRONMENTAL COMPLIANCE AND PERMITTING**

**YUCCA MOUNTAIN PROJECT HAS
STARTED MAJOR NEW SITE
CHARACTERIZATION ACTIVITIES**

MAJOR NEW WORK UNDERWAY AT YUCCA MOUNTAIN

- **NEW WORK BEGAN JULY 1991**
 - **VOLCANIC TEST PITS**
 - **MIDWAY VALLEY TRENCHING**
 - **DEEPENED EXISTING TRENCH 14**
- **THREE NEUTRON ACCESS BOREHOLES DRILLED FOR NATURAL INFILTRATION STUDIES, A FOURTH IS CURRENTLY UNDERWAY**

MAJOR NEW WORK UNDERWAY AT YUCCA MOUNTAIN

(CONTINUED)

- **JF-3 ENVIRONMENTAL MONITORING BOREHOLE COMPLETED; FULFILLING COMMITMENT TO NATIONAL PARK SERVICE**
- **PREREQUISITE ACTIVITIES UNDERWAY FOR DRILLING OF VERTICAL SEISMIC PROFILE DRILLHOLE UZ-16**
- **PREREQUISITE ACTIVITIES UNDERWAY FOR SOILS AND ROCK PROPERTIES INVESTIGATIONS RELATED TO POTENTIAL LOCATIONS OF SURFACE AND SUBSURFACE ACCESS FACILITIES**
- **TEST PLANNING UNDERWAY FOR CONTINUING TRENCH AND TEST PIT MAPPING IN MIDWAY VALLEY STUDY AREA**

THE SITE CHARACTERIZATION TESTING PROGRAM INCLUDES ACTIVITIES TO ESTABLISH THE GEOLOGIC CONDITIONS AND HISTORY OF THE SITE

- **EXPLORATORY STUDIES FACILITY TESTS**

- **WASTE ISOLATION PERFORMANCE**
- **EFFECTS OF ESF CONSTRUCTION**
- **ESTABLISH UNDERGROUND CONDITIONS**

- **SURFACE-BASED TESTS**

- **EXTEND THE RESULTS OF ESF TESTS TO THE ENTIRE SITE AREA**

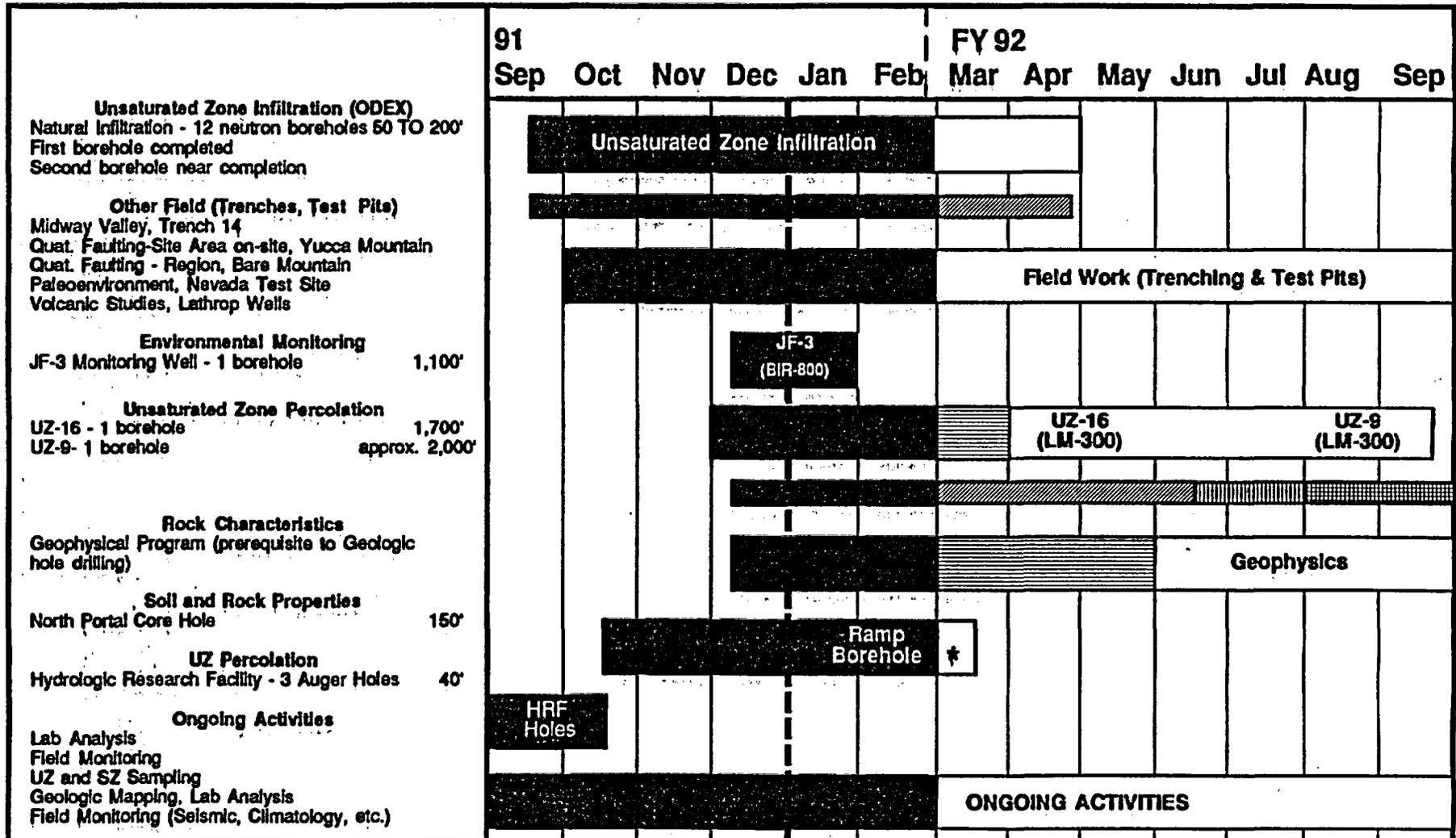
IN GENERAL, FIVE TECHNIQUES WILL BE USED IN THE SURFACE BASED TESTING PROGRAM

- **DRILL HOLES ALLOW THE INVESTIGATION OF A DEEP BUT SPATIALLY SMALL BODY OF ROCK**
- **TRENCHES ARE USED TO INVESTIGATE SURFACE BREAKS OF FAULTS**
- **GEOPHYSICAL SURVEYS ALLOW INDIRECT MEASUREMENT AND PREDICTIONS ON THE NATURE OF THE GEOLOGY BENEATH AND ADJACENT TO THE SITE AREA**
- **MONITORING STATIONS ARE DESIGNED TO UNDERSTAND LONG-TERM BEHAVIOR OF THE SURFACE HYDROLOGIC SYSTEM BY PERIODIC SAMPLING AND MONITORING**
- **LABORATORY STUDIES ARE DESIGNED TO QUANTITATIVELY INVESTIGATE THE THERMO-MECHANICAL AND HYDROLOGIC BEHAVIOR OF INDIVIDUAL ROCK SAMPLES**

ESF MISSION IS TO PROVIDE ACCESS TO GEOLOGIC HORIZONS

- **ENABLE TESTING IN "UNDERGROUND LABORATORY"**
- **PROVIDE DATA TO EVALUATE SUITABILITY OF GEOLOGIC BARRIERS TO ISOLATE WASTE**
- **OBTAIN INFORMATION FOR DESIGN OF A POTENTIAL REPOSITORY**

FY 1992 Surface Disturbing Activities



RIG WORK SCHEDULE

Status as of: 2/19/92

Work Complete



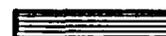
8 Hours/Day, 5 Days/Week



16 Hours/Day, 5 Days/Week



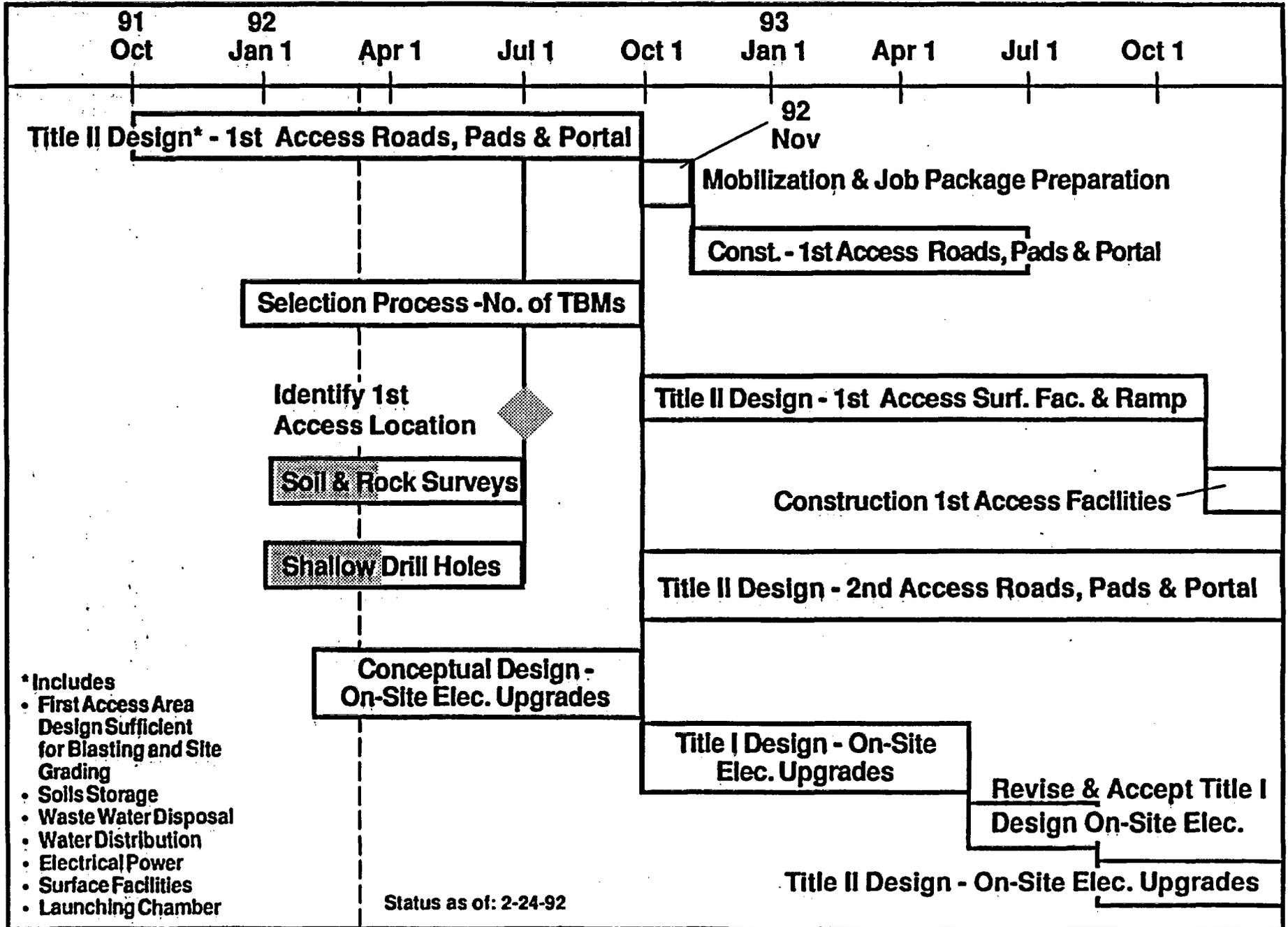
24 Hours/Day, 5 Days/Week



PREREQUISITE COMPLETION
SCHEDULE TBD

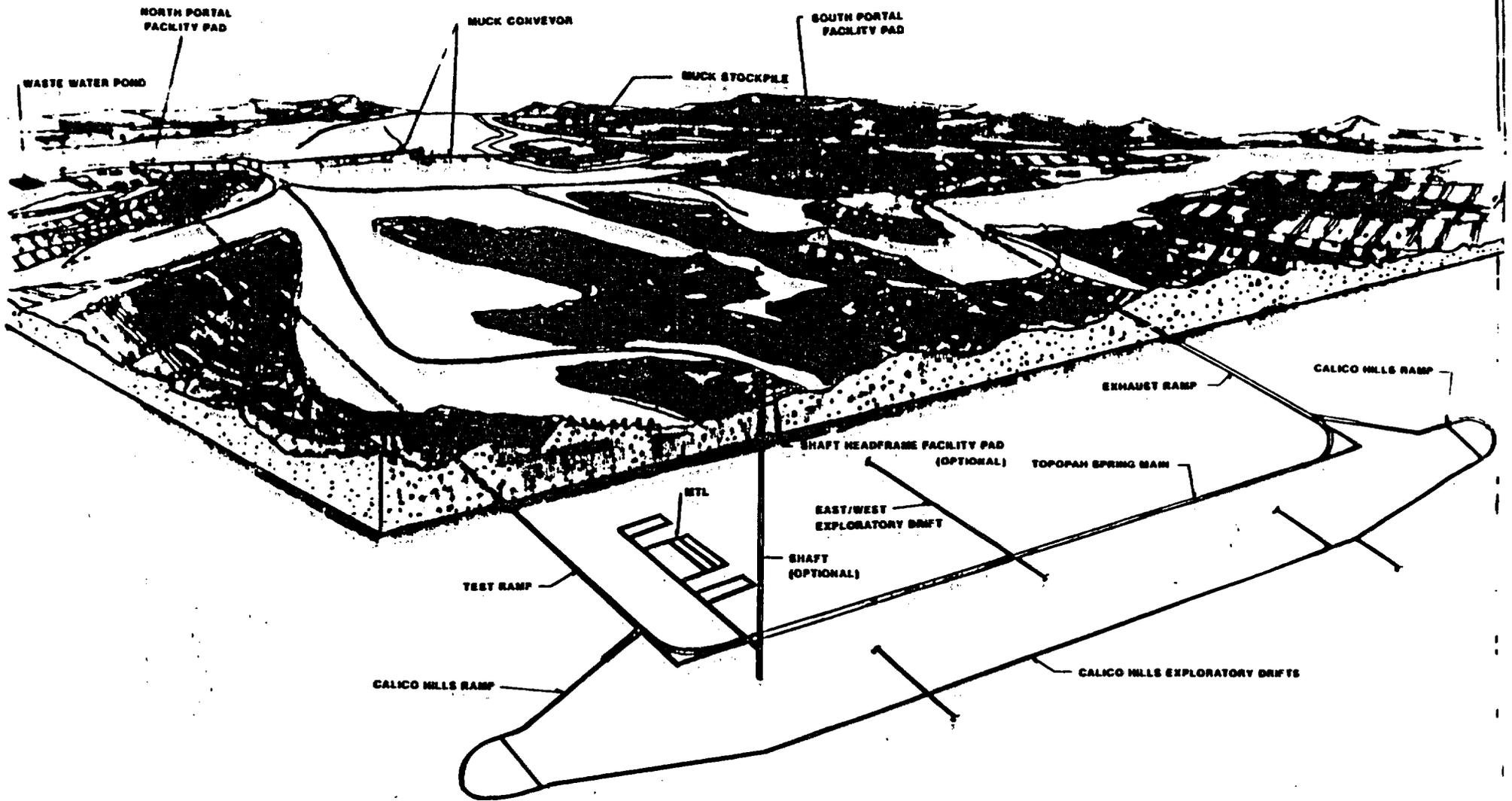
*

PROPOSED ESF DESIGN/CONSTRUCTION ACTIVITIES FY 1992 & 1993



- *Includes**
- First Access Area Design Sufficient for Blasting and Site Grading
 - Soils Storage
 - Waste Water Disposal
 - Water Distribution
 - Electrical Power
 - Surface Facilities
 - Launching Chamber

Status as of: 2-24-92

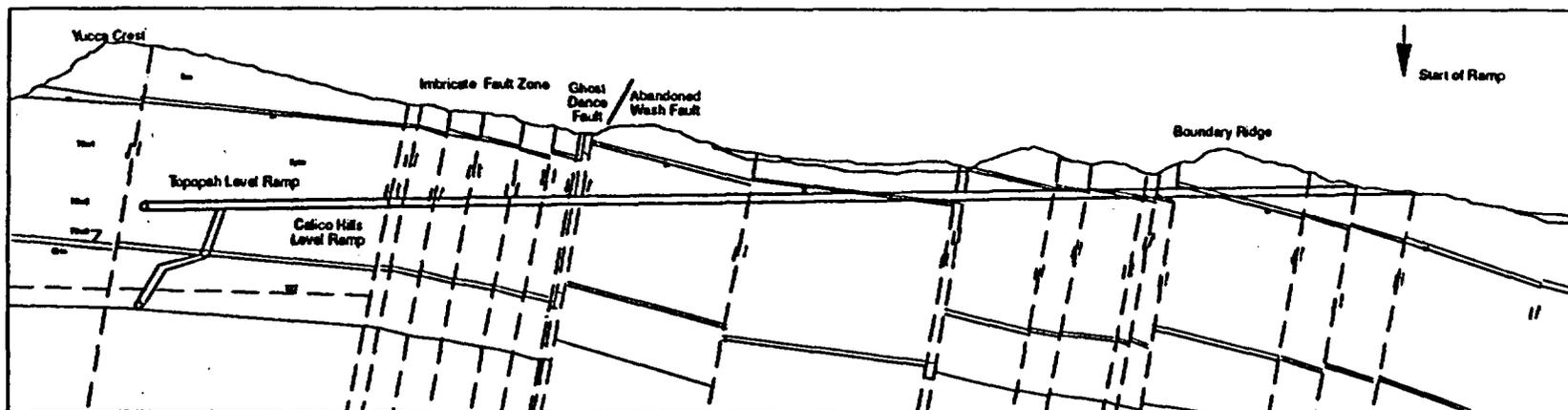


PRELIMINARY ESF DESIGN

SOUTH RAMP DESIGN WILL EXPAND AREAS OF GEOLOGIC INTEREST TO BE STUDIED

NW

SE



Thermal/Mechanical Units

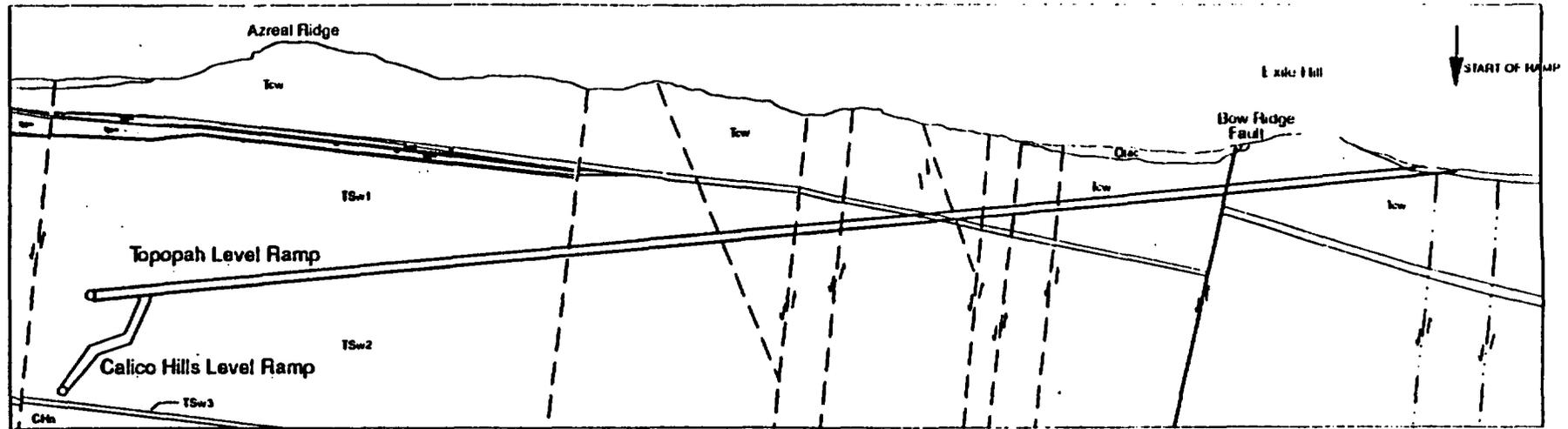
Tcw		Tiva Canyon Member
PTn		Yucca Mountain Member Pah Canyon Member
TSw1 TSw2		Topopah Springs Member
TSw3		Topopah Springs Member
CHn		Tuffaceous Beds of Calico Hills
TZZ		Zeolite-Vitric Contact in Calico Hills (TZZ)
Ppw CFUn BFW		Prow Pass Member and Bullfrog Member

*Conceptual Illustration
Not To Scale*

NORTH RAMP

NW

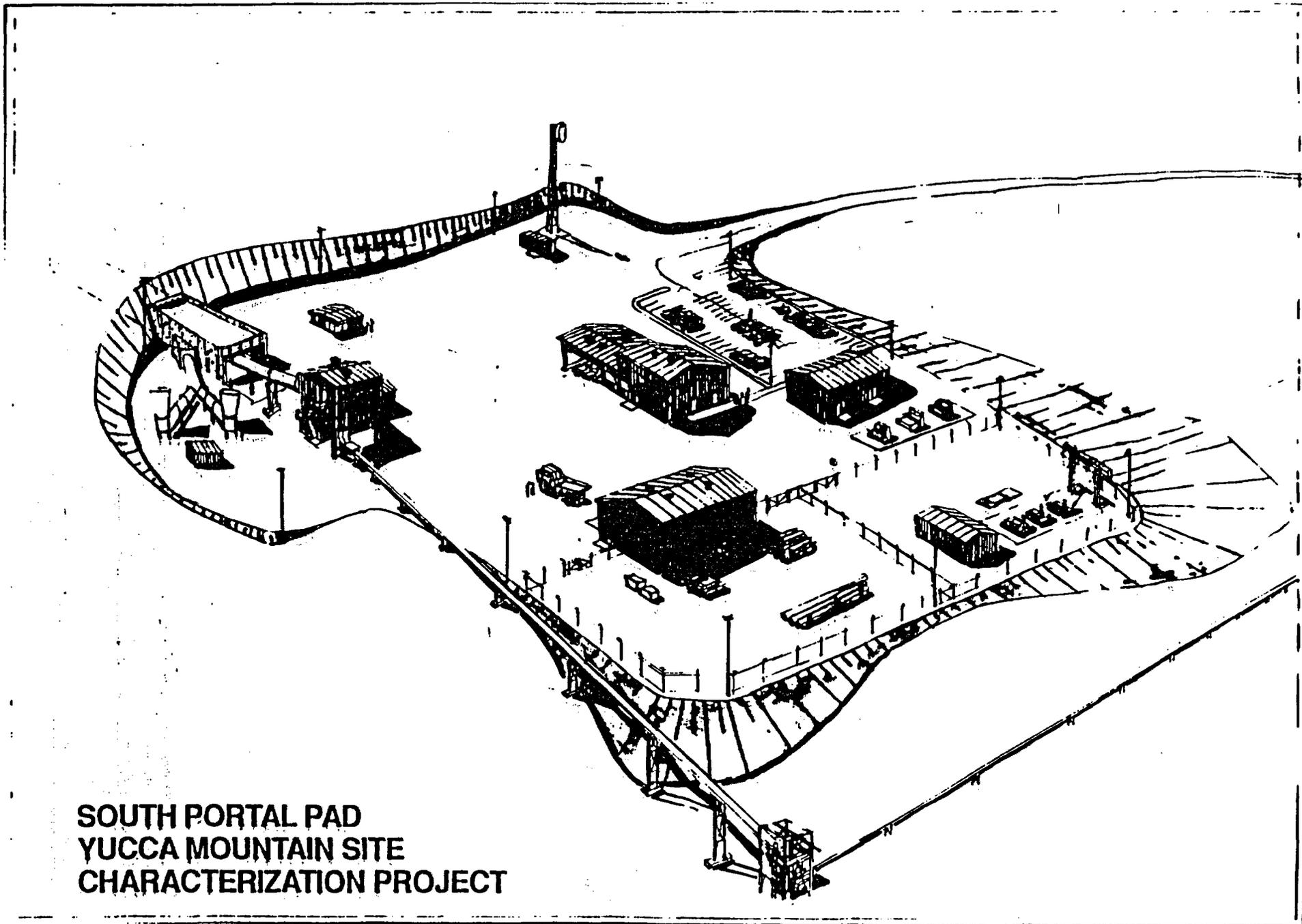
SE



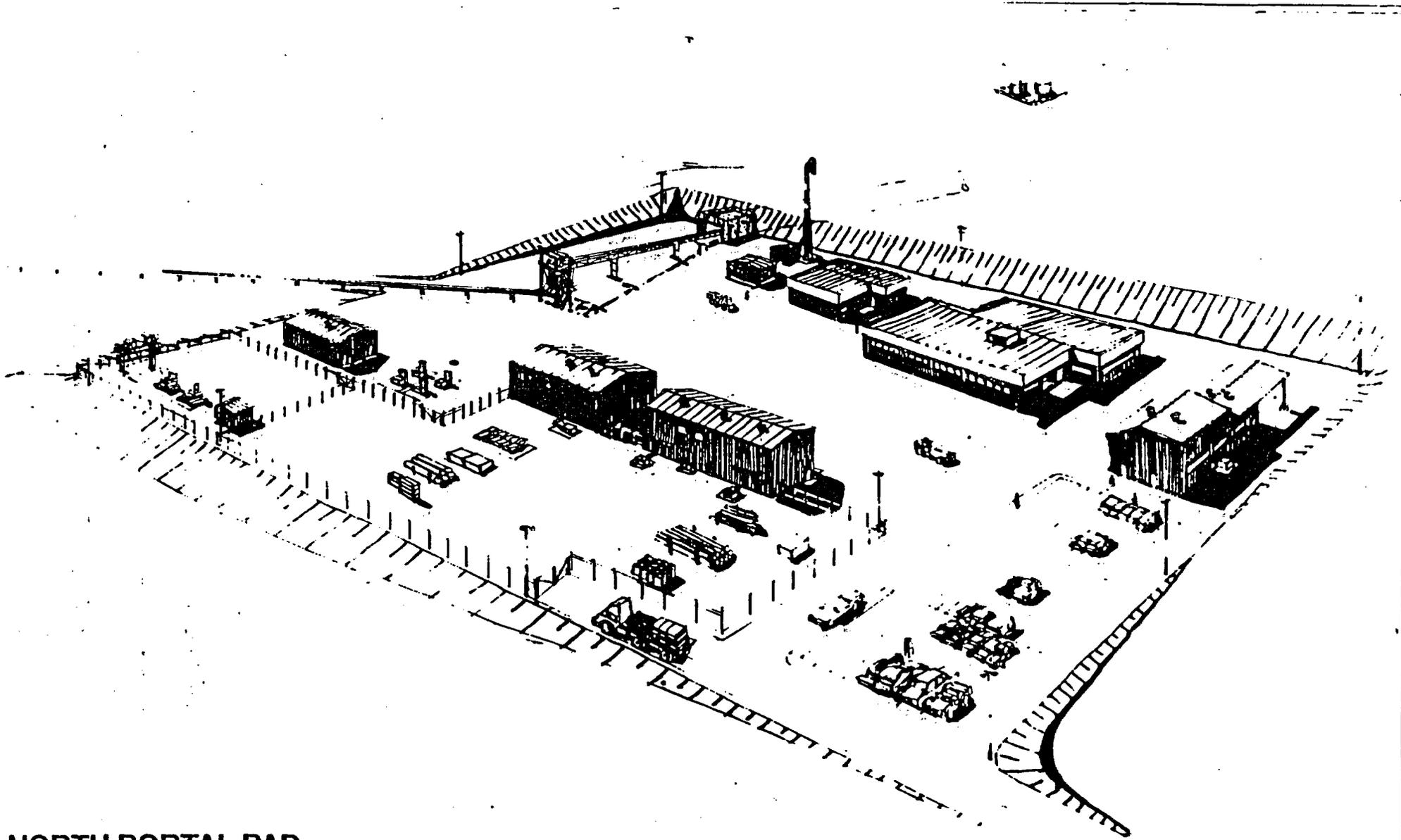
Thermal/Mechanical Units

- Tcw Tiva Canyon Member
- PTn Yucca Mountain Member
Pah Canyon Member
- TSw1 Topopah Springs Member
- TSw2 Topopah Springs Member
- TSw3 Topopah Springs Member
- CHn Tuffaceous Beds of Calico Hills
- TZZ Zeolite-Vitric Contact in
Calico Hills (TZZ)
(Not Present on This Section)

*Conceptual Illustration
Not To Scale*



**SOUTH PORTAL PAD
YUCCA MOUNTAIN SITE
CHARACTERIZATION PROJECT**



**NORTH PORTAL PAD
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT**

YMP IS COMMITTED TO KEEPING THE PUBLIC INFORMED

- **OVER 200 PUBLIC PRESENTATIONS MADE EACH YEAR**
- **EXHIBITS SET UP THROUGHOUT NEVADA**
- **INFORMATION OFFICES IN LAS VEGAS, BEATTY, AND PAHRUMP**
- **YMP RESPONDS TO ALL MEDIA INQUIRIES**
- **SIX PUBLIC UPDATE MEETINGS HELD EACH YEAR**
- **MONTHLY PUBLIC TOURS OF YUCCA MOUNTAIN**

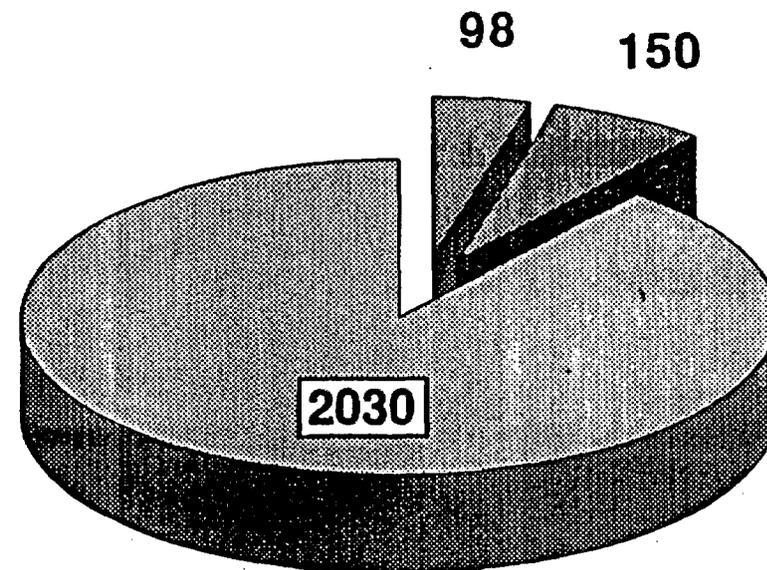
Informal Surveys Revealed 89% of Recent Public Tour Attendees Believe that DOE Should Study Yucca Mountain

- **After Tours:**

89% Study Yucca Mountain

7% Undecided

4% Do Not Conduct Studies



As of 1-27-92

- **Before Tours:**

834 were undecided or opposed to studies. After tours, 668 or 80% changed their opinion positively.

IN ORDER TO MOVE FORWARD IN THE HIGH LEVEL WASTE PROGRAM DOE NEEDS ASSISTANCE

YES



• **LITIGATION AND/OR LEGISLATION TO OBTAIN PERMITS
TO CONTINUE FIELD WORK**



• **ADMINISTRATION (OMB) AND DEPARTMENTAL (DOE)
SUPPORT TO OBTAIN ADEQUATE RESOURCES**



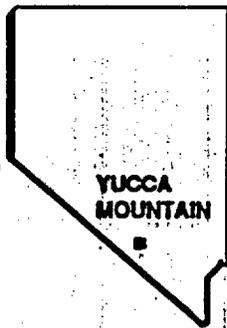
• **CONGRESSIONAL SUPPORT OF FULL FUNDING**

**WITHOUT ALL THREE OF THE ABOVE, THE REPOSITORY PROGRAM
WILL BECOME STALLED AND THE NUCLEAR POWER OPTION WILL
BECOME LESS VIABLE AS PART OF THE NATIONAL ENERGY STRATEGY**

IS IT SAFE ?

U.S. DEPARTMENT OF ENERGY

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YUCCA MOUNTAIN

SITE CHARACTERIZATION

PROJECT

VOLCANISM STUDIES

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

PRESENTED TO

**NEVADA LEGISLATURE'S COMMITTEE
ON HIGH LEVEL RADIOACTIVE WASTE**

PRESENTED BY

DR. BRUCE CROWE
VOLCANOLOGIST, LOS ALAMOS NATIONAL LABORATORY



FEBRUARY 27, 1992

PROBLEM OVERVIEW

1. WHAT IS THE RISK OF FUTURE VOLCANISM?

CHALLENGE TO DEFINE RISK: SCIENTISTS:

**LOS ALAMOS NATIONAL LABORATORY
UNIVERSITY OF CALIFORNIA, BERKELEY
UNIVERSITY OF CALIFORNIA, RIVERSIDE
UNIVERSITY OF NEW MEXICO
OHIO STATE UNIVERSITY**

PROBLEM OVERVIEW

(CONTINUED)

2. IS THE RISK OF VOLCANISM ACCEPTABLE OR NOT ACCEPTABLE?

DEPARTMENT OF ENERGY

NO: RECOMMEND ABANDONING THE SITE

YES: CONTINUE SITE CHARACTERIZATION STUDIES

3. IS THE DECISION BASIS CREDIBLE?

NUCLEAR REGULATORY COMMISSION

NUCLEAR WASTE TECHNICAL REVIEW BOARD

STATE OF NEVADA

METHOD FOR ACCESSING VOLCANIC RISK

DIRECT RELEASES (Eruption)

The probability $Pr_{(dr)}$ of direct releases from a future volcanic event is modeled as a tripartite probability

$$Pr_{(dr)} = Pr (E_3 \text{ given } E_2, E_1) Pr (E_2 \text{ given } E_1) Pr (E_1)$$

where

**E_1 is the Recurrence Rate of Volcanic Events
[Event = Formation of New Volcanic Center]**

**E_2 is the Probability of an Event Directly Intersecting the
Repository [Bullseye Ratio]**

**E_3 is the Probability of Significant Direct Releases to the
Accessible Environment**

1. BASALTIC VOLCANOES

- **LEAST EXPLOSIVE TYPE OF VOLCANO**
- **SMALL SIZE (VOLUME)**
- **FIRE-FOUNTAINING**
- **LAVA EXTRUSION**

2. FED BY NARROW DIKES

- **2-3 METERS WIDE**
- **2-5 KILOMETERS LONG**

3. RECURRENCE OF AN ERUPTION AT THE LATHROP WELLS CENTER

- **NO EFFECT ON A POTENTIAL REPOSITORY AT YUCCA MOUNTAIN**
- **OBSERVE ERUPTIONS 1-2 KM AWAY**

HOW DO YOU DEFINE RISK?

1. RECURRENCE RATE

HOW OFTEN DO ERUPTIONS OCCUR?

- 200,000 TO 300,000 YEARS YUCCA MOUNTAIN AREA
- 50,000 TO 100,000 YEARS MAJOR VOLCANIC FIELDS

2. DISRUPTION RATIO

WILL A FUTURE ERUPTION OCCUR AT YUCCA MOUNTAIN?

NO - NOT ON CONTROLLING STRUCTURE

BUT

DISAGREEMENT STATE OF NEVADA

MINIMUM ESTIMATE: < 1 CHANCE IN 400

3. PROBABILITY OF MAGMATIC DISRUPTION

ABOUT 1 IN 100 TO 200 MILLION PER YEAR

ASSUMES STEADY STATE MODEL

BUT

VOLCANISM IS WANING

1. IS ONE CHANCE IN 100 TO 200 MILLION PER YEAR SAFE?

- NRC CRITERIA: 1 CHANCE IN 10,000 IN 10,000 YEARS
(10^{-8}YR^{-1})
- EVENT DOES NOT HAVE TO BE STUDIED

2. WHAT ABOUT UNCERTAINTY?

- SMALL DATA BASE
- CONFIDENCE IN THE PROBABILITY ESTIMATIONS

RELEASE PROBABILITY

- = 1 REQUIRES MORE DETAILED CALCULATIONS
- 0.1 SITE MEETS VOLCANISM CRITERIA
- 0.01 SITE EASILY MEETS SITE CRITERIA
- 0.001 SITE VERY EASILY MEETS SITE CRITERIA

CURRENT ESTIMATES 0.01 TO 0.001 OF EXCEEDING RELEASES

3. FURTHER STUDIES

- COUPLED EFFECTS
- HYDROLOGY CHANGES

Prestholt

Yucca Mountain Site Characterization Project Master Calendar (YMPMC) System

**Calendar Events for the Time Period
March 23, 1992 Through April 30, 1992**

For further information or assistance please contact the YMP Master Calendar System Coordinator (Sharon D. Johnson) at (702) 794-7970, FTS 544-7970.

YMPMC is an INGRES program that was developed to schedule and track special events, meetings, workshops, etc.. It allows an event to be entered into the system by an Event Coordinator and then the event can be viewed by any authorized person. Specific events, calendars and calendar summaries can be printed from the system.

In order to access the YMPMC system, type C INGRES at the XT-Command or Xyplex. Log into your account. At the \$ prompt, type YMPMC <Return> to enter YMPMC. The YMPMC main menu will be displayed.

YMP Master Calendar

<p>Monday, Mar. 23, 1992</p> <p>9:00a Weekly Integration Meeting (Las Vegas, NV - YMP Blue Conf. Room) [Petrie]</p> <p>11:00a Project Office Project Managers Weekly Staff Mtg. (Las Vegas, NV) [Gertz]</p> <p>2:00p RSED Weekly Meeting (Las Vegas, NV - Room 203) [Dyer]</p> <p>3:00p Technical Programs (Las Vegas, NV - Room 206) [Barton]</p>	<p>Tuesday, Mar. 24, 1992</p> <p>Duke Power Tour (Clemson, SC) [Gil]</p> <p>10:00a USCEA Fuel Cycle '92 - Presentation (Charleston, SC) [Artis]</p> <p>2:30p EDD Staff Meeting (Las Vegas, NV - Room 203) [Simecka]</p>	<p>Wednesday, Mar. 25, 1992</p> <p>Duke Power Tour (Clemson, SC) [Gil]</p> <p>Program Managers Meeting (Washington, DC) [Gertz]</p> <p>7:00a Yucca Mountain Tour - Energy Fuels Nuclear [Hill]</p>	<p>Thursday, Mar. 26, 1992</p> <p>12:00p Family Home Hospice - Presentation (Tucson, AZ) [Artis]</p> <p>7:00p Yucca Mountain Lecture Series (Las Vegas, NV) [Artis]</p>	<p>Friday, Mar. 27, 1992</p> <p>2:00p ESF Weekly Status and Scheduling Meeting (Las Vegas, NV - Rom 450) [Gardiner]</p> <p>2:00p Mission 2001 Status Meeting (Las Vegas, NV - Room #202) [Clark-TESS]</p>	<p>Saturday, Mar. 28, 1992</p> <p>7:00a Yucca Mountain Public Open House/Tour [Hill]</p> <p>10:00a Boy Scout Workshops (Las Vegas, NV) [Harle]</p> <p>Sunday, Mar. 29, 1992</p>
<p>Monday, Mar. 30, 1992</p> <p>RSN ESF Design Review (Las Vegas, NV) [Petrie]</p> <p>8:00a NMTRB Full Board Meeting 2nd Dry Run (Las Vegas, NV -Room 450) [Simmons]</p> <p>9:00a Weekly Integration Meeting (Las Vegas, NV - YMP Blue Conf. Room) [Petrie]</p> <p>11:00a Project Office Project Managers Weekly Staff Mtg. (Las Vegas, NV) [Gertz]</p> <p>2:00p RSED Weekly Meeting (Las Vegas, NV - Room 203) [Dyer]</p> <p>3:00p Technical Programs (Las Vegas, NV - Room 206) [Barton]</p> <p>7:00p Yucca Mountain Lecture Series (Beatty NV) [Gertz]</p>	<p>Tuesday, Mar. 31, 1992</p> <p>RSN ESF Design Review (Las Vegas, NV) [Petrie]</p> <p>8:00a NMTRB Full Board Meeting 2nd Dry Run (Las Vegas, NV -Room 450) [Simmons]</p> <p>2:30p EDD Staff Meeting (Las Vegas, NV - Room 203) [Simecka]</p> <p>7:00p Yucca Mountain Lecture Series (Beatty, NV) [Artis]</p>	<p>Wednesday, Apr. 1, 1992</p> <p>RSN ESF Design Review (Las Vegas, NV) [Petrie]</p>	<p>Thursday, Apr. 2, 1992</p> <p>RSN ESF Design Review (Las Vegas, NV) [Petrie]</p> <p>7:00a Yucca Mountain Tour - Office of Hearing & Appeals [Hill]</p>	<p>Friday, Apr. 3, 1992</p> <p>RSN ESF Design Review (Las Vegas, NV) [Petrie]</p> <p>2:00p ESF Weekly Status and Scheduling Meeting (Las Vegas, NV - Rom 450) [Gardiner]</p> <p>2:00p Mission 2001 Status Meeting (Las Vegas, NV - Room 202) [Clark-TESS]</p>	<p>Saturday, Apr. 4, 1992</p> <p>RSN ESF Design Review (Las Vegas, NV) [Petrie]</p> <p>10:00a Girl Scout Workshops (Las Vegas, NV) [Harle]</p> <p>Sunday, Apr. 5, 1992</p>

YMP Master Calendar

<p>Monday, Apr. 6, 1992 8:30a MWTRB Full Board (Dallas, TX) [Simmons] 9:00a Weekly Integration Meeting (Las Vegas, NV - YMP Blue Conf. Room) [Petrie] 11:00a Project Office Project Managers Weekly Staff Mtg. (Las Vegas, NV) [Gertz] 2:00p RSED Weekly Meeting (Las Vegas, NV - Room 203) [Dyer] 3:00p Technical Programs (Las Vegas, NV - Room 206) [Barton]</p>	<p>Tuesday, Apr. 7, 1992 8:30a MWTRB Full Board (Dallas, TX) [Simmons] 2:30p EDD Staff Meeting (Las Vegas, NV - Room 203) [Simecka]</p>	<p>Wednesday, Apr. 8, 1992 8:30a MWTRB Full Board (Dallas, TX) [Simmons]</p>	<p>Thursday, Apr. 9, 1992 8:30a MWTRB Full Board (Dallas, TX) [Simmons]</p>	<p>Friday, Apr. 10, 1992 9:00a American Power Dispatchers Assn. - Presentation (Las Vegas, NV) [Artis] 2:00p ESF Weekly Status and Scheduling Meeting (Las Vegas, NV - Rom 450) [Gardiner] 2:00p Mission 2001 Status Meeting (Las Vegas, NV - Blue Room #7) [Clark-TESS]</p>	<p>Saturday, Apr. 11, 1992 9:00a American Power Dispatcher Presentation (Las Vegas, NV) [Artis]</p>
<p style="text-align: center;">Sunday, Apr. 12, 1992</p>					
<p>Monday, Apr. 13, 1992 International High-Level Radioactive Waste Management Conference (Las Vegas, NV) 9:00a Weekly Integration Meeting (Las Vegas, NV - YMP Blue Conf. Room) [Petrie] 11:00a Project Office Project Managers Weekly Staff Mtg. (Las Vegas, NV) [Gertz] 2:00p RSED Weekly Meeting (Las Vegas, NV - Room 203) [Dyer] 3:00p Technical Programs (Las Vegas, NV - Room 206) [Barton]</p>	<p>Tuesday, Apr. 14, 1992 International High-Level Radioactive Waste Management Conference (Las Vegas, NV) 2:30p EDD Staff Meeting (Las Vegas, NV - Room 203) [Simecka]</p>	<p>Wednesday, Apr. 15, 1992 International High-Level Radioactive Waste Management Conference (Las Vegas, NV)</p>	<p>Thursday, Apr. 16, 1992 International High-Level Radioactive Waste Management Conference (Las Vegas, NV)</p>	<p>Friday, Apr. 17, 1992 International High-Level Radioactive Waste Management Conference (Las Vegas, NV) 7:00a Yucca Mountain Tour - IHLRWM Conference [Hill] 2:00p ESF Weekly Status and Scheduling Meeting (Las Vegas, NV - Rom 450) [Gardiner] 2:00p Mission 2001 Status Meeting (Las Vegas, NV - Room 202) [Clark-TESS]</p>	<p>Saturday, Apr. 18, 1992</p>
<p style="text-align: center;">Sunday, Apr. 19, 1992</p>					

YMP Master Calendar

Monday, Apr. 20, 1992	Tuesday, Apr. 21, 1992	Wednesday, Apr. 22, 1992	Thursday, Apr. 23, 1992	Friday, Apr. 24, 1992	Saturday, Apr. 25, 1992
<p>9:00a Weekly Integration Meeting (Las Vegas, NV - YMP Blue Conf. Room) [Petrie]</p> <p>11:00a Project Office Project Managers Weekly Staff Mtg. (Las Vegas, NV) [Gertz]</p> <p>2:00p RSED Weekly Meeting (Las Vegas, NV - Room 203) [Dyer]</p> <p>3:00p Technical Programs (Las Vegas, NV - Room 206) [Barton]</p>	<p>2:30p EDD Staff Meeting (Las Vegas, NV - Room 203) [Simecka]</p>	<p>7:00a Yucca Mountain Tour - Chaparral High School [Hill]</p> <p>8:30a ACNW Working Group (Bethesda, MD) [Cooper]</p>	<p>8:30a ACNW 42nd Meeting (Bethesda, MD) [Cooper]</p>	<p>8:30a ACNW 42nd Meeting (Bethesda, MD) [Cooper]</p> <p>2:00p ESF Weekly Status and Scheduling Meeting (Las Vegas, NV - Rom 450) [Gardiner]</p> <p>2:00p Mission 2001 Status Meeting (Las Vegas, NV - Room 202) [Clark-TESS]</p>	<p>7:00a Yucca Mountain Public Open House/Tour [Hill]</p>
					Sunday, Apr. 26, 1992
Monday, Apr. 27, 1992	Tuesday, Apr. 28, 1992	Wednesday, Apr. 29, 1992	Thursday, Apr. 30, 1992	Friday, May. 1, 1992	Saturday, May. 2, 1992
<p>9:00a Weekly Integration Meeting (Las Vegas, NV - YMP Blue Conf. Room) [Petrie]</p> <p>11:00a Project Office Project Managers Weekly Staff Mtg. (Las Vegas, NV) [Gertz]</p> <p>2:00p RSED Weekly Meeting (Las Vegas, NV - Room 203) [Dyer]</p> <p>3:00p Technical Programs (Las Vegas, NV - Room 206) [Barton]</p>	<p>8:30a MRC TE Scenario Dev. & Screening & Const. of an CDF (Albuq., NM) [Bjerstedt]</p> <p>2:30p EDD Staff Meeting (Las Vegas, NV - Room 203) [Simecka]</p>	<p>8:30a MRC TE Scenario Dev. & Screening & Const. of an CDF (Albuq., NM) [Bjerstedt]</p>		<p>2:00p ESF Weekly Status and Scheduling Meeting (Las Vegas, NV - Rom 450) [Gardiner]</p> <p>2:00p Mission 2001 Status Meeting (Las Vegas, NV - Room 202) [Clark-TESS]</p>	
					Sunday, May. 3, 1992

Selected Parameters:

Starting Date: 20-Mar-1992

Ending Date: 30-Apr-1992

Event Topic -----	Coordinator Name -----	Phone Number -----	Username -----	City & State -----	Event Nbr -----
Chaparral H.S. YM Tour	Carleen Hill	4-7375	GUZZETTAG	Las Vegas, NV	300
Subject:	Yucca Mountain tour given to staff and students of Chaparral High School				
Remarks:	Tentative staff scheduled.				
Schedule:	Fri 20-Mar-1992 07:00 AM Buses meet at Las Vegas Information Office				
Attendance:	L. Thompson Technical and Management Support Services				
Energy Fuels Nuclear	Carleen Hill	4-7375	GUZZETTAG	Las Vegas, NV	301
Subject:	Yucca Mountain tour given to members of Energy Fuels Nuclear				
Remarks:	Tentative staff scheduled.				
Schedule:	Fri 20-Mar-1992 07:00 AM Buses meet at Las Vegas Information Office				
Attendance:	L. Thompson Technical and Management Support Services				
USCEA Fuel Cycle '92	Linda Artis	4-7896	GUZZETTAG	Charleston, SC	283
Subject:	Presentation given at the U.S. Council for Energy Awareness Fuel Cycle '92 Conference about the Yucca Mountain Site Characterization Project				
Remarks:	Time TBD. Topic: Moving Mountains: High-level waste disposal in the U.S. Speakers also will discuss the Successes and Challenges of working with the not-in-my-backyard crowd.				
Schedule:	Tue 24-Mar-1992 10:00 AM Omni Hotel, 130 Market Street, Charleston, SC				
Attendance:	Jean Younker Technical and Management Support Services				

Event Topic -----	Coordinator Name -----	Phone Number -----	Username -----	City & State -----	Event Nbr -----
Energy Fuels Nuclear	Carleen Hill	4-7375	GUZZETTAG	Las Vegas, NV	318
Subject:	Yucca Mountain Tour given to Energy Fuels Nuclear				
Remarks:	Tentative staff scheduled, will be finalized prior to event.				
Schedule:	Wed 25-Mar-1992 07:00 AM Meet at the Information Office in Las Vegas				
Attendance:	Vicky Best Bruce Crowe Carleen Hill Kevin Rohrer Mike Voegele	U.S. Department of Energy Los Alamos National Laboratory Technical and Management Support Services Technical and Management Support Services Technical and Management Support Services			
Family Home Hospice	Linda Artis	4-7896	GUZZETTAG	Tucson, AZ	311
Subject:	Presentation given to staff and patients of Family Home Hospice regarding the Yucca Mountain Site Characterization Project				
Remarks:	Native American Cultural Presentation Speaker invited to lunch				
Schedule:	Thu 26-Mar-1992 12:00 PM 1701 W. Charleston Blvd., Las Vegas				
Attendance:	Richard Arnold Technical and Management Support Services				
YM Lecture Series	Linda Artis	4-7896	GUZZETTAG	Las Vegas, NV	312
Subject:	Lecture Series Presentation regarding Cultural Resource Program at both Information Offices				
Remarks:	Native American Cultural Presentation				
Schedule:	Thu 26-Mar-1992 07:00 PM Las Vegas Information Office, Las Vegas Tue 31-Mar-1992 07:00 PM Beatty Information Office, Beatty				
Attendance:	Richard Arnold Technical and Management Support Services				

<u>Event Topic</u>	<u>Coordinator Name</u>	<u>Phone Number</u>	<u>Username</u>	<u>City & State</u>	<u>Event Nbr</u>														
YM Public Open House/Tour	Carleen Hill	4-7375	GUZZETTAG	Las Vegas, NV	229														
Subject:	Open House/tour of Yucca Mountain. Exhibit staffing. Tour of YM, facilities and lunch at NTS.																		
Remarks:	Tentative staff scheduled, final staffing TBD prior to event. Board buses at 7:30 a.m., return to Info Office approximately 4:30 p.m.																		
Schedule:	Sat 28-Mar-1992 07:00 AM Meet at the Information Office in Las Vegas.																		
Attendance:	<table border="0"> <tr> <td>Bruce Crowe</td> <td>Los Alamos National Laboratory</td> </tr> <tr> <td>Gayle R Fisher</td> <td>U.S. Department of Energy</td> </tr> <tr> <td>TBD Others</td> <td></td> </tr> <tr> <td>Bea Reilly</td> <td>Technical and Management Support Services</td> </tr> <tr> <td>Kevin J Rohrer</td> <td>Technical and Management Support Services</td> </tr> <tr> <td>Dennis Sorenson</td> <td>Technical and Management Support Services</td> </tr> <tr> <td>Winn Wilson</td> <td>U.S. Department of Energy</td> </tr> </table>					Bruce Crowe	Los Alamos National Laboratory	Gayle R Fisher	U.S. Department of Energy	TBD Others		Bea Reilly	Technical and Management Support Services	Kevin J Rohrer	Technical and Management Support Services	Dennis Sorenson	Technical and Management Support Services	Winn Wilson	U.S. Department of Energy
Bruce Crowe	Los Alamos National Laboratory																		
Gayle R Fisher	U.S. Department of Energy																		
TBD Others																			
Bea Reilly	Technical and Management Support Services																		
Kevin J Rohrer	Technical and Management Support Services																		
Dennis Sorenson	Technical and Management Support Services																		
Winn Wilson	U.S. Department of Energy																		
Boy Scout Workshops	Effie J Harle	5-1312	GUZZETTAG	Las Vegas, NV	204														
Subject:	Boy Scout Geology Merit Badge Workshop to be held at the Yucca Mountain Information Office																		
Remarks:	Tentative staff scheduled; will be set prior to event																		
Schedule:	Sat 28-Mar-1992 10:00 AM Information Office, 4101-B Meadows Lane																		
Attendance:	<table border="0"> <tr> <td>Jim Blink</td> <td>Lawrence Livermore National Laboratory</td> </tr> <tr> <td>Effie Harle</td> <td>Technical and Management Support Services</td> </tr> <tr> <td>Erin Larkin</td> <td>Technical and Management Support Services</td> </tr> <tr> <td>Bill Macnabb</td> <td>Technical and Management Support Services</td> </tr> <tr> <td>Chris Pflum</td> <td>Technical and Management Support Services</td> </tr> <tr> <td>Kevin Shenk</td> <td>Technical and Management Support Services</td> </tr> <tr> <td>Jean Younker</td> <td>Technical and Management Support Services</td> </tr> </table>					Jim Blink	Lawrence Livermore National Laboratory	Effie Harle	Technical and Management Support Services	Erin Larkin	Technical and Management Support Services	Bill Macnabb	Technical and Management Support Services	Chris Pflum	Technical and Management Support Services	Kevin Shenk	Technical and Management Support Services	Jean Younker	Technical and Management Support Services
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<u>Event Topic</u>	<u>Coordinator Name</u>	<u>Phone Number</u>	<u>Username</u>	<u>City & State</u>	<u>Event Nbr</u>														
Ofc of Hearing & Appeals	Carleen Hill	4-7375	GUZZETTAG	Las Vegas, NV	319														
<p>Subject: Yucca Mountain Tour given to DOE's Office of Hearing and Appeals</p> <p>Remarks: Tentative staff scheduled, will be finalized prior to event.</p> <p>Schedule: Thu 02-Apr-1992 07:00 AM Meet at the Information Office in Las Vegas</p> <p>Attendance:</p> <table border="0"> <tr> <td>Vicky Best</td> <td>U.S. Department of Energy</td> </tr> <tr> <td>Bruce Crowe</td> <td>Los Alamos National Laboratory</td> </tr> <tr> <td>Carleen Hill</td> <td>Technical and Management Support Services</td> </tr> <tr> <td>Kevin Rohrer</td> <td>Technical and Management Support Services</td> </tr> <tr> <td>Mike Voegele</td> <td>Technical and Management Support Services</td> </tr> </table>						Vicky Best	U.S. Department of Energy	Bruce Crowe	Los Alamos National Laboratory	Carleen Hill	Technical and Management Support Services	Kevin Rohrer	Technical and Management Support Services	Mike Voegele	Technical and Management Support Services				
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Bruce Crowe	Los Alamos National Laboratory																		
Carleen Hill	Technical and Management Support Services																		
Kevin Rohrer	Technical and Management Support Services																		
Mike Voegele	Technical and Management Support Services																		
Girl Scout Workshops	Effie J Harle	5-1312	GUZZETTAG	Las Vegas, NV	206														
<p>Subject: Girl Scout Geology Badge Workshop to be held at the Yucca Mountain Information Office</p> <p>Remarks: Tentative staff scheduled; will be set prior to event</p> <p>Schedule: Sat 04-Apr-1992 10:00 AM Information Office, 4101-B Meadows Lane</p> <p>Attendance:</p> <table border="0"> <tr> <td>Christin Barry</td> <td>U.S. Department of Energy</td> </tr> <tr> <td>Effie Harle</td> <td>Technical and Management Support Services</td> </tr> <tr> <td>Diane Hattler</td> <td>Technical and Management Support Services</td> </tr> <tr> <td>Susan Jones</td> <td>U.S. Department of Energy</td> </tr> <tr> <td>Martha Pendleton</td> <td>Technical and Management Support Services</td> </tr> <tr> <td>Ardyth Simmons</td> <td>U.S. Department of Energy</td> </tr> <tr> <td>Jean Younker</td> <td>Technical and Management Support Services</td> </tr> </table>						Christin Barry	U.S. Department of Energy	Effie Harle	Technical and Management Support Services	Diane Hattler	Technical and Management Support Services	Susan Jones	U.S. Department of Energy	Martha Pendleton	Technical and Management Support Services	Ardyth Simmons	U.S. Department of Energy	Jean Younker	Technical and Management Support Services
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Jean Younker	Technical and Management Support Services																		

<u>Event Topic</u>	<u>Coordinator Name</u>	<u>Phone Number</u>	<u>Username</u>	<u>City & State</u>	<u>Event Nbr</u>
NWTRB	Ardyth M Simmons	794-7998	MAGRUDERJ	Dallas, TX	252
	Subject: Full Board Meeting, topics TBA				
	Schedule: Mon 06-Apr-1992 08:30 AM Dallas, TX Tue 07-Apr-1992 08:30 AM Dallas, TX Wed 08-Apr-1992 08:30 AM Dallas, TX Thu 09-Apr-1992 08:30 AM Dallas, TX				
	Attendance: Staff				
American Power Dispatcher Linda Artis		4-7896	GUZZETTAG	Las Vegas, NV	264
	Subject: Presentation to American Power Dispatchers Association regarding the Yucca Mountain Site Characterization Project.				
	Remarks: Nevada Power, this year host of SW Association Meeting. Members from NV, UT, AZ, NM, CO, TX; involved with nuclear power stations. Project overview; interested in technology used for scientific studies. And status of those studies.				
	Schedule: Sat 11-Apr-1992 09:00 AM Hotel San Remo, 115 E. Tropicana Ave.				
	Attendance: Carl P Gertz U.S. Department of Energy				
IHLRWM Conference	Carleen Hill	4-7375	GUZZETTAG	Las Vegas, NV	320
	Subject: Yucca Mountain Tour given to the attendees of the International High-Level Radioactive Waste Management Conference				
	Remarks: Tentative staff scheduled, will be finalized prior to event.				
	Schedule: Fri 17-Apr-1992 07:00 AM Meet at the Information Office in Las Vegas				
	Attendance: Ken Beall Technical and Management Support Services Bruce Crowe Los Alamos National Laboratory Carleen Hill Technical and Management Support Services Kevin Rohrer Technical and Management Support Services Mike Voegele Technical and Management Support Services				

Event Topic -----	Coordinator Name -----	Phone Number -----	Username -----	City & State -----	Event Nbr -----										
Chaparral High School	Carleen Hill	4-7375	GUZZETTAG	Las Vegas, NV	321										
Subject:	Yucca Mountain Tour given to staff and students of Chaparral High School														
Remarks:	Tentative staff scheduled, will be finalized prior to event.														
Schedule:	Wed 22-Apr-1992 07:00 AM Meet at the Information Office in Las Vegas														
Attendance:	<table border="0"> <tr> <td>Vicky Best</td> <td>U.S. Department of Energy</td> </tr> <tr> <td>Jean Cooper</td> <td>U.S. Department of Energy</td> </tr> <tr> <td>Bruce Crowe</td> <td>Los Alamos National Laboratory</td> </tr> <tr> <td>Carleen Hill</td> <td>Technical and Management Support Services</td> </tr> <tr> <td>Kevin Rohrer</td> <td>Technical and Management Support Services</td> </tr> </table>					Vicky Best	U.S. Department of Energy	Jean Cooper	U.S. Department of Energy	Bruce Crowe	Los Alamos National Laboratory	Carleen Hill	Technical and Management Support Services	Kevin Rohrer	Technical and Management Support Services
Vicky Best	U.S. Department of Energy														
Jean Cooper	U.S. Department of Energy														
Bruce Crowe	Los Alamos National Laboratory														
Carleen Hill	Technical and Management Support Services														
Kevin Rohrer	Technical and Management Support Services														
ACNW	Jeanne Cooper	794-7930	MAGRUDERJ	Bethesda, MD	248										
Subject:	Working Group, topic TBA														
Schedule:	Wed 22-Apr-1992 08:30 AM Bethesda, MD														
Attendance:	Staff														
ACNW	Jeanne Cooper	794-7930	MAGRUDERJ	Bethesda, MD	249										
Subject:	42nd meeting														
Remarks:	Agenda TBA														
Schedule:	<table border="0"> <tr> <td>Thu 23-Apr-1992 08:30 AM</td> <td>Bethesda, MD</td> </tr> <tr> <td>Fri 24-Apr-1992 08:30 AM</td> <td>Bethesda, MD</td> </tr> </table>					Thu 23-Apr-1992 08:30 AM	Bethesda, MD	Fri 24-Apr-1992 08:30 AM	Bethesda, MD						
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Fri 24-Apr-1992 08:30 AM	Bethesda, MD														
Attendance:	Staff														

Event Topic -----	Coordinator Name -----	Phone Number -----	Username -----	City & State -----	Event Nbr -----														
YM Public Open House/Tour	Carleen Hill	4-7375	GUZZETTAG	Las Vegas, NV	239														
Subject:	Open House/tour of Yucca Mountain. Exhibit staffing. Tour of YM, facilities and lunch at NTS.																		
Remarks:	Tentative staff scheduled, final staffing TBD prior to event. Board buses at 7:30 a.m., return to Info Office approximately 4:30 p.m.																		
Schedule:	Sat 25-Apr-1992 07:00 AM Meet at the Information Office in Las Vegas.																		
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Winn Wilson	U.S. Department of Energy																		
NRC TE	Tom Bjerstedt	794-7590	MAGRUDERJ	Albuquerque, NM	179														
Subject:	Scenario development and screening, and construction of a complementary cumulative distribution function (CCDF)																		
Remarks:	Discuss the technical and regulatory issues related to the construction of a CCDF.																		
Schedule:	<table border="0"> <tr> <td>Tue 28-Apr-1992 08:30 AM</td> <td>Albuquerque, NM</td> </tr> <tr> <td>Wed 29-Apr-1992 08:30 AM</td> <td>Albuquerque, NM</td> </tr> </table>					Tue 28-Apr-1992 08:30 AM	Albuquerque, NM	Wed 29-Apr-1992 08:30 AM	Albuquerque, NM										
Tue 28-Apr-1992 08:30 AM	Albuquerque, NM																		
Wed 29-Apr-1992 08:30 AM	Albuquerque, NM																		
Attendance:	Tom Bjerstedt U.S. Department of Energy																		

**U.S. House of Representatives
Committee on Interior and Insular Affairs
Subcommittee on Energy and the Environment**

**Field Hearing on H.R. 1301, Title V, Subtitle B,
High-Level Radioactive Waste Legislation**

**Moyer Student Union, University of Nevada, Las Vegas
January 10, 1992, 9:00 a.m.**

Panel 1

**Hon. Richard H. Bryan, U.S. Senator, Nevada
Hon. Barbara F. Vucanovich, U.S. House of Representatives, Nevada
Hon. Bob Miller, Governor, State of Nevada**

Panel 2

**Hon. Frankie Sue Del Papa, Attorney General, State of Nevada
Alan Broch, Deputy Attorney General, State of Idaho**

Panel 3

**Dr. John W. Bartlett, Director, Office of Civilian Radioactive Waste Management,
U.S. Department of Energy**

Panel 4

**Hon. Raymond D. Yowell, Chief, Western Shoshone National Council
Hon. Bill O'Donnell, Senator, Nevada State Senate
Hon. Jan Laverty Jones, Mayor, Las Vegas
Hon. Thalia Dondero, Commissioner, Clark County Commission
Hon. Barbara Raper, Chairwoman, Nye County Commission**

Panel 5

**Hugh J. Anderson, III, Co-Chairman, Nevada Nuclear Waste Study Committee
Edward M. Davis, President, American Nuclear Energy Council
Jo Anne Garrett, Board Member, Citizen Alert
Dan W. Reicher, Senior Attorney, Natural Resources Defense Council
Frank Caine, President, Southern Nevada Building & Construction Trades Council**

STATEMENT OF

John W. Bartlett, Director

**Office of Civilian Radioactive Waste Management
U.S. Department of Energy**

Before the

**Committee on Interior and Insular Affairs
Subcommittee on Energy and the Environment
U.S. House of Representatives**

January 10, 1992

Mr. Chairman and Members of the Committee:

I appreciate the opportunity to testify before you today on the nuclear waste storage and disposal provisions contained in Subtitle B of Title V of the Administration's National Energy Strategy Act (H.R. 1301). Before specifically addressing the need and justification for this legislative initiative, I would first like to review the historical perspective of the Civilian Radioactive Waste Management Program at the Department of Energy (DOE) and provide an update on the current status of our efforts to proceed with the Congressionally-mandated site characterization of the Yucca Mountain site in Nevada, and of the ongoing search for a volunteer host for a Monitored Retrievable Storage (MRS) facility.

As an introduction, I want to emphasize the importance of moving forward expeditiously with the Civilian Radioactive Waste Management program. It is crucial to the welfare of the Nation that we achieve progress and results because of the current and projected buildup of spent fuel now stored at reactor sites across the country. In addition, demonstration of waste management capability is a key factor in the future of nuclear power and the promise it holds as a continuing source of clean, economic, reliable, and domestically-generated electricity. Very simply, then, the proposed legislation is needed to enable waste management to play its part for public health and safety, the environment, and national energy security. It is needed to complete the legislative framework for the waste management program, and thereby to assure that there are no inappropriate impediments to program progress.

Background

Before discussing the proposed legislation and our program status, I'd like to provide some relevant background.

After many years of national debate concerning the process, timetable, and funding for developing this Nation's high-level radioactive waste management system, Congress took a major step in December 1982 by enacting the Nuclear Waste Policy Act (NWPA). The NWPA established a national policy for high-level radioactive waste disposal, a step-by-step process, a timetable, a funding mechanism, clear responsibilities for those Federal agencies charged with implementing the law, and specific roles for participating and affected parties in developing the waste management system. Congress took these actions to resolve the national problem created by the continuing accumulation of high-level radioactive waste and to provide for permanent disposal of that waste in a way that protects worker and public health and safety, and the environment.

By passage of the NWPA, deep geological disposal for spent nuclear fuel and high-level radioactive waste was designated by Congress as the environmentally appropriate means of permanent disposal for the United States. This national decision was consistent with recommendations made 25 years earlier by the National Academy of Sciences, and consistently advocated since then by knowledgeable scientists in this country and in other nations also faced with the challenge of high-level radioactive waste disposal.

Five years after passage of the NWPA, and following extensive geologic and environmental data evaluation on nine sites in six States, Congress once again acted, this time to direct, among other things, that the Department of Energy (DOE) focus detailed scientific investigation on only one site -- Yucca Mountain in the State of Nevada -- to assess whether or not that site is suitable for development of the Nation's first geologic repository.

In late 1988, DOE issued a detailed site characterization plan for carrying out site investigations at Yucca Mountain. Issuance of this document followed public hearings in Nevada and receipt of comments on a consultative draft of the plan from the State of Nevada, the Nuclear Regulatory Commission (NRC), the Environmental Protection Agency (EPA), the nuclear industry, and the public. Then, in November 1989, Secretary Watkins conducted an extensive review of the program, and submitted a "Report to Congress on Reassessment of the Civilian Radioactive Waste Management Program." The Report contained a three-point plan which centered on restructuring OCRWM, taking initiatives to gain access to Yucca Mountain to continue the scientific investigations needed to evaluate the site's suitability for a potential repository, and proposing an initiative for establishing an integrated monitored retrievable storage (MRS) facility with a target of 1998 for spent fuel acceptance.

The management issues have been forcefully addressed. Following my confirmation as Director, Office of Civilian Radioactive Waste Management, in April 1990, I implemented a number of direct actions that are very important to the program's forward progress. In one of these actions, I reorganized OCRWM to replace the previous matrix management with direct lines of responsibility,

authority and accountability. In this reorganization, the Office of Geologic Disposal replaces the Yucca Mountain Project Office and reports directly to the Director of OCRWM, rather than to the Nevada Operations Office. The Yucca Mountain Project was renamed the Yucca Mountain Site Characterization Project Office and is now a part of the Office of Geologic Disposal. As part of the basis and planning for this reorganization, I established a Management Systems Improvement Strategy which applies a rigorous program management approach based on systems engineering principles. In preparing for a new Mission Plan Amendment, I have conducted a series of workshops that involve interested and affected parties in developing a set of strategic principles that OCRWM will use to refocus and implement its mission under the NWPA, as amended. The final Mission Plan Amendment is scheduled to be issued in April.

In June and July of last year, as a result of a court order, the State of Nevada completed processing and issued two of the three permits which had been pending for over two years. These were the air quality permit and the underground injection permit. The third permit covered by the court order is the water appropriation permit on which hearings have been held and a decision on its issuance is expected soon. Officials of the State appeared at the water permit hearings and testified in opposition to its issuance.

With the two permits issued in June and July, and using water trucked in from California, we began new surface-based site characterization activities in July of 1991 for the first time since 1986.

We had been ready to initiate these new activities since early 1990. At that time, initial study plans had been completed for these activities, quality assurance procedures developed for continuing activities, and a biological opinion that the site characterization study would not jeopardize the continued existence of the desert tortoise had been received. When litigation was initiated by the State in 1990, it became evident that the required State permits would not be forthcoming in a timely manner, so the Department shifted its focus and resources to other activities while expanding the range of activities on which it was ready to proceed.

Since that time, DOE has conducted program-wide quality assurance audits both at Headquarters and the Yucca Mountain Site Characterization Project Office to assure that the overall program meets NRC requirements which ensure high quality in all activities at all levels of the program. Existing study plans were revised and updated for the first set of tests now underway. Prototype equipment and instruments were developed, tested, and refined. We also completed our effort to identify a prioritized set of tests that would result in determination of the suitability of the Yucca Mountain site as a potential disposal location as early as possible.

In response to concerns raised by NRC, the Nuclear Waste Technical Review Board, the State of Nevada and others, I directed the evaluation of existing and alternative designs for the Exploratory Studies Facility. In January 1991, preliminary results of that evaluation were available and are now being used in design studies to support a final decision to be made soon.

Concurrently, the efforts of the independent Nuclear Waste Negotiator - Mr. David Leroy -- have achieved results. As a result of Mr. Leroy's efforts, two MRS feasibility study grant awards have been funded by DOE, one for the Mescalero Apache Tribe in New Mexico, and a second for Grant County, North Dakota. Several more applications for these study grants are expected soon.

We are optimistic that the Negotiator's efforts will produce a negotiated agreement with a willing host for an MRS. A Memorandum of Understanding between Mr. Leroy and Secretary Watkins established the procedures under which the Department provides the Negotiator with information and assistance.

Status of Litigation

Over the past six years the State of Nevada has filed three lawsuits and against DOE and one against the Bureau of Land Management (BLM) in its effort to prevent the study of Yucca Mountain. All of this litigation was resolved in 1991 and all decisions were in DOE's favor.

- 1) Nevada v. Watkins 939 F. 2d 710 (9th Cir. 1991). This "guidelines" case was filed by Nevada on May 29, 1985, to challenge DOE's published guidelines (10 CFR Part 960) for the selection and evaluation of potential repository sites. The Ninth Circuit dismissed this case on July 17, 1991.

- 2) Nevada v. Watkins 943 F 2d 1080 (9th Cir. 1991). This "environmental assessment" case was filed by Nevada on May 28, 1986, to challenge

the sufficiency of DOE's environmental assessment performed in connection with the Secretary of Energy's recommendation to the President for characterization of the Yucca Mountain site as a possible repository candidate site. The Ninth Circuit dismissed this case on August 28, 1991.

- 3) Nevada v. Burford (Bureau of Land Management) 918 F. 2d 854 (9th Cir. 1990). This "right-of-way" case was filed by Nevada in March 1988 to challenge the issuance of a right-of-way by BLM to DOE to conduct site characterization activities at Yucca Mountain. The District Court dismissed the suit on jurisdictional grounds and, on appeal by the State, the 9th Circuit upheld the District Court's dismissal. Nevada then petitioned the Supreme Court to review the Ninth Circuit decision and on May 20, 1991, the Supreme Court denied the State's petition for review.

- 4) Nevada v. Watkins 914 F. 2d 1545 (9th Cir. 1990). This "veto" case was filed by Nevada on January 5, 1990, to challenge the constitutionality of the Nuclear Waste Policy Amendments Act of 1987 and the Secretary's authority to proceed with site characterization activities at Yucca Mountain. The 9th Circuit decided in DOE's favor on September 19, 1990, and Nevada's petition for review by the Supreme Court was denied on March 4, 1991.

This latter decision by the Supreme Court facilitated progress in DOE v. Nevada, an action brought by DOE in the Nevada District Court to compel the

State to process the three permits which are needed to proceed with the site characterization at Yucca Mountain and which had been pending since 1988. On May 13, 1991, the District Court ordered the State to take final action on the air quality and underground injection permits by July 17. Also under order of the District Court, the State Engineer proceeded with processing of the water permit application.

Beginning September 24, 1991, nine days of public hearings were held on the water permit application at which the State appeared and testified against issuance of the permit. At the conclusion of the hearings, the State Engineer expressed his expectation that a final decision would be rendered by the end of 1991. However, this timetable may already be in jeopardy as a result of the latest move by the State as intervenor in the proceedings. Post-hearing briefs were requested by the State Engineer from both DOE and the State by November 12 and final reply briefs by November 20. Both of these deadlines were met by DOE and the State which should have afforded the State Engineer sufficient time to complete the processing and render a decision in a timely fashion. Then, on December 17, two weeks before the end of the year, the State submitted a motion to the State Engineer to file a Supplemental Reply Brief. The mere filing of this motion, whether granted or denied, could result in additional time being required by the State Engineer to complete the processing of the application.

If the water permit is disapproved by the State Engineer, DOE would once again be forced to seek relief in the courts. If the water permit is granted, the State can appeal its issuance through the State Courts. While the State's intentions regarding an appeal are, of course, unknown, it is worth noting that

the Nevada Deputy Attorney General, representing the State as intervenor, stated in the hearing on October 1, "Well, Mr. Turnipseed (State Engineer), ...fortunately or unfortunately, this proceeding is probably not going to end with your decision." (Page 15, Volume VI, October 1, 1991, Transcript of Proceedings, Application Number 52338.)

It must be remembered that these three permits are only the first of many that will be required to complete the site characterization process over the next 7-8 years. [A list of all the necessary permits is attached (Attachment A)]. Further, the State in its brief before the Ninth Circuit Court of Appeals in the "veto" case avowed its unrelenting intention to "...exercise every power and every aspect of its inherent jurisdiction to frustrate the Federal program...", and at every opportunity in the past it has demonstrated a history of delay and litigation. It easily could continue to use such tactics to delay further the program indefinitely into the future. In fact, at the hearing before the Senate Committee on Energy and Natural Resources on March 21, 1991, Nevada Governor Bob Miller refused to assure the Committee that the State would no longer employ obstructionist tactics to prevent the work at Yucca Mountain. And, at the International High-Level Radioactive Waste Management Conference in Las Vegas last April, Governor Miller indicated that Nevada's position on Yucca Mountain remains the same "... except for one thing: our resolve has stiffened."

The Department has made every effort, and continues to make every effort, to interact with the State in a responsible and responsive manner. As I stated in a March 29, 1991, letter to the Nevada Nuclear Waste Project Office, we believe that the State's independent oversight activities can make important

contributions to the Yucca Mountain site characterization effort. Independent efforts of the State that supplement and complement those of the Department would enhance the prospect for an expeditious determination of the suitability of Yucca Mountain for a high-level radioactive waste repository. We have indicated that we would like to work with Nevada in this regard. The State, however, has not responded to this or any other like offer. In fact, the State has repeatedly refused to enter into discussions regarding consultation and cooperation agreements with the Department, as well as discussions concerning a benefits agreement which is authorized under the NHPA, as amended. This continued resistance by the State of Nevada to meaningful interaction with the Department not only diminishes our ability to resolve an important national issue, but also thwarts the will of the Congress of the United States.

National Energy Strategy Act (H.R. 1301)

In order to expedite activities and be assured that future activities needed to evaluate the suitability of the Yucca Mountain site can proceed without further unwarranted State obstruction, DOE submitted a legislative proposal as part of the National Energy Strategy Act (H.R. 1301).

Section 511 of the Administration-proposed legislation would allow DOE to conduct site characterization activities without the need to obtain permits from a State, a local government, or an Indian Tribe. DOE's obligation to follow environmental requirements would not be removed, however. Rather, the requisite administrative and monitoring authority merely would shift from the State to appropriate agencies within the Executive Branch of the Federal Government. Also, the Department would be required to consider the views of States, local

governments, and Indian Tribes regarding their laws and requirements affecting site characterization activities. Thus, our requested legislation would allow the essential access to the site while still ensuring that environmental and other applicable regulatory requirements are met. There is also a provision that would allow the State to regain its authority should it be willing to cooperate in good faith and enter into an agreement through the Nuclear Waste Negotiator with the Department governing site characterization.

The Environmental Protection Agency (EPA) has endorsed Section 511 as appropriate legislation, with the understanding that there will be no relaxation or minimization of enforcement of environmental statutes and regulations which govern DOE's site characterization activities at Yucca Mountain. The Administration is committed to ensuring that EPA has all the necessary authority and capability to vigorously oversee DOE's activities and ensure that they satisfy both the spirit and letter of the laws protecting human health and the environment. Moreover, both EPA and DOE believe that the adoption of Section 511 would not establish a precedent for future activities elsewhere.

In addition, I should emphasize the narrowness of the alteration of authorities that this legislation addresses. The legislation would leave intact the State of Nevada's authority under the NWPA to veto any future decision to select Yucca Mountain as the site for the repository. Even the suspension of the State's permitting authority would apply only to the narrow task of determining the site's scientific suitability as a repository.

A key element of the National Energy Strategy (NES) is maintaining the nuclear energy option by removing undue regulatory and institutional barriers to nuclear power use. The NES identifies an important role for nuclear energy as part of a balanced array of energy sources for meeting the Nation's energy needs, especially the growing demand for electricity. Clearly, an important ingredient to achieving these goals is the ability to demonstrate greater progress in managing and disposing of the waste we already have. We must be able to ensure that as a nation we are able to dispose safely and permanently of both the existing high-level waste currently being stored in temporary sites across the country, and the wastes that will continue to be generated in the future, with or without new nuclear plant orders. The principal obstacle to our achieving such progress has been the continuing inability of DOE to have confidence that it will be able to complete all site characterization activities necessary to determine whether or not the Yucca Mountain site is suitable for a repository without politically-motivated interference from the State. Until this impediment is removed, DOE will be unable to carry out fully its mandate to find an appropriate way to deal with the Nation's growing accumulation of high-level radioactive waste in a timely manner. Hence, we believe the proposed legislation is not only needed and justified, but it is the appropriate approach to solving an important national problem.

Program Outlook

The present program activities at Yucca Mountain cannot be sustained during a period of protracted litigation. Under such circumstances, we might not be able to maintain meaningful work and morale for present personnel, whose skills are needed for active pursuit of the site evaluation mission. This could

threaten DOE's ability to execute its mission, and thereby thwart the will of Congress.

Failure to proceed at Yucca Mountain will have other important adverse consequences. In a program with a budget such as ours, delay has serious cost consequences. OCRWM's program activities are funded through Nuclear Waste Fund payments made by electric utilities with nuclear facilities, who collect such fee amounts through rates charged to their customers. As OCRWM costs increase as a result of Yucca Mountain delays, the impact of such increases is ultimately borne by these customers. In that regard, we already have indications from the nuclear industry, the electric utilities, and the National Association of Regulatory Utility Commissioners, which represent the ratepayers who provide funding for the Nuclear Waste Fund, that strong action, including litigation and proposals for legislation, can be expected if the program continues to languish.

DOE takes its responsibilities under the NWA very seriously. Secretary Watkins has been directed by the President to work closely with industry and State governments to proceed swiftly toward a safe and environmentally acceptable deployment of a means of storing and disposing of spent fuel and high-level radioactive waste.

Since the first National Academy of Sciences report on this subject in 1957, there has been a continuing international technical consensus that this country and other nations are capable of safely disposing of spent fuel and high-level waste in deep geologic repositories. Again, while the safe management

of high-level waste is one of the Nation's greatest environmental challenges, there is a technical consensus that it is solvable.

Congress took action in 1982 and again in 1987 for DOE to proceed toward that goal. I think it is important to note, Mr. Chairman, that all Congressional legislation related to the Civilian Radioactive Waste Management program has enjoyed strong, bipartisan support -- in 1982, again in 1987, and now -- as the Congress considers the pending legislation. S. 1138, a free-standing bill which includes Yucca Mountain provisions similar to those in H.R. 1301, was favorably reported by the Senate Committee on Energy and Natural Resources by a bipartisan vote of 14-5. The Yucca Mountain provisions contained in Title V of H.R. 776, while differing somewhat in approach, also meet the objectives of H.R. 1301 and S. 1138 and were adopted by a near-unanimous, bipartisan voice vote of the House Energy and Commerce's Subcommittee on Energy and Power. It seems clear that Congress, in bipartisan fashion, is serious about wanting DOE to get on with its legislative mandate to complete the scientific investigation of Yucca Mountain and to find a solution to the nation's mounting nuclear waste disposal problem.

DOE is ready scientifically and managerially to proceed with its site investigations. I would like to emphasize again that we do not in any way seek exemption from environmental protection or any other applicable regulatory requirements. We seek only assurance of the opportunity to proceed with our mandated responsibilities for evaluation of the Yucca Mountain site. To provide that assurance, it is imperative that Congress act again.

Conclusion

DOE believes that legislative action is necessary to ensure continued access to Yucca Mountain for scientific investigations, to overcome potential permitting obstructions, to enable us to fulfill our mandate from the Congress. Admiral Watkins stated this in a letter to Congress on June 27, 1991. DOE stands ready to work with you in taking this important step toward safe, timely, and effective management of high-level radioactive waste. In light of concerns about potential global climate change and the need for new generating capacity to meet the electricity requirements for a growing U.S. economy, the nuclear power option must not be abandoned. Proceeding with the development of a nuclear waste management program is an integral component of our overall strategy to preserve our energy choices; ensure safe, permanent disposal of existing high-level waste; and effectively protect the environment. I ask for your help to proceed.

Mr. Chairman, this concludes my remarks.

SUMMARY OF SIGNIFICANT PERMITS/APPROVALS

STATE PERMIT/APPROVAL

- **The following State permits have been received or are in the review process:**
 - Land Access for BLM and Air Force Lands (SBT and ESF) BLM 1/10/89 Air Force 7/11/89
 - RCRA-EPA Registration and ID Number (SBT and ESF) 6/26/89
 - Air Registration Certificate for land disturbance (SBT and ESF) Received 6/12/91
 - Underground Injection Control permit (SBT) Received 7/17/91
 - Temporary groundwater appropriate permit for Well VH-1 10/1/91
 - Air Quality permit for 600 HP engines (SBT) 11/4/91
 - Groundwater Appropriation permit (SBT and ESF) - In administrative review process
- **The following permits/approvals require design information and will be applied for when this information is available:**
 - National Pollutant Discharge Elimination System permit (ESF)
 - Drinking Water System (ESF)
 - Sanitary Sewage permit (ESF)
 - State Water Pollution Control permit (ESF)
 - Air Quality permit for batch plant (ESF)
 - Air Quality permit for ESF vents (ESF)
 - Air Quality permit for gravel screening plant (ESF)
 - Underground Injection Control permits (ESF)

FEDERAL PERMIT/APPROVAL

- **The following Federal permits/approvals have been obtained:**
 - Land Access for BLM and Air Force Lands (SBT and ESF) BLM 1/10/89 Air Force 7/11/89
 - Native American Consultations & Protection of Cultural Resources (SBT and ESF)
 - Endangered Species Act Compliance (SBT and ESF)
 - Clean Water Act Section 404 permit (SBT)
 - Free-use permit (SBT and ESF)
 - Floodplain Executive Order Compliance (SBT)
- **The following Federal permits/approvals will be applied for when ESF design information is available:**
 - Floodplain Executive Order Compliance (ESF)
 - Clean Water Act Section 404 permit (ESF)

[SBT = Surface Base Testing; ESF = Exploratory Studies Facility]

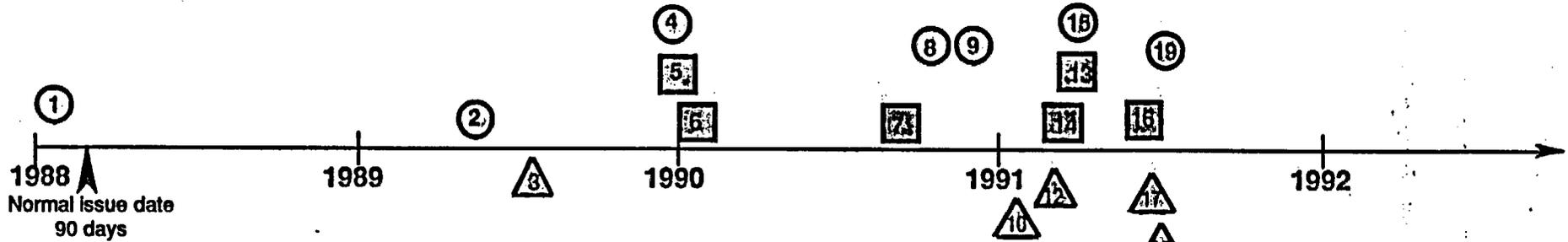
ATTACHMENT A

DOE KEY POINTS

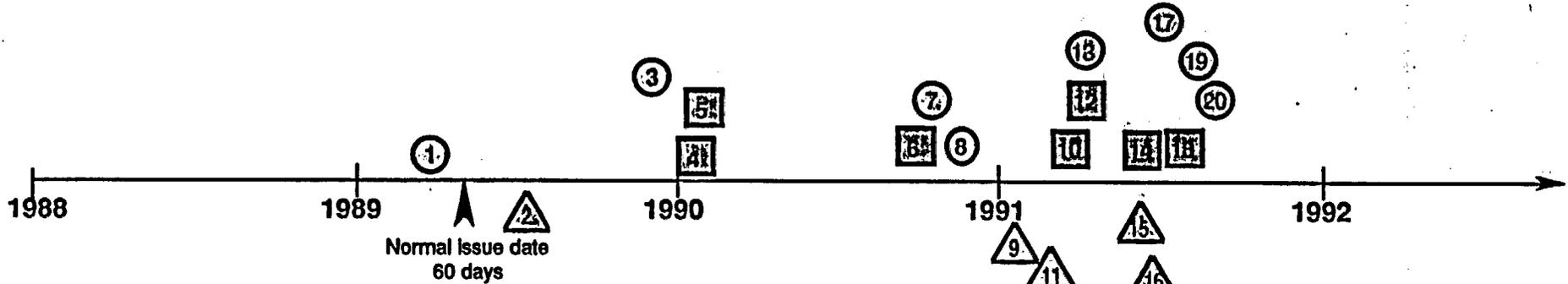
- **Legislation is needed to assure progress with disposal**
- **All environmental protection requirements will be met**
- **DOE findings will be subject to external review and oversight**

PERMIT CHRONOLOGY

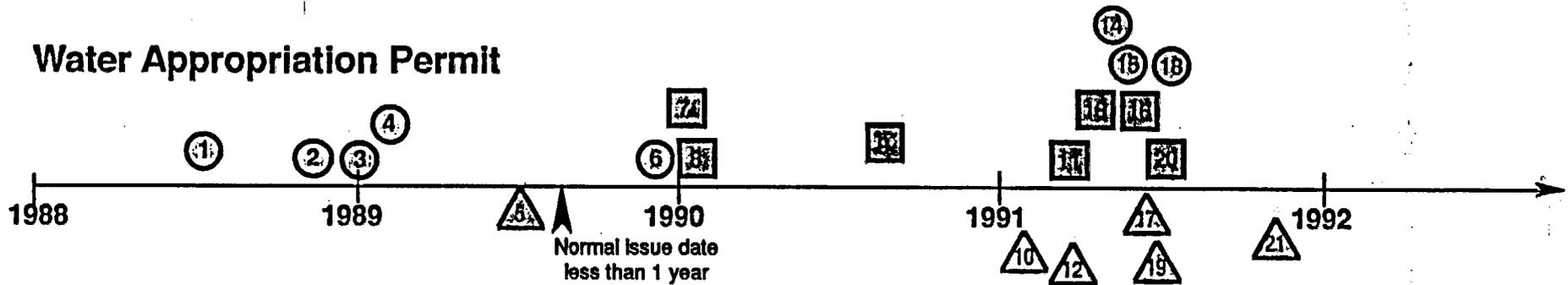
Air Quality Registration Certificate



Underground Injection Control Permit



Water Appropriation Permit



1 Permit Action
 2 Court Cases
 3 Legislative Action

(Date locations are approximate)
As of 1/9/92

AIR QUALITY REGISTRATION CERTIFICATE CHRONOLOGY

1. Permit application filed with Nevada 01/20/88
2. State refused to review application until SCP and other documents are revised 05/19/89
3. Nevada Assembly Bill 222 signed into law 07/06/89
4. Nevada returned application unapproved to DOE because approval would violate state law (AB 222) 12/26/89
5. Nevada filed suit against DOE in Ninth Circuit Court to uphold their veto based on AB 222 01/05/90
6. DOE filed suit against Nevada in District Court for delaying project permits 01/25/90
7. Ninth Circuit Court decision in favor of DOE, Nevada appeals 09/19/90
8. Permit application resubmitted 09/28/90
9. Nevada returned application pending appeal to the Supreme Court 11/19/90
10. National Energy Strategy calls for legislation 02/01/91
11. Supreme Court decided not to review the case 03/04/91
12. National Energy Strategy Act introduced H.R. 1301 including provision on permit issue, 3 hearings held 03/06/91
13. Federal District Court stayed decision until July on Nevada's delay in processing permits. Nevada stated that permits would be processed 03/20/91
14. Supreme Court decided not to review appeal 03/14/91
15. Permit application refiled 03/20/91

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|---|-----------------|
| 16. Nevada again filed an appeal with the Supreme Court | 05/07/91 |
| 17. Senate bill 1138 Introduced on permit issue | 05/22/91 |
| 18. Senate Energy and Natural Resources Committee marked up
and reported out S. 1138 | 06/12/91 |
| 19. Nevada Issued air quality permit | 06/12/91 |

**UNDERGROUND INJECTION CONTROL PERMIT
APPLICATION CHRONOLOGY
(C-HOLE COMPLEX WELLS)**

- 1. Underground Injection Control Permit (UIC) application filed with State of Nevada 04/06/89**
- 2. Nevada Assembly Bill 222 signed into law 07/06/89**
- 3. Nevada returned application unapproved because approval would violate state law (AB 222). 12/26/89**
- 4. Nevada filed suit against DOE in Ninth Circuit Court to uphold their veto based on AB 222. 01/05/90**
- 5. DOE filed suit against Nevada in District Court for delaying project permits 01/25/90**
- 6. Ninth Circuit Court decision in favor of DOE, Nevada appeals 09/19/90**
- 7. Permit application resubmitted. 09/28/90**
- 8. Nevada returned application pending appeal to Supreme Court 11/19/90**
- 9. National Energy Strategy calls for legislation 02/01/91**
- 10. Supreme Court decided to not review appeal 03/04/91**
- 11. National Energy Strategy Act introduced H.R. 1301 including provision on permit issue, 3 hearings held. 03/06/91**
- 12. Federal District Court stayed decision until July on Nevada's delay in processing permits. Nevada stated that permits would be processed 03/20/91**
- 13. Application resubmitted. 03/20/91**
- 14. Nevada again filed an appeal with the Supreme Court 05/07/91**
- 15. Senate bill 1138 introduced on permit issue 05/22/91**

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|---|-----------------|
| 16. Senate Energy and Natural Resources Committee marked up and reported out S. 1138 | 06/12/91 |
| 17. Nevada issued draft permit, pending public hearing on July 16, 1991 | 06/13/91 |
| 18. Supreme Court again decided not to review Nevada's appeal | 06/17/91 |
| 19. Public hearing held | 07/15/91 |
| 20. Permit issued | 07/16/91 |

WATER APPROPRIATION PERMIT CHRONOLOGY

1. Permit application filed with Nevada 07/21/88
2. Application deemed complete by Nevada 10/18/88
3. Protest filed by National Park Service (NPS) 01/03/89
4. Conference call held with NPS to discuss their protest
NPS is protesting all applications in the region, due to
concern for Death Valley water supply and endangered
species (pupfish). NPS stated that a monitoring program
as a permit condition would satisfy their concerns 02/03/89
5. Nevada Assembly Bill 222 signed into law 07/06/89
6. Nevada returned application unapproved to DOE because approval
would violate state law (AB 222) 12/26/89
7. Nevada filed suit against DOE in Ninth Circuit Court to uphold
their veto based on AB 222 01/05/90
8. DOE filed suit against Nevada in District Court for delaying project permits 01/25/90
9. Ninth Circuit Court decision in favor of DOE, Nevada appeal 09/19/90
10. National Energy Strategy calls for legislation 02/01/91
11. Supreme Court decided not to review appeal 03/04/91
12. National Energy Strategy Act introduced H.R. 1301 including provision
on permit issue, 3 hearings held 03/06/91
13. Federal District Court stayed decision until July on Nevada's delay in
processing permits. Nevada stated that permits would be processed 03/20/91
14. NPS withdrew protest 04/01/91

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|--|-------------------------------|
| 15. DOE refilled a copy of the original application | 04/03/91 |
| 16. Nevada again filed an appeal with the Supreme Court | 05/07/91 |
| 17. Senate bill 1138 introduced on permit issue | 05/22/91 |
| 18. NPS refilled and again withdraw their protest | 06/05/91 |
| 19. Senate Energy and Natural Resources Committee marked-up and reported out S.1138 | 06/12/91 |
| 20. Supreme Court again decided not to review Nevada's appeal | 06/17/91 |
| 21. House subcommittee (Sharp) held mark-up on permits bill. | 09/11/91 |
| 22. State issued Temporary Water Appropriation permit for Well VH-1 | 09/13/91 |
| 23. Nevada held 12-day hearing | 10/24/91-
11/04/91 |
| 24. Sharp subcommittee mark-up was included in H.R. 776 which was passed by Sharp's and Dingell's committee | 10/31/91 |
| 25. Awaiting decision | |
| 26. Subcommittee on Energy and the Environmental Hearing | 1/10/92 |

HEARING ON HR 776

STATEMENT OF

FRANKIE SUE DEL PAPA
ATTORNEY GENERAL OF THE STATE OF NEVADA

THE UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS
SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT

JANUARY 10, 1992

LAS VEGAS, NEVADA

Chairman Kostmayer, members of the Subcommittee, I appreciate the opportunity to appear before you and provide testimony relative to the Subcommittee's future consideration of HR 776.

I am pleased to see that this Subcommittee is seeking the opportunity to review HR 776. I received a letter from Senator Quentin Burdick, Chairman of the Senate Committee on Environment and Public Works, last September in which he indicated that Senator Chafee, Senator Graham and he are seeking referral of S. 1138 from the Committee on Energy and Natural Resources to the Committee on Environment and Public Works. I believe that it is entirely appropriate and necessary that these bills be reviewed by the environmental committees. I urge the Congressional leadership to grant joint jurisdiction to both the energy committees and the environment committees of each House with respect to consideration of HR 776. These bills represent environmental legislation and not just energy legislation.

My colleagues in the Attorneys General Offices of the Western States are as concerned as I am over the precedent that is being attempted by these bills. On August 1, 1991, the Conference of Western Attorneys General passed Resolution 91-A opposing the preemption language of Section 511 of HR 1301 and S. 1138. The Attorneys General reaffirmed their commitment to State regulatory control over environmental concerns and the primacy of State water law. They urged the Committees of jurisdiction and, if necessary, the respective houses of Congress, to defeat the preemptive language of the bills or similar legislation such as HR 776 which may be introduced to accomplish the purpose of stripping Nevada of its permitting authority over the site characterization program at Yucca Mountain.

I do not intend to provide my views of the legal and constitutional deficiencies of HR 776. Be assured, however, that if any of the bills referred to, HR 776 included, are enacted, I will have no choice but to direct my staff to prepare a prompt and comprehensive challenge to such legislation in the federal courts.

The thrust of my present testimony is that HR 776, like the other bills, would be self defeating in terms of expediting the characterization and study of Yucca Mountain. Furthermore, the

enactment of any of them will be inconsistent with the objectives of other, more important national policies and priorities.

My Office has been consistent in representing to the courts and when the occasion has arisen, to Congress, that DOE's applications for environmental and other permits will not be subject to discriminatory treatment. In fact, that has been the case. On March 4, 1991, the United States Supreme Court denied review of Nevada's constitutional challenge to the 1987 amendments to the Nuclear Waste Policy Act. Within hours of the notice of that decision, my Office advised the Governor that the processing of Department of Energy permit applications should proceed - and processing did proceed. The DOE's applications for a surface disturbance air quality permit and for an underground injection control permit were timely approved by Nevada's Environmental Protection Division. A time and place were set for a hearing to resolve the National Park Service protest and related State concerns to the approval of DOE's water permit application. A nine-day hearing was conducted before the State Engineer from September 24 to October 4, 1991. Briefs have been filed and the matter is ready for action by the State Engineer. The record should reflect that the Department of Energy has received non-discriminatory treatment of its permit applications notwithstanding the obvious discriminatory treatment Nevada has suffered by the 1987 Amendments Act.

If HR 776, is enacted, the administrative process involving DOE's water permit application and/or the judicial review process involving the State Engineer's decision will be cut short and the matter will be thrust into the federal courts. Appropriate stays will be requested to maintain the status quo as was the case when Nevada pursued its constitutional challenge to the 1987 Amendments Act.

It should be noted that the major issue involved in the hearing before the State Engineer had to do with the impact upon the endangered, threatened, and candidate species in the nearby Ash Meadows area that withdrawal of water for site characterization will have. These are predominantly federal issues arising under the Endangered Species Act. Evidence presented in the hearing before the State Engineer suggested that present water withdrawals on the Nevada Test Site have caused the water level in Devil's Hole to again put in jeopardy an endangered species of pupfish which received United States Supreme Court protection in a landmark 1976 decision. Numerous other plant, animal and insect species in the Ash Meadows area are either on the endangered or threatened species list or are candidates for listing. They, too, depend on existing water levels. Evidence indicates that the new permit which DOE has applied for on the eastern side of Yucca Mountain may adversely affect of the water levels at Ash Meadows.

The DOE presently has in its possession permits which will enable it to proceed with site characterization. While, as indicated, a decision is pending with respect to DOE's latest application for a water permit, it has had a State approved water permit since April 7, 1984 from a well known as VH-1 located just west of Yucca Mountain in Crater

Flat which would have satisfied its water needs well into the future. Why DOE has not used the water from VH-1 is difficult to determine from the record in the State Engineer's files. The DOE has applied to the State Engineer seven times for extensions of time to prove beneficial use when advised that its permit was in poor standing for failure to make beneficial use of the water. DOE's excuses range from delays in the construction schedule to budget cuts. Each time the State Engineer granted the requested extension of time. With this degree of accommodation of DOE's lack of diligence and demonstrated procrastination, it can hardly be suggested that the State permitting agencies are a cause for any delay in site characterization.

Language in HR 776 gives the DOE what appears to be an unanticipated, and probably an unintended exemption in terms of its avoidance of its environmental responsibility at the expense of federal policy. If HR 776 is enacted, Nevada's ability to ensure environmental compliance will be impaired in light of recent standing decisions in the federal courts. Despite the language in HR 776 which would amend Section 113 of the Nuclear Waste Policy Act to permit Nevada to "bring an action to enforce any Federal or State standard, requirement, criteria or limitation applicable to the conduct of site characterization", the language cannot confer Article III jurisdiction in the District Court. Nevada must also satisfy the "case or controversy requirement" of Article III by alleging and demonstrating some injury in fact to Nevada's interest. The fact that DOE may have failed to follow the law with respect to the standard, requirement, criteria or limitation would not be sufficient to confer standing. The net result is that DOE would enjoy, in practical effect, an unregulated status beyond the reach of any meaningful accountability in terms of environmental and listed species responsibilities. Entrusting the DOE with major environmental authority without oversight from independent State agencies exercising environmental permitting authority would be a mistake, particularly in view of DOE's environmental record at the scores of facilities under its control.

HR 776 is simply a means of freeing the DOE from procedural and substantive requirements designed to protect and preserve environmental values and promote public confidence. These policies are expressly incorporated into the Nuclear Waste Policy Act. The State of Nevada should be encouraged to maintain a vigorous oversight of DOE's environmental and programmatic compliance as mandated by the Nuclear Waste Policy Act. Whether or not Congress considers it desirable for the only entity that has a sufficient stake in the environmental consequences of DOE's program decisions at Yucca Mountain to be encouraged to enforce environmental compliance, it should be self evident, especially to this Subcommittee, that the State's efforts should not be frustrated by measures such as HR 776 or similar bills.

STATEMENT OF LARRY ECHOHAWK

ATTORNEY GENERAL

STATE OF IDAHO

BEFORE THE SUBCOMMITTEE ON ENERGY AND ENVIRONMENT

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

UNITED STATES HOUSE OF REPRESENTATIVES

JANUARY 10, 1992

LAS VEGAS, NEVADA

Statement of Larry EchoHawk
Attorney General
State of Idaho

Before the Subcommittee on Energy and Environment
Committee on Interior and Insular Affairs
United States House of Representatives

January 10, 1992
Las Vegas, Nevada

Mr. Chairman and members of the Subcommittee, the proposed provisions of H.R. 1301 and H.R. 776 would strip Nevada of the traditional authority that States possess and use to hold all agencies of the Federal Government -- including the Department of Energy -- accountable under this nation's environmental laws. Not only is this unneeded, the legislation would set a dangerous precedent.

For more than twenty years, Congress has made clear that enforcing this nation's environmental laws is the province of the States. As the Clean Air Act states, "air pollution prevention (that is, the reduction or elimination, through any measures, of the amount of pollutants produced or created at the source) and air pollution control at its source is the primary responsibility of the States and local governments." 42 U.S.C. § 7401(a)(3). The Clean Water Act likewise provides that "[i]t is the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution." 33 U.S.C. § 1251(b). Similarly, the Resource Conservation and Recovery Act acknowledges that the States are primarily responsible for regulating the conduct of persons who generate, store or dispose hazardous waste. 42 U.S.C. § 6901(a)(4).

Significantly, and as has been judicially recognized, "[t]he cornerstone of [state environmental regulation] . . . is the permit process." *Idaho Department of Health and Welfare v. U.S. Department of Energy*, Case No. CV 91-0423-E-EJL, Order Granting Injunction, at 18 (D.Idaho 1991). Simply stated, "[i]t is far easier to regulate a known pollution source for which a permit has been issued than it is to regulate an unknown source of [pollutants] for which no permit has been applied." *Id.*

Just as significantly, the nation's environmental laws uniformly contain language compelling all agencies of the Federal Government to comply with State requirements. The Clean Water Act provides that "[e]ach department, agency, or instrumentality . . . of the Federal Government . . . shall be subject to, and comply with, all . . . State . . . [and] requirements." 33 U.S.C. § 1323(a). Virtually identical language appears in the

Clean Air Act as well as the Resource Conservation and Recovery Act. 42 U.S.C. § 7418 and 42 U.S.C. § 6961.

By waiving sovereign immunity, Congress has recognized that the Federal Government, including the Department of Energy, cannot be allowed to judge its own compliance with this nation's environmental laws. Neither is this altogether surprising. It is no secret that many agencies of the Federal Government, and the Department of Energy in particular, have over the years allowed their facilities to operate in an environmentally irresponsible manner.

If enacted, the pending legislation would exempt the Department of Energy from permitting requirements for site characterization at Yucca Mountain, thereby destroying Nevada's ability to preserve the quality of the environment and protect human health and safety. The legislation, thus, would erode public confidence in Congress' express commitment that all persons, including the federal government, must comply with environmental laws. This is a "double-standard" and represents a marked departure from the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, as well as a host of other environmental laws.

The legislation also is unnecessary. The record before this Committee demonstrates that Nevada has already issued two of the three permits necessary for the Department of Energy to conduct site characterization activities at Yucca Mountain in an environmentally acceptable manner. The record also demonstrates that the third permit is pending and will likely issue in the very near future.

There simply is no support in the record for the view that the Department of Energy somehow has been treated discriminatorily by Nevada. The Department of Energy has complied with Nevada's permitting requirements, as mandated by Congress, and Nevada has processed the necessary permits. There is no justification for enacting this intrusive and soon to be meaningless legislation.

Any future Department of Energy disgruntlement with how Nevada processes any other environmental permits that may be required can likewise be solved short of legislation. The remedy would be for the Department of Energy to insist, in court, that Nevada act in a timely fashion.

The solution is not to destroy Nevada's, or any other State's, permitting authority over federal nuclear facilities. But in doing so, the legislation is analogous to destroying an automobile simply because it needs a tuneup, rather than paying for the tuneup.

The legislation also would represent a dangerous precedent for States like Idaho that insist upon environmental

accountability by the Department of Energy. Like Nevada, Idaho has heeded Congress' mandate and has enacted and enforced comprehensive environmental laws at the Department of Energy's Idaho National Engineering Laboratory. Like Nevada, many of Idaho's environmental laws are implemented through the issuance and enforcement of permits. Idaho has required, issued and enforced air quality, water quality and hazardous waste permits for a variety of Department of Energy activities at the Idaho National Engineering Laboratory.

Environmental permitting is by far the most efficient, and the only meaningful process available to Idaho to ensure that Department of Energy activities comply with the State's environmental laws. Air and water pollution emission rates, technology, monitoring, testing and reporting requirements; hazardous waste treatment, storage and disposal requirements; and other requirements necessary to protect public health and the environment are all established through the permit process. Without permitting authority over Department of Energy activities, States have no ability to develop and enforce environmental standards and give effect to Congress' grant of authority to regulate federal facilities.

A recent example of environmental violations at the Idaho National Engineering Laboratory demonstrates exactly why this legislation represents unwise policy. Under Idaho law, the Department of Energy is required to obtain an air quality permit from the State of Idaho before it stores spent nuclear fuel at the Idaho National Engineering Laboratory. Idaho was recently forced to file a complaint in federal court to enforce this requirement. The United States District Court for the District of Idaho found that the Department of Energy violated Idaho law by not obtaining the necessary air quality permit.

Before storing the spent nuclear fuel at the Idaho National Engineering Laboratory, the Department of Energy will be required to submit a permit application which includes estimated emission rates for radionuclides, proposed air pollution control technology, and other information necessary to ensure protection of the public and the environment. The permit, once reviewed and issued by Idaho, will include radionuclide emission standards; technology requirements; and monitoring, testing and reporting requirements. As Congress found when it amended the Clean Air Act, these requirements are necessary to protect the public and the environment.

Idaho is quite concerned that, if the pending legislation were to become law, the Department of Energy would seize upon it as precedent for private relief from the State's requirements that are intended to preserve the environment and protect human health and safety. As recognized recently by the Western Governors' Association the legislation "would establish a dangerous precedent for future federal preemption of state authority to regulate federal nuclear facilities pursuant to the

Clean Air Act, the Clean Water Act, and the Resource Conservation and Recovery Act." Western Governor's Association, Resolution 91-013 (1991).

Mr. Chairman, members of the Subcommittee, all of the western States recognize that this legislation conflicts with the expressed intent of Congress that all agencies of the Federal Government comply with all State requirements to preserve the environment and protect human health and safety. It is intrusive, preemptive legislation that conflicts with sound public policy. It also is unnecessary, and represents an extremely dangerous precedent for Congress to establish.

SUPPLEMENTAL SHEET

**LARRY ECHOHAWK
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SUMMARY OF TESTIMONY:

The provisions of H.R. 1301 and H.R. 776 conflict with the congressional mandate, as expressed in the Clean Water Act, the Clean Air Act and the Resource Conservation and Recovery Act, that federal nuclear facilities comply with all State environmental requirements, including permit requirements. The legislation is unnecessary and represents a dismal solution to a problem which does not exist. Any legislation which strips a State of its authority to require the Department of Energy to obtain environmental permits is a dangerous precedent for Congress to establish in its efforts to ensure that all persons, including the federal government, comply with the environmental laws of this nation.

The Testimony of Congressman James H. Bilbray
Before The Subcommittee on Energy and Environment
Of the House Interior Committee

On January 10, 1992

I want to thank the Chairman of the Subcommittee on Energy and Environment for coming to Las Vegas to hear the State of Nevada's concerns regarding the legislation pending before the House and Senate that would take away the State's environmental regulatory authority.

The Nuclear Waste Policy Act of 1982 attempted to establish a policy of equity among the states. It sought to share the responsibility for the disposal of these civilian wastes among those who benefit from civilian nuclear power. According to the NRC, today, there are 112 commercial operating reactors in 33 states which generate these wastes; Nevada is not among these 33 states.

In 1980 I visited the Nevada Test Site with the Nevada Legislature. We were taken to Yucca Mountain and briefed on the plans of the Department of Energy for the permanent storage of high level nuclear waste at the site. It was noted by members of our delegation that the DOE representative when referring to "the site", never spoke of "site" as potential but as "the site". It was after this trip I determined that the DOE had already made the decision that Yucca Mountain was to be the site; and they now had to justify this choice.

After researching Yucca Mountain, it was clear to me that this selection did not represent a safe site for the storage of nuclear waste. Despite everyone's wish to finally resolve the waste disposal problem, I firmly believe that this site is not appropriate. It was not a safe site then and it is not a safe site today.

Responsible scientists are divided on a multitude of issues over the proper disposal for nuclear wastes. Among the most discussed topics is the degree of urgency associated with the need for a nuclear waste solution. There are some at DOE as well as in the National Academy of Sciences who see the need for a cautious approach to

repository siting, uninfluenced by any perceived "crisis" situation.

This viewpoint acknowledges the hazards that nuclear wastes present on the order of thousands of years and requires a careful approach. The subjective nature of scientific judgments in designing and interpreting results of forecasting models for nuclear waste disposal is rarely admitted, but it is sometimes revealed in academic conferences and journal articles. The long term impacts on the environment are impossible to predict. Scientists still heatedly debate the possibility of disturbance of the waste by groundwater movement at Yucca Mountain. Highly respected reports have documented the unsuitability of the Yucca Mountain site for the storage of this high level nuclear waste.

The respected and objective voice of the Government Accounting Office has rendered a series of well documented reports on the ongoing efforts by the Department of Energy to execute the Yucca Mountain project. In its April 1991 report, the GAO put an end to the lie that blamed Nevada for the DOE's lack of progress on the Yucca Mountain project. GAO investigators concluded that DOE was not ready to begin on-site work at Yucca Mountain. DOE's mishandling of the project and its failure to have a quality assurance program in place have been the cause of delays and the source of so little progress in its nuclear waste management program. In addition, since 1982, GAO places the total sum of dollars wasted at Yucca Mountain, dollars from the Nuclear Waste Fund, at \$2.9 billion.

The legislation before your subcommittee does not promote a working precedent for national and state leaders to establish workable solutions for the many management challenges that our industrial society face. The proposed legislation violates the spirit of the Constitution. Stripping the State of Nevada's right to enforce federal environmental laws and to protect the health and safety of its inhabitants, this legislation circumvents the legislative and administrative apparatus in our government structure. It runs counter to the Constitutional precepts basic to the preservation of the rights of states. The best solutions to our waste disposal problems are those that are socially acceptable and respectful of the democratic tenets of law and representation upon which American statehood and federalism are based.

There are some Nevadans who support the DOE proposal at Yucca Mountain on the grounds that our state stands to gain increased federal revenue in exchange for housing the nation's nuclear waste.

One only has to look as far as our neighbor, New Mexico, to see that the Waste Isolation Pilot Plant (WIPP) benefits package is a pie in the sky promise. Congress is currently considering WIPP legislation which authorizes a land withdrawal from the Department of Interior to the Department of Energy. This step is necessary before any transuranic material can be placed in the WIPP facility. The ongoing conflict between DOE and New Mexico, at the very moment when DOE is closest to implementation of the project, has revealed the inherent difficulties in the final realization of the benefits package, a key component in the agreements between DOE and the State. As the Representative of the First District of Nevada, I have sought to protect Nevadans from putting too much trust in the "benefits package" as a bone fide promise from the Department of Energy. DOE makes bold promises which it cannot uphold.

As a result of my belief that DOE offers the world but fails to follow through, I authored and introduced an amendment to the WIPP legislation pending before the Armed Services Committee. The Bilbray amendment establishes that the state hosting the disposal site for federally controlled nuclear waste should be guaranteed that the federal government will provide a set level of long-term compensation. The amendment would give the host state the right to refuse nuclear waste shipments if an annual amount of compensation stipulated in agreements with the Department of Energy is withheld from the host state.

Upon acceptance of the Bilbray amendment by the Armed Services Committee, the very next day DOE raised objections to the amendment. Why? Because DOE is not confident that the agency will be able to come up with the promised funding. As for the promise of vast employment opportunities associated with the Yucca Mountain project, I must clarify the facts. My office has been informed that the Yucca Mountain characterization project would only employ 600 people for six to seven years. When maintenance for the repository begins sometime after 2010, the Office of Civilian Nuclear Waste would then employ between 100 and 300 individuals.

I stand together with the three other Members of the Nevada delegation, state, and local officials who oppose the siting of the repository at Yucca Mountain. I am hopeful that today's hearing will deal exclusively with the facts of why Yucca Mountain is not a safe and therefore an inappropriate site.

I hope that whatever energy legislation is considered this year,

Members of Congress keep an open mind and look to the facts. Do not be swayed by the millions of dollars spent on the publicity campaign to promote this project.

Again I respectfully thank Chairman Kostmayer for bringing this important hearing to Las Vegas, for coming into the community to listen carefully to the grave concerns of the representatives and the people of Nevada.

Statement of Senator Richard H. Bryan

Before the House of Representatives
Committee On Interior and Insular Affairs
Subcommittee on Energy and the Environment
Concerning H. R. 1301 and H. R. 776

January 10, 1992

Mr Chairman, I thank you for the opportunity to appear before your distinguished subcommittee this morning. And I appreciate your consideration in scheduling the hearing in Nevada--for my state is not only the most directly affected by the Nation's high level waste program generally, it is also the specific target of the preemption provisions of H. R. 1301 and H. R. 776.

I believe this hearing also represents an opportunity to reevaluate a costly national public policy experiment that has gone badly awry--the Department of Energy's Civilian High Level Radioactive Waste Program.

The legislation before you attempts to address a problem that simply does not exist--except in the minds of DOE officials and the commercial nuclear industry. Preempting Nevada's rights to utilize its legitimate environmental permitting authority does nothing more than add one more public policy blunder to the long list that already accompanies the high level waste program.

The truth is that since the resolution by the Supreme Court of litigation outstanding between DOE and the State of Nevada, the state permitting process has gone forward in a timely fashion, just as Governor Miller indicated it would in testimony before the Senate Energy Committee last March.

In short, this program's current focus--studying Yucca Mountain for suitability--is not being slowed by the actions of Nevada, but rather by DOE own lack of planning and incompetence.

I appreciate this opportunity to correct what I believe is a widespread misperception promoted by the Department of Energy and the nuclear industry that most of this program's troubles can be traced to the State of Nevada's opposition to the project. Last year, the General Accounting Office clearly confirmed what Nevada has been revealing for years--that the management defects of the program are so intractable, and DOE's approach to high level waste management so defective, that this program is fundamentally flawed. Indeed, the Department of Energy has used Nevada's opposition to this project to obscure its own managerial incompetence.

Even if the citizens of my state did not oppose this program--and despite the industry's multi-million dollar effort to sway public opinion, the vast majority of Nevadan's continue to oppose this program stridently from the heart--I believe that the program's defective planning and fiscal management, combined with DOE's lack of credibility, would assure its failure.

Although DOE has been unrelenting in its criticism of Nevada's opposition to the program, and has blamed the State's opposition for the lack of progress in site characterization, the GAO analysis clearly discredits that claim.

On April 18, 1991 the GAO testified before the Senate Subcommittee on Nuclear Regulation that: "Nevada's refusal to provide permits did not affect new on site construction work until February, 1991 because, as discussed above DOE was not ready to begin this work until then. According to project officials, the state permit issue must be resolved by March 1992 or it will delay investigating the site." (emphasis added).

Thus, the waste and delay the program has suffered until now--nearly \$4 billion dollars and nine years--can be attributed solely to DOE's own defective planning and short-sighted goals. I believe the total costs of the program can only grow, and it will soon be apparent that the 1 mil per kilowatt hour fee that ratepayers currently pay must increase.

President Reagan signed the Nuclear Waste Policy Act on January 7, 1983, less than a week after I became Nevada's Governor. That act--which I supported--provided for a balanced and scientifically sound approach to waste disposal. Unfortunately, DOE politicized the program from the start, and the promise of the original act was destroyed by DOE's mismanagement.

The 1987 amendments to the act--which targeted only Nevada for further consideration for the waste dump--sealed Nevada's resolve to protest its selection.

Many things have changed in the time since the original act was signed into law. The Nation has a new President and a new Secretary of Energy. Nevada has a new Governor and I am pleased that he will testify before you today. Ratepayers have contributed nearly seven billion dollars to the nuclear waste fund, and they owe an additional 1.6 billion dollars to the fund.

But one thing has not changed in those intervening years--despite having spent vast sums, the Nation is no closer today to having a nuclear waste dump than it was in the January frost of 1983 when I first took the Oath of Office as Governor of Nevada.

The sorry history of the nuclear waste program reveals a track record of false promises and contrived problems to explain away the mismanagement of the program. The proposed "Preemption Solution" is merely another. DOE now is posturing to explain new delays in underground studies because of budget constraints.

The Nation is at a crossroads concerning high level radioactive waste management: we can proceed down the path suggested by the Department of Energy and the nuclear industry and further complicate the public policy blunders that have plagued this program by preempting Nevada's right to participate in this process, or we can take a fresh approach and act responsibly to save the Nation's utility ratepayers billions of dollars and preserve the fundamental balance of powers between the federal government and the states that our Constitution contemplates.

And finally, I'd like to briefly address the fact that there is no impending high level nuclear waste disposal crisis, and that part of the existing program's troubles can be traced to the creation of a perception of crisis at the time the program was initiated.

In a report prepared at the request of Senator Hollings and myself, GAO confirms what many have stated over the years: efficient on-site storage technology exists to manage the nation's commercial nuclear waste for the existing generation of commercial nuclear reactors. And furthermore, the GAO notes, the unlikely prospect of having a Monitored Retrievable Storage facility available in this century indicates that the majority of existing commercial reactors will have to use, of necessity, expanded on site storage in any event.

There are other responsible approaches available that may save the nation's utility ratepayer's billions of dollars while assuring the health and safety of the public, and the viability of the nuclear power industry.

The DOE and nuclear industry policy makers underestimated the resolve of Nevada's citizens to rise up against the inequity represented by the 1987 amendments. Even more fundamentally, the DOE and the special interests were blind to the merits of the State's technical arguments that Yucca Mountain was a bad choice for further study, and that the policy being pursued risked a high degree of uncertainty and insufficiency. Putting all of the nation's nuclear waste eggs in the Nevada basket was a fundamental public policy blunder.

That blunder is now about to be doubly complicated by the slick but misleading industry media campaign designed to "sell" the dump to Nevadan's and the potential preemption of Nevada's

remaining sovereign rights.

The execution of the Nuclear Waste Policy Act by the Department of Energy since 1983 has been a failure. And now the administration, at the urging of Secretary Watkins, is preparing to compound that failure by again singling out Nevada, proposing an unprecedented extinction of Nevada's sovereign ability to protect the health and safety of its citizens, and continue a policy of nuclear waste management that has only a single likely outcome--failure.

The threat posed by this type of legislation will no doubt attract the attention of a number of states which will clearly perceive the defective premise such preemption represents. The location of any controversial facility can only succeed if the state and other affected entities are fully involved, not removed from the process.

The repository program has been paralyzed by management and scientific deficiencies since the 1987 amendments were adopted. As a result, the target date for repository operations has slipped further with each passing year--first from 1998 to 2003, and now according to DOE's newest revised plan, no repository can open earlier than the year 2010.

As a result, utilities are having to face the reality of solving, at least on an interim basis, their own spent fuel storage needs. On March 20, 1991, with Senator Reid, I introduced S.699 to help alleviate the burden on ratepayers that this situation represents.

The Nuclear Regulatory Commission has issued a revision of its "waste confidence rule" which indicates that at-reactor spent fuel storage can be safely and effectively implemented for a period up to 100 years. Thus the crisis that prompted the 1982 act and its unrealistic deadlines--which DOE was unable to meet--has now vanished with other technological approaches available for storage. No other nation pursuing this highly sensitive subject--the permanent disposal of high level radioactive wastes--has chosen to do so according to timelines driven by commercial expedience. An open-ended and scientifically objective program that incorporates a variety of disposal options is the only way such a program can progress in a society that possesses democratic and constitutional values.

Unfortunately, existing law does not protect utility ratepayers from having to finance both the faltering federal effort and the interim storage that will be necessary because the Department of Energy will not be able to accept spent fuel for storage in 1998 as was promised in the original act.

The legislation we introduced will provide needed relief to the nuclear utility ratepayers by correcting this inequity so that ratepayers only pay once for necessary waste management efforts.

This legislation allows a nuclear utility to retain a portion of its existing payments equal to the on site storage expenses incurred so that the ratepayers receive the waste management and disposal service for which they are already paying. Without such a provision, ratepayers will continue to pay billions for the existing program, and will also have to pay for interim fuel storage needed to allow for continued reactor operations.

The remaining fees paid will accrue in the dedicated Nuclear Waste Fund to finance final storage once DOE has licensed permanent disposal sites at some time in the future.

I should note that because of the mismanagement of the high level waste program, on-site interim storage is fast becoming a reality for nuclear utilities. DOE and the industry need to face that reality and incorporate it into the overall waste management plan in as cost-effective and as efficient a manner as possible. During that interim, sound final disposal options should be considered, unconstrained by restrictive timelines or the political pressure exerted by the commercial nuclear industry.

I thank you for this opportunity to appear before you today.

Statement
of
THE HONORABLE BARBARA F. VUCANOVICH

**Regarding High-level Nuclear Waste Disposal Provisions
of H.R. 1301 (Dingell) and H.R. 776 (Sharp)**

**COMMITTEE ON INTERIOR and INSULAR AFFAIRS
SUBCOMMITTEE ON ENERGY and ENVIRONMENT**

Las Vegas, Nevada

January 10, 1992

Mr. Chairman, welcome to Nevada. I want to thank you for holding this hearing today to address the issue of whether or not the Federal government should be empowered to pre-empt a State's permitting authority with respect to studying a site for the disposal of high-level nuclear waste. It is high time that Nevadans hear first-hand about the legislative efforts afoot to steamroll Nevada under the false premise of "National need."

Mr. Chairman, I think we all agree that a solution to the problem of long-term storage of spent fuel from our Nation's reactors is of vital importance. Even if no more nuclear plants were to be constructed in this country, an unlikely scenario I believe, the safe disposal of waste from existing reactors poses difficult choices for the Nation. And despite the fact that no high-level waste is generated within our State, Nevadans are well aware of the need for safe disposal methods.

Since passage of the Nuclear Waste Policy Act Amendments in December, 1987, the Department of Energy has focused its attention solely on Yucca Mountain, in my Congressional District. For four years now, Nevadans have been deeply concerned that by studying only one site, with one type of geologic setting, the Federal government has backed itself into a corner. How can the Congress expect my constituents to believe that a scientifically objective decision will be reached on the suitability of Yucca Mountain to host nuclear waste, when no other alternatives are being explored? Given the acknowledged delay of at least a decade that a "not suitable" decision on licensing Yucca Mountain would have, many Nevadans believe political pressure to OK the site will win out over dispassionate scientific analysis.

And why shouldn't we, Mr. Chairman? This is exactly what happened in the budget reconciliation process. Congress directed the DOE to drop further study of alternative geologic settings and rock types in Texas, Washington State and terrains in the eastern U.S. It was political hardball, pure and simple, and we all know it. I can't recall a more striking example of "penny-wise, but pound-foolish" legislation in my tenure in Congress.

Mr. Chairman, with no other candidate sites under study, a clamor already may be heard to find Yucca Mountain satisfactory. The nuclear power lobby today calls for passage of "Screw Nevada II" legislation. They want their spent fuel out of their pools and into the Federal government's hands according to a schedule that has slipped by years since initial projections of finding solutions to the waste problem. Now, their demands to override our State's sovereign jurisdiction must be interpreted as a push to have the Feds open Yucca Mountain as soon as possible. We all know that strong pressure will be brought to bear to ensure that the Nuclear Regulatory Commission's licensing guidelines and EPA's regulatory standards are not too rigorous for Yucca Mountain's geology and hydrology.

In my view, organizations lobbying for expedited action at Yucca Mountain alone instead ought to be urging this Committee to reopen the consideration of other geologic settings for waste containment. Short of that, a full measure of credibility cannot be restored to the decision-making process on this issue. So, too, should the monitored retrieval storage option be further explored. In this regard, I support enactment of Section 512 of H.R. 1301, because it would "de-link" MRS construction from the deep geologic repository licensing decision while maintaining the current bar to siting an MRS in the same state as a repository.

Notwithstanding my arguments for consideration of multiple sites, I must also mention my concern that the DOE has been disingenuous in its statements about Nevada's obstruction of the site characterization program. The GAO has reported that:

"Nevada's refusal to provide permits did not affect new on-site construction work until February 1991 because, as discussed above, DOE was not ready to begin work until then. According to project officials, the state permit issue must be resolved by March 1992 or it will delay the schedule for investigating the site."

Mr. Chairman, as you know, the State of Nevada has now issued the necessary air quality and underground injection permits the DOE has sought for further site characterization. A groundwater withdrawal permit is pending and may be issued quite soon. Even without this pumping permit, however, the DOE has been able to haul water from elsewhere to meet their needs. I must conclude, therefore, that Section 511 language would not only set a very dangerous precedent for Federal / State relations, but is, in reality, unwarranted from a practical standpoint.

But, as I have already stressed, my concern is with establishing a credible program. When data gathered in site-characterization activities is measured against the licensing standards and criteria, the arbiters will know that no deep geologic alternative exists. Will the models of expected effects of seismic and volcanic activity be adjusted during the study, perhaps unconsciously, to make a finding of suitability more likely?

For example, in early 1991 the DOE sought to streamline its control over US Geological Survey scientists working on the Yucca Mountain Project. Mr. Chairman, I have a high regard for the USGS, but, the decision to shift some of this agency's scientist's within the USGS personnel structure concerns me. It would appear that the DOE is demanding review of USGS scientists' conclusions before a complete USGS-peer review is made. Yes, I know that USGS work products will be expedited in this manner, but at what cost to objectivity?

Mr. Chairman, these are legitimate fears for Nevadans and should be for all our citizens. Even though the best scientific minds may be at work on the problem of nuclear waste storage, the pressure to open a repository somewhere within the next decade may simply not allow a "No" answer at Yucca Mountain unless concurrent study of other candidate sites is occurring. Enactment of provisions to strip the State of Nevada of the authority to issue environmental permits will completely damage what remaining credibility the DOE may have.

"Screw Nevada II" legislation, in whatever form it may take, would not solve nuclear waste disposal problems, but it would exacerbate them. More than anything, we need to build the confidence of the public that a scientifically-sound, unbiased decision will be reached. Those who seek only short-term funding relief to this question are being extremely short-sighted. Mr. Chairman, we can put our resources to the task and have legitimate scientific inquiry, or the Congress can steamroll Nevada one more time. I urge the former course.

**STATEMENT OF HUGH J. ANDERSON, III
REPRESENTING THE NEVADA NUCLEAR WASTE STUDY COMMITTEE**

**Before the Subcommittee on Energy and the Environment
on H.R. 1301 and H.R. 776**

January 10, 1992

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE, I AM HUGH ANDERSON, CO-CHAIRMAN OF THE NEVADA NUCLEAR WASTE STUDY COMMITTEE. I AM SPEAKING ON BEHALF OF THE STUDY COMMITTEE WHICH HAS OVER 9,000 MEMBERS IN THE STATE OF NEVADA.

WE WOULD LIKE TO THANK THE COMMITTEE FOR THE OPPORTUNITY TO PRESENT OUR VIEWS ON THIS LEGISLATION, AND COMMEND THE COMMITTEE ON TAKING THE TIME AND MAKING THE EFFORT TO BECOME ACQUAINTED WITH THE PROGRAM AND GET A FIRST HAND LOOK AT YUCCA MOUNTAIN.

THOSE OF US WHO LIVE IN NEVADA, WHO ARE RAISING OUR FAMILIES AND MAKING A LIVING IN THE SILVER STATE, ARE OFTEN FASCINATED AND FRUSTRATED BY THE COMMENTS THAT EMANATE FROM OUR NATION'S CAPITOL BY PEOPLE WHO HAVE NEVER BEEN HERE.

I'M ORIGINALLY FROM LONG ISLAND. PRIOR TO MOVING OUT HERE, THE ONLY IMPRESSION I HAD ABOUT NEVADA WAS FORMED BY TALKING TO FRIENDS WHO HAD VISITED HERE. I BELIEVE THAT MANY OF THE VIEWS IN WASHINGTON D.C. - REGARDING NEVADA'S VIEW OF THE STUDY OF YUCCA MOUNTAIN - ARE INFLUENCED BY THE FEW NEVADANS WHO RESIDE AND REPRESENT US IN WASHINGTON D.C.

IT BRINGS TO MIND THE AXIOM THAT "IN THE LAND OF THE BLIND, THE ONE-EYED MAN IS KING."

I AM SPEAKING TODAY ON LEGISLATION WHICH CURTAILS NEVADA'S PERMITTING AUTHORITY REGARDING THE CHARACTERIZATION OF YUCCA MOUNTAIN.

MY APPEARANCE BEFORE THE COMMITTEE TODAY IS IN SUPPORT OF THIS LEGISLATION, BUT WITH A DEGREE OF RELUCTANCE. SUPPORT FOR THIS LEGISLATION IS BASED ON OUR COMMITTEE'S CHARTER TO LET SCIENCE, NOT POLITICS, BE THE GUIDING FORCE THAT DETERMINES WHETHER YUCCA

MOUNTAIN IS, OR IS NOT, A SCIENTIFICALLY SAFE PLACE TO LOCATE THE NATION'S FIRST HIGH-LEVEL NUCLEAR WASTE REPOSITORY. IT IS ALSO THE OBJECTIVE OF OUR COMMITTEE TO PROMOTE PUBLIC EDUCATION AMONG NEVADANS ON ALL REPOSITORY-RELATED ISSUES.

NEVADANS HAVE BEEN BOMBARDED BY REPRESENTATIVES FROM ALL SIDES OF THE YUCCA MOUNTAIN ISSUE. WE HAVE HEARD FROM OUR CONGRESSIONAL DELEGATION, AND THE GOVERNOR, STATEMENTS THAT THEY WILL OPPOSE ALL EFFORTS TO LOCATE A REPOSITORY IN THE STATE. WE HAVE HEARD FROM OTHERS WHO SAY, "DAMN THE STUDY AND FULL SPEED AHEAD WITH THE CONSTRUCTION OF THE FACILITY."

HOWEVER, THE VOICES THAT WE HAVE NOT HEARD FROM, THE VOICES OF INDIVIDUALS WHO HAVE THE EXPERTISE AND OBJECTIVITY TO EVALUATE THE SITE - THEN MAKE A SOUND, UNEMOTIONAL DECISION - ARE THE VOICES BELONGING TO THE SCIENTISTS. WE VIEW H.R. 1301 AS A MEANS TO ALLOW THESE SCIENTISTS TO CONDUCT THEIR RESEARCH, TO ASK THE TOUGH QUESTIONS AND TO DETERMINE WHY A REPOSITORY CAN - OR CAN NOT - BE BUILT AT YUCCA MOUNTAIN.

AS NOTED, THIS SUPPORT IS RELUCTANT. I AM NOT AWARE OF ANY GROUP THAT WOULD AVIDLY ENCOURAGE THE FEDERAL GOVERNMENT TO PASS LAWS THAT WOULD STRIP AWAY THE RIGHTS OF THE STATE IN WHICH THE ORGANIZATION OPERATED. WE ARE A UNION OF 50 STATES, EACH WITH THE SAME GOD-GIVEN AND INALIENABLE RIGHTS DESCRIBED IN THE U.S. CONSTITUTION. THE FACT THAT THIS COMMITTEE IS CONSIDERING THIS LEGISLATION IS, IN MY ESTIMATION, CAUSE FOR CONCERN.

HOWEVER, HAVING WITNESSED THE POLITICAL GAMESMANSHIP THAT HAS OCCURRED ON THIS SUBJECT, PERHAPS SUCH LEGISLATION IS NOW NEEDED TO LET THE STUDIES CONTINUE.

PLEASE DO NOT MISCONSTRUE MY MESSAGE. THE NEVADA NUCLEAR WASTE STUDY COMMITTEE IS NEITHER A PRO-REPOSITORY GROUP, NOR AN ANTI-REPOSITORY GROUP. WE ARE A PRO-STUDY GROUP. AS A PERSONAL

PAGE 2 OF 5

STATEMENT, I AM NOT IN FAVOR OF A REPOSITORY BEING BUILT IN NEVADA UNLESS EXHAUSTIVE SCIENTIFIC STUDIES CAN CONVINC ME THAT SUCH A FACILITY CAN BE SAFELY BUILT.

IT IS A POLITICALLY POPULAR POSITION TO BASH THE REPOSITORY. IN A TWISTED SORT OF WAY, I AM PROUD THAT NEVADA HAS SOME OF THE BEST BASHERS IN THE BUSINESS. BUT WHEN THE ZEALOUS DRIVE FOR VOTES OVERCOMES A CAUTIOUS AND RATIONAL APPROACH TO SOLVING A PROBLEM, THEN PERHAPS IT IS TIME TO GIVE SOME VOLUME TO THE VOICE OF REASON, WHICH WE BELIEVE IS THE INTENT OF THIS LEGISLATION.

NEVADANS DO HAVE THE REASSURANCE THAT CONTAINED IN THE PROPOSED LEGISLATION IS THE PROVISION FOR OUR STATE TO HAVE A STANDING IN COURT TO SUE TO ENFORCE RELEVANT ENVIRONMENTAL STANDARDS TO ENSURE COMPLIANCE BY DOE. THIS IS A METHOD THAT OUR STATE'S LEADERS HAVE ALREADY USED ON NUMEROUS PRIOR OCCASIONS. THE ONLY PROBLEM IS THESE INDIVIDUALS WANTED REMEDY FROM THE COURTS BEFORE THE RESEARCH WAS DONE, AND CONSEQUENTLY, THE STATE HAS LOST EVERY SUIT IT HAS INITIATED IN THE FEDERAL COURT SYSTEM. THIS IS A FACT THAT IS NOT LOST ON NEVADANS.

WHILE NOT REFERENCED IN THIS LEGISLATION, WE PLACE A GREAT DEAL OF STOCK IN THE EXTENSIVE INDEPENDENT OVERSIGHT INFRASTRUCTURE THAT CONGRESS ESTABLISHED TO MONITOR THE STUDY, AND THE EVALUATION OF STUDY RESULTS, OF YUCCA MOUNTAIN. THIS OVERSIGHT IS FURTHER ENHANCED BY THE ACADEMIC AND PERSONAL FACT THAT THERE IS NOTHING MORE VALUABLE TO A SCIENTIST THEN HIS REPUTATION.

OUR GROUP BELIEVES THAT THE SCIENTIFIC INDEPENDENCE OF GROUPS SUCH AS THE NUCLEAR WASTE TECHNICAL REVIEW BOARD, THE NATIONAL ACADEMY OF SCIENCES, THE NUCLEAR REGULATORY COMMISSION, THE ENVIRONMENTAL PROTECTION AGENCY, AND THE UNIVERSITY OF NEVADA SYSTEM RESEARCHERS IS AN IMPORTANT SAFEGUARD TO ANY MANIPULATION OF FACTS. THE FACT IS, THERE IS VERY LITTLE ROOM FOR BAD SCIENCE. THE NEVADA NUCLEAR WASTE STUDY COMMITTEE HAS URGED OUR ELECTED OFFICIALS TO COOPERATE IN THE

STUDY OF YUCCA MOUNTAIN. BUT INSTEAD OF COOPERATING, LET ME READ YOU SOME QUOTES THAT HAVE APPEARED IN PAPERS THAT PROVIDE THE PERSPECTIVE OF NEVADA'S LEADERS:

FROM HARRY SWAINSTON, THE NEVADA DEPUTY ATTORNEY GENERAL OVERSEEING THE STATE'S LEGAL ACTIVITIES REGARDING YUCCA MOUNTAIN:

"AS LONG AS WE HAVE THEM TIED UP IN COURT, THEY'RE NOT TURNING DIRT AT YUCCA MOUNTAIN."

FROM GOVERNOR BOB MILLER:

"THE FIRST ISSUE TO BE LOOKED AT IS WHETHER A STATE CAN PREEMPT THE FEDERAL GOVERNMENT FROM CONTEMPLATING STUDIES AT YUCCA MOUNTAIN. THE ISSUE IS ONE WE HAVE A CHANCE OF WINNING IN COURT, BUT I DON'T THINK IT'S A CERTAINTY. IT DOES, THOUGH ACCOMPLISH FURTHER DELAYS AND ROADBLOCKS."

AND SEN. RICHARD BRYAN, REGARDING CONTINUED ACTIVITIES AT YUCCA MOUNTAIN:

"I DON'T KNOW WHAT CONGRESS' ACTION COULD BE, BUT I COULD TELL YOU NEVADA'S REACTION. WE WOULD DO EVERYTHING IN OUR POWER TO PREVENT SUCH A THING FROM HAPPENING."

THERE IS A LARGE DEGREE OF COMMON SENSE IN LETTING A STUDY TAKE PLACE. AND WHO KNOWS - THE STUDY COULD PROVIDE THE OFFICIALS I JUST CITED WITH DOCUMENTED SCIENTIFIC PROOF FOR THEIR ASSERTIONS. I DO NOT UNDERSTAND WHY PEOPLE ARE SO AFRAID OF FACTS.

THE OPPOSITION TO THIS LEGISLATION WILL CLAIM THAT STATE'S RIGHTS ARE AT ISSUE, THAT NEVADA IS BEING STRIPPED OF ITS DUE PROCESS. THESE ARE NOT NEW CLAIMS TO OUR COMMITTEE, IN FACT, WE PREDICTED THIS VERY

OCCURRENCE SEVERAL YEARS AGO. IT IS UNFORTUNATE THAT OUR CLAIRVOYANCE HAS MANIFEST ITSELF IN MY APPEARANCE BEFORE THIS COMMITTEE.

THE NEVADA NUCLEAR WASTE STUDY COMMITTEE APPRECIATES THE DIFFICULTY THAT THE FEDERAL GOVERNMENT FACES IN ATTEMPTING TO SITE A NUCLEAR REPOSITORY. THIS DIFFICULT TASK IS COMPOUNDED BY THE PUBLIC'S LACK OF KNOWLEDGE ABOUT THINGS NUCLEAR.

A PROBLEM EXISTS WITH THE LONG-TERM STORAGE OF NUCLEAR WASTE. AND UNLESS CONGRESS CHANGES ITS MIND AND DIRECTS THE RESEARCH INTO STORAGE OF NUCLEAR WASTE BE HANDLED IN ANOTHER WAY, THE FACT IS A PRESSING NATIONAL CONCERN WILL PREVAIL OVER LOCAL CONCERNS.

IN CONCLUSION, LET ME AGAIN EXPRESS THE COMMITTEE'S APPRECIATION FOR YOUR TAKING THE TIME TO VISIT NEVADA. I HOPE THAT MY REMARKS WILL HELP YOU UNDERSTAND WHY THERE IS RELUCTANT SUPPORT FOR THIS LEGISLATION IN NEVADA, AND THERE ARE PEOPLE WHO FAVOR THE STUDY OF YUCCA MOUNTAIN.



Statement of

Bob Miller

Governor of Nevada

Before the U.S. House of Representatives
Committee on Interior and Insular Affairs
Subcommittee on Energy and the
Environment

January 10, 1992
Las Vegas, Nevada

STATEMENT OF

BOB MILLER

GOVERNOR OF NEVADA

TO THE UNITED STATES HOUSE OF REPRESENTATIVES

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT

JANUARY 10, 1992

LAS VEGAS, NEVADA

I appreciate your convening this hearing of the Subcommittee in Nevada on the current legislative proposals pertaining to high-level radioactive waste. It is indeed a rare and refreshing courtesy in the history of the nuclear waste program that the Congress should come to Nevada to hear about matters that most directly affect our state, as does the proposed legislation which is the subject of today's hearing.

While there are considerable differences between H.R. 1301 and H.R. 776 as these bills relate to site characterization at Yucca Mountain, the issue central to both is the federal initiative for preemption of Nevada's legal rights and established regulatory authorities.

The history of DOE's implementation of the Nuclear Waste Policy Act has developed into one of a continuing need to change the rules to accommodate DOE's latest explanations for lack of significant program progress. DOE's proposing and supporting

preemptive legislation, with the aid of the nuclear power lobby is just the latest example of its drive to escape the blame for program delays. In 1987 the Congress amended the Nuclear Waste Policy Act in response to the already significant delays and cost increases in the less than five year-old program. The implication by DOE was that flaws in the original Act were the cause of the delays and cost increases. The amendments effectively accommodated DOE's having illegally halted the second repository program in 1986, as well as its support for a single-site characterization program, and the need for a negotiated MRS siting program seeking a volunteer host.

Beginning in 1989, just two years after the Congressional redirection of the program, DOE and the nuclear power lobby began a concerted campaign to convince the Congress that the continuing delays at Yucca Mountain were now the result of Nevada's illegal obstruction of site characterization through abuse of its regulatory authorities. The current proposed preemptive legislation responds directly to DOE's asserting in 1991 that Nevada's refusal to act on its permit application had delayed the site characterization program for three years.

This assertion changed abruptly when the U.S. General Accounting Office reported to Congress on April 18, 1991, and Secretary Watkins confirmed that "Nevada's refusal to provide permits did not affect new on-site construction work until February

1991 because...DOE was not ready to begin new work until then."

Now the drive to justify Nevada's preemption is stated differently by DOE: "It's insurance for us to have the legislation to continue studies." Thus, the DOE's thrust is now cast only in the speculation that Nevada might do something illegal in the future, not that we have already damaged and obstructed the program and must be prevented from continuing our unlawful acts.

GAO found, and the NRC and Nevada already knew that DOE was not ready to begin new work because it lacked an acceptable Quality Assurance Program which is required to document its work. While it gained limited acceptance of a portion of its QA program in the spring of 1991, NRC acceptance of the QA Program for the Office of Civilian Radioactive Waste Management was not earned by DOE until less than one month ago, on December 20, 1991.

Only now does DOE appear ready to begin new work. Last summer it was granted the State permits it needed. The permit for water appropriation is still pending but in the course of the permit review, it was discovered that DOE had held unused a State water appropriation since 1984. It could have used this permit all along instead of grandstanding about Nevada's obstructionism when it purchased and illegally imported water from California to support its limited site activities in July 1991.

But recently, the Department has again deferred and curtailed much of its planned on-site work, resulting in a delay of at least one year in beginning underground excavations.

Since the DOE cannot make a credible case that Nevada is the cause of this delay, the blame has been laid at the feet of Congress through bitter complaints of budgetary reductions. The reduction which upset the Yucca Mountain project plans consisted of less than 10 percent of the over \$300 million appropriation requested for FY-92.

Clearly, when asked about its limited current progress at Yucca Mountain during the FY-93 appropriation process, DOE will blame Congress for having created a funding crisis - regardless of whether legislation preempting Nevada's regulatory authorities is enacted. And it is not unlikely this pattern will continue in the future, considering the nation's budgetary problems.

If preemption of Nevada is for "insurance," as the DOE must now claim, I ask whether the price of this "insurance" is worth it, even while further delay is already being accrued due to an apparent lack of what DOE might call "budget insurance." Is Congress willing to preempt Nevada when the basis of such action is known to be DOE's fabrication of blame for past delays? And, is Congress willing to take such unprecedented and unnecessary action when it likely will result in legal action by Nevada, joined by

other states, in landmark states' rights cases?

The section in H.R. 776 which would remove the statutory cap of 70,000 metric tons of highly radioactive waste emplaced in Yucca Mountain is yet another attempt to acquire "insurance" against future delays and expenses which is without current merit or basis. The original capping provision was to assure that there be some regional equity in bearing the burden of the housing the nation's nuclear wastes. And, until recently DOE has expressed some reservation about whether the Yucca Mountain site can even accommodate 70,000 tones of waste. Now, without the benefit of any further data or substantive evaluation, the cap would be lifted to provide DOE with the freedom to expand the repository capacity if it can be justified. We now have ample evidence that DOE will attempt to justify anything it believes serves its goals, regardless of factual basis for such justification. This alone should be sufficient to deny this provision.

If DOE is somehow successful in getting everything it now seems to want - including preemption of Nevada and unconstrained access to funding from Congress - what will it need next when delays develop because it cannot implement the program as it has planned? Just as an example, it has already suggested that if it needs to site an MRS under its own authority an equivalent need for host state preemption will likely be claimed and requested from Congress.

In closing, I reiterate: there is simply no factual basis for the Department of Energy's initiative and continued support of extraordinary and unprecedented legislation preempting Nevada's established regulatory authorities. Certainly Nevada continues to oppose, as is our right, the unfair imposition of this unwanted project on our state. The Department's and nuclear power lobby's intentional deception in creating the false issue of illegal obstruction only serves to make us more firm in our opposition. It also further convinces us that we are correct in our assertion that the DOE's true goal is not the scientific study of the suitability of Yucca Mountain, but rather to develop the nation's nuclear waste repository here at any cost, including risking both the legal rights and health and safety of Nevadans.

TESTIMONY OF

**DON SCHLESINGER, COMMISSIONER
CLARK COUNTY, NEVADA**

PRESENTATION BEFORE

**THE U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON INSULAR AND INTERIOR AFFAIRS
SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT**

**JANUARY 10, 1992
LAS VEGAS, NEVADA**

As a member of the Board of County Commissioners of Clark County, Nevada, I appreciate the opportunity to present testimony to this Committee and provide you with Clark County's views regarding the United States Department of Energy's (DOE) High-Level Nuclear Waste Disposal Program.

Clark County remains deeply concerned about the manner in which the Federal Nuclear Waste Program has been implemented. As you know, the County has officially opposed for many years the continued efforts to site the nation's first high-level nuclear waste repository at Yucca Mountain. Copies of resolutions which express the Board of County Commissioners' unanimous opposition to the project and to that portion of the proposed National Energy Strategy Initiative which attempts to strip Nevada of its legal rights with respect to environmental regulation of the Yucca Mountain program are attached to this testimony.

DOE Secretary James Watkins testified recently that Yucca Mountain "is symbolic of the nation's will to get out of the 'not in my backyard' syndrome and share some of the responsibility" for disposing of nuclear waste. Nothing could be further from the truth!

Yucca Mountain became DOE's "de facto" site selection because none of the other forty-nine states wanted a nuclear waste dump in their backyard. As this Committee is fully aware, Nevadans have borne their fair share to contribute to the nation's security and defense of our country. We are proud of these contributions. Clark County's opposition to the Yucca Mountain Project, however, is based on a grave concern over the manner in which DOE has approached the repository siting process from the beginning and the manner in which Yucca Mountain was ultimately selected to be the sole repository site for further study.

The fact that Yucca Mountain was selected at all as a potential repository site for the storage of highly radioactive and dangerous material for thousands of years is, in itself, testimony to the flawed nature of the siting process employed by DOE. Located in a seismically active, major earthquake region with ground water fluctuation on the border of the only location in the country where nuclear weapons are regularly exploded, Yucca Mountain hardly provides for the necessary geological or hydrological stability required for safe, long-term nuclear waste disposal.

But the ultimate selection of Yucca Mountain in the Nuclear Waste Policy Act of 1987 as the only repository site to be investigated further by DOE had very little to do with scientific suitability. Rather, considerations of political expediency and the perceived need in Congress and within DOE to "dispose" of the more prudent site selection process originally envisioned by the Nuclear Waste Policy Act of 1982 prompted a dramatic and patently unfair change in the rules. And now, less than four years later, "here we go again". Unhappy with it's inability to force Nevada to relinquish it's legal rights to challenge the site selection process, DOE comes before Congress once again to further tighten the screws to the citizens of our state with its dangerous request to eliminate state permitting authority in order to facilitate the siting of the Nuclear Waste Repository in Nevada.

Acting in a vacuum of scientific credibility, DOE and its allies in the nuclear industry have now resorted to a blatant attempt to "buy" the support of Nevadans. Offers of

contributions to the State's General Fund, made openly to a State Legislative Committee and implicitly in news releases and in informal contacts, and promises of unspecified "benefits" to local jurisdictions are little more than outright attempts to "soften" the opposition of the people in Nevada. Even if DOE were in a position to deliver on its promises of substantial economic handouts, Nevada's federal, state and local public officials will not engage in a game of "lets make a deal" and thereby jeopardize the health, safety, environmental and economic well-being of our citizens and communities. In short, there can and will be no accommodation with the federal government on this issue!

Research conducted by independent entities, as well as by the State of Nevada, demonstrate that the people of Clark County and all Nevadans oppose the location of the repository at Yucca Mountain by a margin of more than three to one. When asked whether the State should withdraw its opposition to the project and negotiate with DOE or continue to oppose the repository, even if that meant the rejection of significant economic benefits, over 73% responded that the State should continue its opposition. After conducting an independent survey for the Las Vegas Review Journal, political consultant Bruce Merrill of Arizona State University concluded that the opposition he recorded to the project in southern Nevada "is about as close to a political consensus on a public issue that you can find".

In a paper presented to the annual meeting of the American Association for the Advancement of Science, Dr. Paul Slovic, an internationally respected expert in risk and decision processes, concluded that because of DOE's lack of trust and credibility among people in the country, and especially in Nevada, almost no change exists for a repository to be build in the near future. Dr. Slovic recommended, and Clark County agrees, that steps must be taken to rebuild trust in the institutions responsible for implementing nuclear waste programs. A commitment by DOE for long-term, on-site storage of spent fuel at reactor sites, combined with a re-evaluation of disposal options with an emphasis on science, not politics, will go a long way towards beginning to restore public trust and confidence in DOE and lay the groundwork for prudent and safe nuclear waste storage and disposal efforts in the future.

To continue, however, with the draconian "head in the sand" approach to repository siting pursued stubbornly by DOE since 1987 will not only prove to be intolerably costly, but will further delay and ultimately doom DOE's efforts. On behalf of my constituents, the citizens of Clark County, I urge this Committee and Congress to assert now its good judgment and independence from DOE by discontinuing any further efforts to force the Nuclear Waste Repository on Nevada in the face of growing scientific information about Yucca Mountain's unsuitability and overwhelming state and local opposition.

In particular, the current DOE legislative initiative to strip a sovereign state of its rightful environmental regulatory authority marks a line over which no congressional representative of any state should cross. Such a dangerous precedent could be used against any state at any time in the future. The defeat of this component of the proposed National Energy Strategy is, therefore, not just necessary to protect the citizens of the State of Nevada. It is necessary to protect the future rights of the citizens of all counties and states in our nation. Your careful and fair consideration of these matters is urgently needed and most respectfully requested.

**RESOLUTION
OF THE CLARK COUNTY BOARD OF COUNTY COMMISSIONERS
OPPOSING THE PROPOSED NEW NATIONAL ENERGY POLICY
THAT WOULD ELIMINATE STATE ENFORCEMENT
OF ENVIRONMENTAL LAWS WHICH CONTROL ACTIVITIES
OF THE DEPARTMENT OF ENERGY, INCLUDING STUDIES
OF YUCCA MOUNTAIN AS A HIGH-LEVEL NUCLEAR WASTE REPOSITORY**

WHEREAS, Congress has enacted several laws to protect public health and environmental quality, including laws relating to clean air, clean water, safe drinking water, and solid waste management; and

WHEREAS, such federal laws provide for the delegation to states of certain permitting and enforcement authority, and

WHEREAS, the State of Nevada has accepted such delegated authority and is responsible for a broad scope of environmental regulation, including the consideration of environmental permits for the Department of Energy's site characterization of Yucca Mountain as a high-level nuclear waste repository; and

WHEREAS, the Department of Energy, through a proposed new National Energy Policy, now seeks to eliminate the State of Nevada's environmental oversight of Department of Energy activities, particularly those at Yucca Mountain, and

WHEREAS, it is well recognized throughout the nation that the Department of Energy needs more, not less, independent oversight of its activities.

NOW, THEREFORE, BE IT RESOLVED that the Clark County Board of Commissioners opposes the proposed new National Energy Policy that would

eliminate State enforcement of environmental laws which control activities of the Department of Energy, including studies of Yucca Mountain as a high-level nuclear waste repository.

PASSED, ADOPTED, AND APPROVED this 19th day of February 1991.

CLARK COUNTY, NEVADA

By 
Chairman
Board of County Commissioners

Attest:


Loretta Bowman, County Clerk

bh
RPT41

RESOLUTION

(of the Clark County Board of Commissioners)

WHEREAS, the Nuclear Waste Policy Act of 1982 delineates a procedure and time schedule for the establishment of the nation's first geologic repository for the storage of high level nuclear waste; and

WHEREAS, one of three sites under final consideration for siting of the repository is Yucca Mountain adjacent to the Nevada Test Site; and

WHEREAS, as a result of the location of Yucca Mountain and the limited transportation network in the southwest United States, major access to Yucca Mountain will be through the heavily populated Las Vegas Valley, which will be home to approximately one million people and a destination for 25 million visitors by the year 2000; and

WHEREAS, an accident within the highly developed Las Vegas Valley would create a direct physical and economic risk for residents and visitors alike; and

WHEREAS, Nevada already has contributed substantially to the United States nuclear program in the form of the nation's nuclear weapons testing center.

NOW, THEREFORE, BE IT RESOLVED by the Clark County Board of Commissioners that the Board opposes the location of a high-level nuclear waste repository in Southern Nevada.

PASSED, ADOPTED, AND APPROVED this 8th day of January, 1985.

CLARK COUNTY, NEVADA

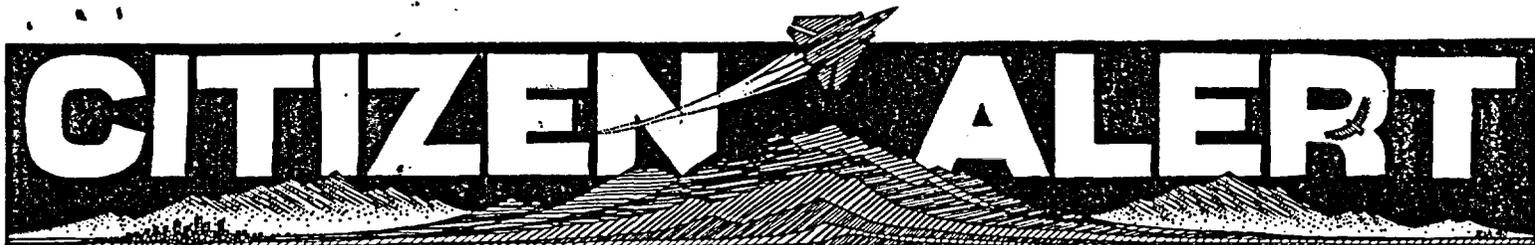
By: Thalia M. Dondero
Thalia M. Dondero, Chairman
Board of County Commissioners

ATTEST:

Loretta Bowman
LORETTA BOWMAN, County Clerk

/sg

CITIZEN ALERT



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Statement of Jo Anne Garrett
on behalf of
Citizen Alert.
before the U.S. House of Representatives
Committee on Interior and Insular Affairs,
Subcommittee on Energy and Environment.

January 10, 1992
Las Vegas, Nevada

Introduction

Greetings. My name is Jo Anne Garrett. I am a member of the Board of Directors of Citizen Alert. Citizen Alert is a 3000-member statewide organization founded in 1975 in response to a federal proposal for high level radioactive waste disposal at the Nevada Test Site. Our mission is to address significant national nuclear, military and environmental issues from the perspective of how these issues affect the lives and economy of people in the Great Basin.

Yucca Mountain is not the first time national problems have been "solved" at Nevada's expense. In the 1950's, Nevadans and U.S. military personnel were assured by the U.S. Government that atmospheric testing posed no danger to public health. Through bitter experience, people in the Great Basin have learned not to trust government pronouncements about the safety of unproven nuclear technologies here.

Congress, in passing the Nuclear Waste Policy Act (NWPA) of 1982, (and using the gift of understatement) found that "Federal efforts during the past 30 years to devise a permanent solution to the problems of civilian radioactive waste disposal have not been adequate." Public confidence in the government's nuclear waste disposal program is essential, but can not be attained given recent federal actions. The DOE's 1986 decision to drop the search for an east coast waste repository, followed by the 1987 NWPA Amendments designating Nevada's Yucca Mountain as the sole site "for study" of the the world's first underground nuclear waste repository, are but two stark examples of nuclear waste decisions being made on the basis of political expediency, and not on technical issues of health and safety.

Congress has focussed the high level waste program in Nevada for several reasons. Nevada is among the politically weakest states in Congress. Moreover, there is a reluctance by individual Representatives and Senators to acknowledge their state produces waste, and that they therefore have a responsibility to deal with the problem.

States have built, used and benefitted from nuclear power plants for the past 35 years, knowing full well about the mounting problem of radioactive wastes. It is reprehensible for the elected representatives of these states to say that by sticking it to Nevada, we've dealt with the problem. H.R. 1301 and H.R. 776 are clearly intended to drive the dump closer to completion in Nevada, and carry the tradition of politics before public health and safety.

We celebrate the defeat of the President's National Energy Strategy Act. But we are alarmed at the even worse language of H.R. 1301 and H.R. 776. These bills presume "the king can do no wrong", and would allow DOE to disregard state laws, permit requirements, and existing rights of way if they conflict with federal activities. This should appall Congressional representatives from other states, who may see future conflicts with DOE over clean-up of weapons facilities "solved" by a similar process. The generic language of the provisions dictate that if Yucca Mountain is not selected, the next state under consideration would also be stripped of oversight capabilities.

Removing the linkage between progress on a repository and construction of the Monitored Retrievable (MRS) storage would "grease the skids" for siting and construction of the MRS. While an MRS would severely decrease the chances of Yucca Mountain becoming a permanent repository, we can not support it. MRS could become a permanent dump, giving credibility to the idea that the nuclear waste disposal issue has been "solved".

The proposal to allow construction of the MRS in Nevada is ludicrous and disingenuous in the extreme. It presumes the certainty of Yucca Mountain as a permanent waste dump, denies the efficacy of public health and safety concerns, and again, attempts to solve a national problem at Nevada's expense.

Major technical questions related to earthquakes, volcanic activity, groundwater contamination, continued nuclear testing and other problems have not been answered. Yet the proposed legislation would allow DOE to make critical decisions determining the safety of Yucca Mountain without state oversight.

The proposed legislation would also subvert the Nuclear Waste Policy Act, which mandates affected states be funded for independent technical oversight during site characterization. Independent studies to provide second opinions about DOE's data assumptions must be supported, not thwarted, by Congress.

Such independent funding was directly responsible for averting a nuclear waste disaster at the proposed high level nuclear waste dump at Lyons, Kansas. If it had been left to the Atomic Energy Commission, the world's first high level radioactive waste dump would have been constructed in the salt domes of Lyons, Kansas.

Even the National Academy of Sciences gave glowing reports on the facility, a fact almost lost on those looking to the Academy for an objective assessment of Yucca Mountain. The Kansas Geological Survey, through a Congressionally-funded study, finally killed the project in 1973 with startling revelations of unknown shafts throughout the area, rendering it as solid as a piece of Swiss cheese.

In spite of this, H.R. 1301 and H.R. 776 would remove state oversight activities altogether. Such oversight is critical to ensuring DOE is not hiding the bad news about Yucca Mountain.

In conclusion, Citizen Alert urges Congress to terminate studies at Yucca Mountain and pass legislation allowing on-site dry storage of radioactive wastes. The NRC has stated wastes can be safely stored where they are produced for at least 100 years. During this time, the waste disposal issue could be removed from the political arena, and further investigation could proceed into the safest method for isolating these wastes for the duration of their toxicity.

This concludes my oral remarks. I would like my entire written statement to be included in the record. Thank you for considering our views.

Technical Issues

It should come as no surprise that such a flawed process has resulted in the selection of a technically flawed site. The \$2 billion expended on studying Yucca Mountain so far has helped uncover several technical reasons why the site should be disqualified.

In 1979, the National Academy of Sciences (NAS) warned the DOE of potential difficulties associated with tuff as a geologic medium for radioactive waste disposal. Fundamental issues which should be addressed before major resources were committed, the NAS warned, were seismic and volcanic stability of the area, significant lateral variations in the thickness and character of tuff, the fact that tuff terrains are typically broken by faults into blocks of varying size, the stability of tuff in the presence of hot electrolyte solutions, and the possible presence of natural resources. Yet the DOE siting guidelines (10 CFR Part 960) permit DOE to presume the site suitable for characterization by saying the site is qualified until proven otherwise. Even under these flawed siting

guidelines, technical evidence suggests several conditions which should disqualify the site:

1) Seismicity

The guidelines state that a site shall be disqualified if fault movement or other ground motion would result in a loss of waste isolation. DOE has determined the site is not disqualified because fault movement or other ground motion are not likely to occur, according to its 1986 Yucca Mountain Environmental Assessment (EA). But available evidence suggests the contrary.

Regional studies published by the U.S. Geological Survey show that Yucca Mountain lies within an area of high seismicity and should be considered as active. Evidence also indicates fault movement as young as 3000 years ago. In its comments on the Draft Yucca Mountain EA, the Nuclear Regulatory Commission (NRC) indicated DOE's assumptions about the lack of potential of active faulting at the site were overly optimistic. "At least portions of the Yucca Fault may have had natural movement as recent as 1000 years ago", the NRC stated. There is a significant body of evidence that shows earthquake activity could occur with the resulting release of radioactivity into the environment.

Jerry Syzmanski, a physical scientist who has worked on the Department of Energy's feasibility studies for Yucca Mountain -- and who has been raising concerns about the suitability of the site since 1984 -- found:

- The nature of the cracks in Yucca Mountain's tuff rock indicates that water created them and then flowed through them. The "corrosive" history of the site's geology is recent enough to suggest that it could recur within the lifetime of a nuclear repository.
- The area is geologically active, with both earthquakes and volcanoes having been recorded in recent times.
- Even if a volcano or earthquake didn't wrench apart the Yucca Mountain site, the pressures either of them create could raise the groundwater table into the repository and eat away at the nuclear waste containers.

The report concluded that, if the findings are supported by additional scientific data, that "serious consideration should be given to abandoning the Yucca Mountain site for the purposes of high level radioactive waste disposal."

Syzmański also said DOE's methods of studying the site, which are based on a preconceived notion that Yucca Mountain is suitable, are "grossly optimistic" and "distorted". Although DOE officials claimed the study was the first to make such findings, Syzmanski said the data had been in agency files for up to three years.

The repository and adjacent rocks will be above the boiling point of water for 1250 years. Maximum temperatures inside the waste canister bore hole wall will be 527 degrees F. This extreme heat will induce faulting, in addition to that which is predicted to occur naturally.

According to Charles Archambeau, a geophysicist at the University of Colorado:

"We should start looking for a new site, and it should not be in a volcanic and earthquake area. Yucca Mountain is going to be impossible to certify as a safe site."

2) Volcanism

John Trapp, a geologist with the Nuclear Regulatory Commission, has stated no amount of research could remove huge uncertainties about the risk of volcanic eruptions. The chance of volcanic eruptions at Yucca Mountain, according to Trapp, is "fundamentally an unanswerable question."

A study conducted by the Center for Volcanic and Tectonic Studies, Department of Geoscience at the University of Nevada, Las Vegas, provides important conclusions relating to volcanism at Yucca Mountain. These are that there are no easily recognized geochemical characteristics that signify the termination of volcanism and that volcanism at an individual basaltic center may last as long as 500,000 years.

The Lathrop Wells volcano near Yucca Mountain was predicted in the 1984 Yucca Mountain EA to be 270,000-300,000 years old. DOE recently was forced to change its estimates for the age of the volcano to 5,000-20,000 years.

3) Hydrology

Hydrology is about a 30-year old science; hydrology in unsaturated rock is embryonic. The guidelines state that a site should be

disqualified if the groundwater travel time from the repository to the accessible environment is less than 1000 years. Even DOE admits that the unsaturated zone in tuff is poorly known, but the EA indicates the groundwater travel time ranges from 20,000 to 50,000 years for the site. NRC staff, in comments on the Yucca Mountain EA, questioned DOE's confidence in this assertion. "Many assumptions, hypotheses and approaches used in the analysis did not incorporate uncertainties associated with available data," the NRC stated.

The independent Desert Research Institute found that the groundwater travel time could range from 900 to 34,000 years. This would disqualify the site for not meeting the geohydrologic requirement.

Generic research in other unsaturated rock has never been conducted in places other than Yucca Mountain, so DOE has no baseline from which it can determine what the data collected at Yucca Mountain means. We strongly recommend that before conducting extensive hydrologic studies at Yucca Mountain, DOE do generic testing and gather baseline data in other unsaturated rock against which to compare data to be gathered at Yucca Mountain. Moreover, DOE drilling at Yucca Mountain has already disturbed its basic hydrology, calling into question the integrity of any hydrologic model for the area.

Although the repository would be located just above the water table, geohydrologists disagree how much perched water exists around the repository zone. Experiments at the Argonne National Laboratory indicate the water pressure in the porous rock is close to atmospheric pressure. Contact between water and the defense wastes, which will have been converted from liquid to a glass or ceramic form, could cause the water to flash into steam, eroding the glass rapidly and transporting radionuclides to the biosphere. Although this condition by itself could disqualify the site, DOE has not addressed it.

There is also evidence pointing to geothermal activity in the Yucca Mountain area, based on the discovery of calcite silica deposits. The hot water from geothermal springs produces brine that could disintegrate the waste canisters. The existence of geothermal activity at Yucca Mountain could make the site the worst the nation could choose.

4) Water Quantity and Quality

The guidelines indicate that a site should be disqualified if activities associated with the repository would degrade water quality or reduce

water quantity. Again, DOE asserts that repository water use would not lead to these conditions. Recently, there have been several examples of how the repository could fatally exacerbate the scarcity of water in the area. The USGS found that water levels declined as much as 27 feet in Amargosa Valley between 1962 and 1967. In 1970, because of a declining water table, the State Water Engineer stopped issuing groundwater permits for irrigation in the Pahrump Artesian Basin. A well in Ash Meadows along the east side of the Amargosa Desert caused substantial reduction in the water level in nearby Devil's Hole, thereby threatening the endangered Devil's Hole Pupfish. This evidence shows that a measurable increase in water use associated with the repository could cause a harmfully significant drawdown of the regional water table.

The National Park Service on January 3, 1989, filed a protest of DOE's water rights application. The protest letter states that DOE's use of water for Yucca Mountain may cause injury to reserved and appropriated water rights of the National Park Service, Death Valley Monument, Devil's Hole.

5) Off-site Installations

The guidelines state a site shall be disqualified if atomic energy defense activities conflict irreconcilably with repository activities. There is one place in the country where we can be absolutely certain that ground motion will occur in the near term. The next logical step? Put a nuclear waste dump next to it. U.S. Geological Survey studies suggest that nuclear explosions have already induced tectonic strain on north-northeast trending faults, and that the Yucca Mountain faults may be tectonically strained to the rupture point.

According to DOE, whatever conflicts may arise could be handled through engineering design and coordination of testing and repository schedules. DOE's track record of predicting the reaction of the geologic environment to underground nuclear weapons explosions is not good. There have been serious problems with tests conducted at Rainer Mesa. During the April 10, 1986 Mighty Oak test, heat and radiation leaked past containment barriers and destroyed about \$35 million worth of diagnostic equipment and resulted in the worst off-site radiation release since the notorious Baneberry test sent mushroom clouds 10,000 feet high, carrying radiation into Canada. Another test 1100 below tuffaceous Rainier Mesa caused the ground to collapse three hours after detonation, injuring 14 workers, one fatally. (Midas Myth/Milagro test, February 15, 1984).

But even DOE planners tacitly admit that activity at the test site could unpredictably affect conditions at the repository, since no repository workers would be allowed to enter the underground waste facility during a nuclear test "for safety reasons." Areas closer to Yucca Mountain could be likely locations for future testing, increasing the intensity of tectonic stress on Yucca Mountain faults.

6) Heat and Radiation

Heat and radiation impacts from the repository will be much more serious than DOE admits. DOE optimistically assumes that the presence of zeolites will stop the migration of radioactive materials which escape from the repository, but does not state the point at which heat from the repository renders zeolites incapable of absorbing radioactive materials. A recent paper on this topic by Joseph R. Smyth of the Department of Geological Sciences, University of Colorado, points out that if heat-generating wastes are emplaced in zeolite-rich horizons, the breakdown of the zeolites in response to high temperatures could provide a pathway and driving force for the release of radionuclides to the biosphere.

Western Shoshone Land Rights

The land of Yucca Mountain belongs to the Western Shoshone Nation. Several court decisions, including the most recent opinion from the Ninth Circuit, a \$26 million government buy out offer, and a profusion of other rationalizations have not extinguished Western Shoshone title to the land. The Treaty of Ruby Valley was ratified by Congress and signed into law by President Grant in 1869. The Treaty recognizes that the Western Shoshone can "claim and occupy" some 43,000 square miles of territory, comprising much of Nevada. In exchange, the Shoshone allowed safe passage of pioneer travelers across these lands, allowed the building of military forts and railroads on Shoshone territory, and that mining, ranching, timber cutting, and communication lines could be established on this land "as required." The Treaty of Ruby Valley is International Law, and can only be extinguished by Congress. We strongly support the efforts of the Western Shoshone Nation to regain aboriginal homelands, and urge DOE and the Congress to recognize the significance of and abide by the Treaty.

Transportation

The monumental task of site characterization has apparently left DOE little time to consider how to bring 70,000 metric tons of waste from eastern nuclear power plants to Nevada. The choice between rail or road transportation has not been made, and estimates of the numbers of shipments of either mode fluctuate. DOE will be unable to acquire rights of way, let alone designate a preferred route for the rail access spur, prior to the publication of the Draft Environmental Impact Statement. In fact, while DOE assumes it will be ready to accept waste at Yucca Mountain by 2010, acquiring rail access could take between 12 -20 years.

The half-ton fuel assemblies contain ten times the amount of long-lived radioactive materials as the Hiroshima bomb, and 140,000 fuel assemblies will be moved to Yucca Mountain. DOE proudly points to its track record of no radioactive releases in accidents involving the transportation of high level nuclear waste. Whether this be due to luck or careful precautions is debatable, but the fact is there has never been large scale transportation of high level waste.

The majority of radioactive shipments that have taken place consist of materials from hospitals, universities and industrial sources. During a 14-year period, there were over 6000 accidents, over 60 of which released radioactivity. This corresponds to the standard rate for heavy interstate trucks, or about 4.5 per million miles traveled. Assuming 70,000 metric tons of high level waste were moved by truck, at the standard accident rate, there would be 1500 accidents over a 30-year period or 50 per year. The number of severe accidents, or those involving fatalities and/or the release of radioactivity, would be three per year. Because most of the highway miles are in Nevada, most of the accidents would be in Nevada.

DOE and its supporters say the casks will be virtually indestructible. Of the 11 casks in use for high level waste transportation today, all 11 have had to be recalled for defects. The Nuclear Regulatory Commission originally wanted all high level waste shipments escorted by security vehicles, predicting the threat of terrorists threatening to hijack a truck into a river or drinking water source. But that recommendation was shelved in light of excessive the labor and money required for its implementation.

Knowing the casks were not safe hasn't stopped DOE from using them in the past. A September, 1988 GAO report found that DOE sent at least 13 shipments of highly radioactive materials across the country using a shipping container that it had been warned might not survive an accident.

The definitive health effects studies by the federal government (NUREG-0170 and the Sandia "Urban Health Study") states that thousands of latent cancer fatalities could result if only one percent of the contents of a spent fuel casks were to be released in a respirable form in a densely populated area. DOE waste project representatives have stated in public meetings in Nevada that the chances of that kind of an accident "are extremely remote, just as the chances of getting hit by a meteorite are extremely remote." This kind of placating makes people even more suspicious of federal officials.

Alternatives to Yucca Mountain

In the absence of any known safe, long-term method for isolating long-lived radioactive wastes from the environment, it is fundamentally irresponsible to continue producing them. The environmental community is in basic agreement that existing wastes should be stabilized and isolated at the point of generation, and no new national sacrifice areas such as Yucca Mountain or the Waste Isolation Pilot Plant will be tolerated.

Congress should pass S. 699, "The Independent Spent Nuclear Fuel Storage Act", sponsored by Senators Bryan and Reid of Nevada. This would offer a century-long alternative to dumping wastes underground by allowing nuclear utilities to use funds consumers are already paying for the repository program to finance on-site storage in above-ground, dry casks. The GAO's "Fourth Annual Assessment of DOE's Nuclear Waste Program" (September, 1988) identified no technical impediments to such on-site storage. Advantages of on-site storage include the elimination or significant reduction of transportation risks, and the allowance of more time to develop sufficient understanding of long-term isolation methods.

Because of DOE's conflict of interest and zero credibility with the public, it should be removed from the nuclear waste disposal program and replaced by an agency solely responsible for nuclear waste management. DOE's conflict of interest is rooted in its simultaneous promotion of nuclear power, production and testing of nuclear weapons, clean-up of contaminated DOE facilities and management of the high level nuclear waste disposal program. As long as DOE remains at the helm of the highly controversial waste program, citizens will continue to view the program with suspicion and will doubt even the most well-meaning of DOE's decisions.

Calls to remove DOE from the nuclear waste program have not only come from Governors, members of Congress and citizen groups, but from

the DOE's own blue ribbon committee. In 1985, the AMFM (Alternatives to Financing and Managing) Panel Report, developed by a committee hand-picked by the Secretary of Energy, recommended that DOE be removed from the program.

Conclusion

Be assured that Nevadans and Native Americans Nations within the state will continue opposing this intrusive, wasteful and dangerous program. The noxious political strong-arm tactics employed by the DOE and embraced by Congress are without precedent in federal-state relations. Instead of making us knuckle under, they have strengthened our resolve.

Thank you for including these comments in the hearing record.

Western Governors' Association
Resolution 91-013

July 23, 1991
Rapid City, South Dakota

SPONSOR: Governor Miller and Andrus
SUBJECT: Federal Preemption of State Environmental Regulatory Authority (National Energy Strategy)

A. BACKGROUND

1. The western governors have long advocated, and supported in federal legislation, the preservation of states' rights in federal energy programs and state regulatory authority over federal nuclear facilities. The western governors are particularly committed to maintaining state authority as delegated under federal statutes, including the Clean Air Act, the Clean Water Act and the Resource Conservation and Recovery Act, to regulate sites which have been contaminated as a result of U.S. Department of Energy and U.S. Department of Defense activities.
2. In the Nuclear Waste Policy Act Congress struck a compromise balance among competing state, federal, utility and other interests. This compromise assured states certain rights and responsibilities, and it maintained in the states their permitting authority relating to the development of such a site.
3. There is currently pending before Congress National Energy Strategy (NES) legislation that would strip the State of Nevada of its authority delegated by the Environmental Protection Agency to permit certain DOE site characterization activities at the Yucca Mountain repository candidate site pursuant to the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, and other federal environmental statutes.
4. Section 511 of H.R. 1301 and S. 1138 would also preempt any state or local government regulation or ordinance pertaining to DOE activities at Yucca Mountain, including exempting DOE entirely from the need to acquire a state water appropriation.
5. Further, Section 511 of H.R. 1301 and S. 1138 would prohibit the federal courts from granting injunctive relief to the State of Nevada during any challenge to the preemption of state regulatory authority.
6. Pursuant to its permitting authority, the State of Nevada has acted on two of the three environmental permits that DOE has applied for. The third, a state water appropriation, has been the subject of a prehearing conference and a formal hearing is scheduled for September 1991. DOE has been treated as any other applicant.

B. GOVERNORS' POLICY STATEMENT

1. Section 511 of H.R. 1301 and S. 1138 would establish a dangerous precedent for future federal preemption of state authority to regulate federal nuclear facilities pursuant to the Clean Air Act, the Clean Water Act, and the Resource Conservation and Recovery Act.
2. Section 511 of H.R. 1301 and S. 1138 would further erode public and official confidence in the DOE's commitment to work cooperatively with affected states to restore the environment at sites already contaminated by existing DOE nuclear facilities, in addition to DOE's Civilian Radioactive Waste Program.
3. Section 511 of H.R. 1301 and S. 1138 takes an extreme approach to the resolution of issues arising out of the exercise of state jurisdiction over DOE activities at Yucca Mountain that cannot be justified under present circumstances. The western governors urge Congress to delete Section 511 from H.R. 1301, to delete the preemptive sections from S. 1138, and to retain state authority to enforce state and federal environmental regulations.
4. The western governors further urge that any Congressional efforts relating to the high-level nuclear waste management program should focus upon the program's real problems, specifically, implementation of the current program, the need for interim storage at reactors until waste can be shipped to a repository or Monitored Retrieval Storage (MRS) facility, and the need to develop a technically credible, fair and equitable candidate repository site screening process.

C. GOVERNORS' MANAGEMENT DIRECTIVE

1. WGA staff shall convey this resolution to the appropriate members and committee chairmen and ranking minority members of the Congress.
2. WGA staff shall transmit this resolution to the President, the Secretary of Energy, and the Administrator of the Environmental Protection Agency.

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