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January 14, 1985

MEMORANDUM FOR: Robert E. Browning, Director

Division of Waste Management

FROM: Paul T. Prestholt, Sr. OR-NNWSI

MF

Subject: NNWSI Site Report for Week of January 7, 1985

I. On January 8th, the DOE-NNWSI conducted a briefing on the Yucca Mountain Draft EA for state and local government officials in Carson City, Nevada. The agenda and a list of participants is enclosed.

Don Vieth, J. J. Fiore (DOE Hq.), and Max Blanchard conducted the briefing. Technical input was provided by Tom Hunter (Sandia), Bill Dudley (USGS), and several individuals from SAIC.

After general introductory remarks by Bob Loux, Director; State of Nevada Nuclear Waste Project Office, Don Vieth opened the briefing by introducing the NNWSI personnel and giving an overview of the NNWSI Draft EA effort. He explained the structure and content of the Draft EA, and the DOE's process for conducting the review of the Draft EA. Dr. Vieth provided a definition and schedule for the public briefings and hearings to be conducted by the NNWSI, and a description of how formal written comments will be handled.

Jim Fiore described the methodology used in the identification of potentially acceptable sites. He explained how the Draft EA fit into the requirements of the NWPA, and how 10 CFR 960 was used to develop the Draft EA. He described, in more detail, the content of the Draft EA; and described Chapters 1 and 7, and the two appendices. He finished his presentation by outlining the schedule for final nominations and recommendations, and the proposed schedule for first repository siting, construction, and operation to full operation in the year 2002.

Max Blanchard closed the formal presentation by again describing the Draft EA for Yucca Mountain, as required by the

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NWPA. He described, in detail, the content of Chapters 2 through 6. After Blanchard's presentation, the meeting was opened for questions.

Very few members of the audience had had an opportunity to review the Draft EA. Many had not received a copy prior to the briefing. Therefore, the questions asked were general in nature. The following are examples:

- ...Will a comment response document be issued, and will all comments be printed? What format will be used?
- ... Has the NRC endorsed the two-phase construction plan for the repository?
- ...When will all references cited in the Draft EA be available?
- ...Will new information acquired through the ongoing investigation of Yucca Mountain, between issuance of the of the Draft EA and the Final EA, be included in the Final EA?
- ... The review period clock should start when all reviewers have received the Draft EA and the cited references. Middle of January, 1985?
- ...Will comments from other Federal agencies be made available to all reviewers?
- ... A number of questions concerning transportation of high level waste to a repository.
- ... How does an MRS affect transportation?

The afternoon session was conducted by Bob Loux, and dealt with the details of the State's review of the Draft EA. The NNWSI personnel were not present.

Copies of the viewgraphs used by the NNWSI are enclosed, as well as the list of State reviewers.

II. On January 11, a meeting was held at WMPO, Las Vegas, on the tectonics of Yucca Mountain. Present at the meeting were personnel from the DOE-WMPO, SAIC, Sandia Labs, Blume Assoc., and Weston (Bob Jackson). As I understand it, the purpose of the meeting was to explore the planning of both generic and site specific tectonic criteria. Jerry Szymanski, WMPO, asked me to briefly tell the group what the NRC was doing in this area.

After consultation with RP and GT personnel, I told the group that the NRC technical staff was in the process of writing a technical position on tectonics; and that this document was scheduled for release at the end of 1985. Meetings were ongoing within the NRC technical staff, and that the NRC position on tectonics was in the early, formulative stage. I stated that the NRC technical staff would welcome discussions with the DOE on both generic and site specific criteria. Bob Jackson stated that he would recommend to DOE Hq. that a first meeting be held in the Washington, D. C. area in the next several months.

- III. The January TPO meeting will be held in La Jolla, California, at the SAIC Hq. facility. I am planning on attending this meeting.
- IV. Because of travel restrictions, I am not planning on attending the EA hearing to be held in Reno, Nevada on February 28. I will attend the briefings and hearings held in southern Nevada.
- V. Mr. William Bland Jr., NRC QA Consultant, will be in Las Vegas the week of January 21. I've made an appointment for Mr. Bland with Art Jarvis, EPA, on the 22nd. On the 23rd, I will escort Mr. Bland to the Test Site and Yucca Mountain; and on the 24th, Mr. Bland will meet with Jim Blalock, WMPO, QA Director.

NUCLEAR WASTE POLICY ACT PROCESS

- IDENTIFY POTENTIALLY ACCEPTABLE SITES (PASs)
- ISSUE SITING GUIDELINES
- PUBLISH ENVIRONMENTAL ASSESSMENTS
- NOMINATE AT LEAST 5 PASs
- RECOMMEND 3 FOR CHARACTERIZATION
- RECOMMEND 1 FOR REPOSITORY

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PROPOSED SITE NOMINATIONS AND RECOMMENDATIONS FOR FIRST REPOSITORY

EVALUATIONS REQUIRED BY NWPA OR SITING GUIDELINES FOR RECOMMENDATIONS

- 1. DESCRIBE DECISION PROCESS
- 2. APPLY DISQUALIFYING CONDITIONS TO SITES
- 3. GROUP SITES INTO GEOHYDROLOGIC SETTINGS
- 4. SELECT PREFERRED SITES
- 5. EVALUATE SUITABILITY
 - REPOSITORY DEVELOPMENT
 - SITE CHARACTERIZATION
- 6. ASSESS IMPACTS OF REPOSITORY
- 7. ASSESS IMPACTS OF SITE CHARACTERIZATION
 - ALTERNATIVES TO MINIMIZE
- 8. COMPARE NOMINATED SITES
- 9. DEVELOP ORDER OF PREFERENCE FOR RECOMMENDATIONS

CONTENT OF DRAFT EAS

EXECUTIVE SUMMARY

CHAPTER	1 (COMMON)	DECISION PROCESS
	3	SITE DESCRIPTION
	4	IMPACTS OF SITE CHARACTERIZATION
	5	IMPACTS OF LOCATING REPOSITORY
	6	SUITABILITY UNDER GUIDELINES
	7 (COMMON)	COMPARATIVE EVALUATION: PROPOSED NOMINATIONS AND RECOMMENDATIONS
APPENDIX	A (COMMON)	GENERIC TRANSPORTATION DATA
	B (COMMON)	DECISION METHODOLOGY FOR CHAPTER 7

SCHEDULE FOR FINAL NOMINATIONS & RECOMMENDATIONS

- PUBLIC COMMENT PERIOD CLOSES 3/20/85
- CONSULT WITH STATES/AFFECTED TRIBES SPRING 85
- PUBLISH FINAL EAS SUMMER 85
- FORMAL NOMINATIONS AND RECOMMENDATIONS TO PRESIDENT SUMMER 85
- PRESIDENT APPROVES 3 SITES FOR CHARACTERIZATION SUMMER/FALL 85

SCHEDULE FOR FIRST REPOSITORY SITING, CONSTRUCTION, AND OPERATION

- EXPLORATORY SHAFT CONSTRUCTION INITIATED
 - HANFORD SITE (SPRING 1986)
 - YUCCA MOUNTAIN SITE (SUMMER 1986)
 - DEAF SMITH SITE (SPRING 1987)
- ISSUE DRAFT EIS ON SITE SELECTION 1990
- PRESIDENT RECOMMENDS SITE 1991
- LICENSING COMPLETED 1993/94
- COMPLETE PHASE I CONSTRUCTION 1997
- BEGIN PHASE I OPERATION 1998
- COMPLETE PHASE II CONSTRUCTION 2000
- BEGIN FULL OPERATION 2002



Nevada Nuclear Waste Storage Investigations Project

Discussion of YUCCA MOUNTAIN ENVIRONMENTAL ASSESSMENT for Nevada State Officers

Nevada Operations Office
UNITED STATES DEPARTMENT OF ENERGY





MEETING AGENDA

INTRODUCTION - DONALD L. VIETH

Director - Waste Management

Project Office

OVERVIEW - JAMES J. FIORE

Chief - Program Planning, Analysis

and Support Branch

ENVIRONMENTAL

ASSESSMENT - MAXWELL B. BLANCHARD

Chief - Geologic Investigations Branch
Waste Management Project Office

QUESTIONS - STATE OFFICIALS and SUPPORTING STAFF



PURPOSE OF MEETING

- OVERVIEW OF OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT ACTIVITIES
- EXPLAIN THE STRUCTURE AND CONTENT OF THE ENVIRONMENTAL ASSESSMENT
- EXPLAIN THE DEPARTMENT'S PROCESS FOR CONDUCTING THE REVIEW
 - BRIEFINGS
 - HEARINGS
 - WHERE TO SEND COMMENTS



ENVIRONMENTAL ASSESSMENT REVIEW PROCESS

BRIEFINGS

- JANUARY 8 CARSON CITY 9am - 12noon

- JANUARY 22 LAS VEGAS 7pm - 10pm

- JANUARY 23 BEATTY 7pm - 10pm

- JANUARY 24 RENO 7pm - 10pm

HEARINGS

- FEBRUARY 25 AMARGOSA VALLEY 10am - 2pm, 6pm -10pm

- FEBRUARY 26 LAS VEGAS 10am - 2pm, 6pm - 10pm

- FEBRUARY 28 RENO 10am - 2pm, 6pm -10pm



ENVIRONMENTAL ASSESSMENT REVIEW PROCESS

WHERE TO SEND WRITTEN COMMENTS

U.S. DEPARTMENT OF ENERGY
Attention: COMMENTS --- EA

1000 Independence Ave. S.W.

Washington, D.C. 20585

NOTE: COMMENT PERIOD CLOSES ON MARCH 20, 1985

(Comments received after this date do not have to be considered)



GROUND RULES

- BRIEFING
 - ANSWER QUESTIONS REGARDING...
 - ► ENVIRONMENTAL ASSESSMENT
 - ► OCRWM PROGRAM / NNWSI PROJECT
 - > OTHER ACTIVITIES AT THE NEVADA TEST SITE
- HEARING
 - RECEIVE COMMENTS



PEOPLE AVAILABLE TO ANSWER QUESTIONS

DOE - HEADQUARTERS

- JIM FIORE

DOE - NEVADA

- DON VIETH

- MAX BLANCHARD

- ALLEN ROBERTS

- PETE FITZSIMMONS

- CHRIS WEST

U.S. GEOLOGICAL SURVEY

- BILL DUDLEY

SANDIA NATIONAL LABORATORY

- TOM HUNTER

SCIENCE APPLICATIONS INTERNATIONAL CORP.

- CINDY ALEXANDER

- RICH BELANGER

- MARY LOU BROWN

- JEAN YOUNKER



WHAT IS THE DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR YUCCA MOUNTAIN?

WHY WAS THE DRAFT EA PREPARED?

WHAT DUES THE DRAFT EA CONTAIN?

WHO WROTE THE DRAFT EA?

WHAT DOES THE DRAFT EA ACCOMPLISH?

HOW DO YOU MAKE COMMENTS ABOUT THE DRAFT EA?

HOW DO COMMENTS GET CONSIDERED WHEN THE DRAFT EA IS REVISED INTO ITS FINAL FORM?



WHAT IS THE DRAFT EA FOR YUCCA MOUNTAIN?

- O NUCLEAR WASTE POLICY ACT, 1982, (PUBLIC LAW 97-425), SECTION 112(B)(E) RÉQUIRES AN ÉA.
- O EA CONTENT SHALL INCLUDE:
 - (I) EVALUATION OF SITE SUITABILITY FOR SITE CHARACTERIZATION FOR GUIDELINES REQUIRING SITE CHARACTERIZATION.
 - (II) EVALUATION OF SITE SUITABILITY FOR DEVELOPMENT AS A REPUSITORY FOR GUIDELINES NOT REQUIRING SITE CHARACTERIZATION.
 - (III) ENVIRONMENTAL EFFECTS OF SITE CHARACTERIZATION.
 - (IV) REASONABLE COMPARATIVE EVALUATION WITH OTHER SITES.
 - (V) DESCRIPTION OF DECISION PROCESS.
 - (VI) REGIONAL AND LOCAL IMPACTS OF LOCATING A REPOSITORY AT THE PROPOSED SITE.
- O SHALL BE PREPARED ON THE BASIS OF AVAILABLE GEOPHYSICAL, GEOLOGIC, GEOCHEMICAL, AND HYDROLOGIC INFORMATION
- O SHALL FOLLOW THE GENERAL GUIDELINES (SECTION II2 (A) OF IOCFK960) WHICH SPECIFIES DETAILED GEOLOGIC CONSIDERATIONS THAT SHALL BE THE PRIMARY CRITERIA FOR THE SELECTION OF SITES IN VARIOUS GEOLOGIC MEDIA.



WHY WAS THE DKAFT EA PREPARED?

NWPA (1982), SECTION 112(B)

- O EA REQUIRED TO ACCOMPANY NARRATIVE OF SITES TO THE PRESIDENT BY THE SECRETARY OF THE DEPARTMENT OF ENERGY (DOE)
- O THE SECRETARY OF THE DUE IS REQUIRED TO NOMINATE TO THE PRESIDENT AT LEAST 5 SITES FOR SITE CHARACTERIZATION
- O SUBSEQUENT TO NOMINATION, THE SECRETARY SHALL RECOMMEND (BY JANUARY 1, 1985) TO THE PRESIDENT 3 OF THE NOMINATED SITES FOR CHARACTERIZATION



WHAT DOES THE DRAFT EA CONTAIN?

NWPA, SECTION 112(B)(E)

EXECUTIVE SUMMARY	N.A.
CHAPTER I - PROCESS FOR SELECTING REPOSITORY SITES FOR GEOLOGIC REPOSITORIES	(v)
CHAPTER 2 - DECISION PROCESS BY WHICH THE SITE PROPOSED FOR NOMINATION WAS IDENTIFIED	(V)
CHAPTER 3 - THE SITE	N.A.
CHAPTER 4 - EXPECTED EFFECTS OF SITE CHARACTERIZATION ACTIVITIES	(111)
CHAPTER 5 - REGIONAL AND LOCAL EFFECTS OF LOCATING A REPOSITORY AT THE SITE	(NI)
CHAPTER 6 - SUITABILITY OF THE YUCCA MOUNTAIN SITE FOR SITE CHARACTERIZATION AND FOR DEVELOPMENT AS A REPOSITORY	(1 % 11)
CHAPTER 7 - COMPARATIVE EVALUATION OF SITES PROPOSED FOR NOMINATION	(IA)
APPENDIX A. TRANSPORTATION	N.A.
APPENDIX B. AGGREGATION METHODS AND SAMPLE RESULTS FROM THEIR APPLICATION	N.A.

N.A. - NOT APPLICABLE



OVERVIEW OF DRAFT EA CONTENT

EXECUTIVE SUMMARY

THE EXECUTIVE SUMMARY HIGHLIGHTS THE INFORMATION FOUND IN THE DRAFT EAS AND PRESENTS A SUMMARY OF THE DECISION PROCESS THAT WILL LEAD TO SITE NOMINATION AND RECOMMENDATION. IT ALSO PRESENTS PRELIMINARY CONCLUSIONS ABOUT THE <u>YUCCA MOUNTAIN SITE</u> BASED ON THE INFORMATION AND EVALUATIONS CONTAINED IN THE DRAFT EA.

CHAPTER I: PROCESS FOR SELECTING NUCLEAR WASTE REPUSITORY SITES

CHAPTER I DESCRIBES THE OVERALL PROCESS FOR SELECTING NUCLEAR WASTE REPOSITORY SITES, INCLUDING A DESCRIPTION OF THE LEGAL AUTHORITY AND SCHEDULE FOR DUE TO DEVELOP A GEOLOGIC REPOSITORY; AN EXPLANATION OF A GEOLOGIC REPOSITORY; AN EXPLANATION OF THE ROLE OF THE EAS IN THE SITE SELECTION PROCESS AND AN OUTLINE OF DRAFT EA CONTENTS; A REVIEW OF THE SITE SCREENING PROCESS LEADING TO THE IDENTIFICATION OF POTENTIALLY ACCEPTABLE SITES; AND A GROUPING OF SITES INTO GEOHYDROLOGIC SETTINGS.

CHAPTER 2: PROCESS OF SELECTING THE YUCCA MOUNTAIN SITE AS ONE OF NINE POTENTIALLY ACCEPTABLE SITES

CHAPTER 2 DESCRIBES THE PROCESS BY WHICH THE <u>YUCCA MOUNTAIN SITE</u> WAS SELECTED AS ONE OF NINE POTENTIALLY ACCEPTABLE SITES FOR FURTHER CONSIDERATION. THIS CHAPTER ALSO PROVIDES AN EVALUATION BASED ON AVAILABLE INFORMATION, OF THE <u>YUCCA MOUNTAIN SITE</u> AGAINST THE DISQUALIFYING CONDITIONS OF THE DUE GENERAL GUIDELINES FOR THE RECOMMENDATION OF SITES FOR NUCLEAR WASTE REPOSITORIES.



OVERVIEW OF DRAFT LA CONTENT (CONT.)

CHAPTER 3: THE SITE

CHAPTER 3 PROVIDES A DESCRIPTION OF THE <u>YUCCA MOUNTAIN SITE</u> AND THE SURROUNDING AREA IN TERMS OF THE PRESENT UNDERSTANDING OF THE GEOLOGIC AND HYDROLOGIC CONDITIONS PRESENT OR INFERRED BY AVAILABLE DATA. IT CONTAINS A DESCRIPTION OF THE ENVIRONMENTAL SETTING OF <u>YUCCA MOUNTAIN</u> ALONG WITH DISCUSSIONS OF THE EXISTING TRANSPORTATION INFRASTRUCTURE, SOCIOECONOMIC CONDITIONS IN SURROUNDING AREAS, AND THE FISCAL AND GOVERNMENT STRUCTURE OF THOSE COMMUNITIES CONSIDERED MOST LIKELY TO EXPERIENCE IMPACTS SHOULD THE <u>YUCCA MOUNTAIN SITE</u> BE RECOMMENDED FOR SITE CHARACTERIZATION AND REPOSITORY DEVELOPMENT.

CHAPTER 4: EXPECTED EFFECTS OF SITE CHARACTERIZATION ACTIVITIES

CHAPTER 4 EVALUATES THE POTENTIAL EFFECTS OF THE PROPOSED CHARACTERIZATION ACTIVITIES AT THE <u>YUCCA MOUNTAIN SITE</u> ON THE ENVIRONMENT AS DEFINED IN CHAPTER 3. THESE PROPOSED ACTIVITIES INCLUDE FIELD STUDIES, CONSTRUCTION OF AN EXPLORATORY SHAFT TO THE PROPOSED REPOSITORY DEPTH IN <u>YUCCA MOUNTAIN</u>, AND OTHER STUDIES TO INVESTIGATE SITE SUITABILITY.



OVERVIEW OF DRAFT EA CONTENT (CONT.)

CHAPTER 5: EFFECTS OF LOCATING THE PROPOSED REPOSITORY

CHAPTER 5 PROVIDES A PRELIMINARY EVALUATION OF REGIONAL AND LOCAL EFFECTS SHOULD THE SITE BE SELECTED AS THE FIRST REPOSITORY LOCATION. ALTHOUGH BASED ON A PRELIMINARY DESIGN, THE IMPACTS OF CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF A REPOSITORY ARE ASSESSED WITH REGARD TO EFFECTS ON THE PHYSICAL ENVIRONMENT, TRANSPORTATION INFRASTRUCTURE, SOCIOECONOMIC CONDITIONS, AND FISCAL AND GOVERNMENT STRUCTURE IN THE AFFECTED AREA.

CHAPTER 6: EVALUATION OF THE SUITABILITY OF THE YUCCA MOUNTAIN SITE FOR SITE CHARACTERIZATION AND DEVELOPMENT AS A REPOSITORY

CHAPTER 6 PROVIDES AN EVALUATION OF THE SUITABILITY OF THE YUCCA MOUNTAIN SITE FOR SITE CHARACTERIZATION AND FOR DEVELOPMENT AS A HIGH-LEVEL WASTE REPOSITORY. THIS EVALUATION IS CONDUCTED THROUGH A COMPARISON OF THE CHARACTERISTICS OF THE YUCCA MOUNTAIN SITE WITH THE CRITERIA OF THE DUE GENERAL GUIDELINES FOR THE RECOMMENDATION OF SITES FOR NUCLEAR WASTE REPOSITORIES. SUITABILITY OF THE SITE FOR DEVELOPMENT AS A REPOSITORY IS ASSESSED THROUGH APPLICATION OF THOSE GUIDELINES WHICH DO NOT REQUIRE DATA FROM SITE CHARACTERIZATION. SUITABILITY FOR SITE CHARACTERIZATION IS EVALUATED BY COMPARING KNOWN INFORMATION ABOUT THE SITE AGAINST THE CRITERIA AND CONDITIONS OF THOSE GUIDELINES WHICH DO REQUIRE SITE CHARACTERIZATION DATA, BUT FOR WHICH A PRELIMINARY FINDING CAN BE MADE AT THIS TIME.



OVERVIEW OF DRAFT EA CONTENT (CONT.)

CHAPTER 7: COMPARATIVE EVALUATION OF THE SITES PROPOSED FOR NOMINATION

CHAPTER 7 PROVIDES A COMPARATIVE EVALUATION OF SITES TO BE PROPOSED FOR NOMINATION. IT EXPLAINS THE PURPOSE, REQUIREMENTS, AND APPROACH TO COMPARATIVE EVALUATION AS TO HOW THE SITE MEETS THE ACT AND GUIDELINES REQUIREMENTS. THE FIVE SITES PROPOSED FOR NOMINATION WERE COMPARED TO DERIVE A RANKING OF SITES FOR EACH TECHNICAL GUIDELINE. THESE RANKINGS WERE THEN COMBINED TO DERIVE FOR EACH SITE:

- I) A RANKING FOR THE SET OF GUIDELINES THAT RELATES TO EVENTS AFTER (POSTCLOSURE) CLOSING OF THE REPOSITORY,
- 2) RANKINGS FOR EACH OF THREE GROUPS OF GUIDELINES RELATING TO EVENTS BEFORE (PRE-CLOSURE) THE REPOSITORY IS CLOSED,
- 3) A RANKING FOR THE ENTIRE SET OF "PRECLOSURE" GUIDELINES, AND
- 4) AN OVERALL RANKING FOR ALL OF THE GUIDELINES (PRE- AND POSTCLOSURE).



WHO WRUTE THE DRAFT EA?

OFFICE (WASTI	OF CIVILIAN RADIOACTIVE ⁽¹⁾ E MANAGEMENT (UCRWM)	NEVADA UPERATIONS UFFICE (2) (NVU)	
EXECUTIVE SUMMARY CHAPTER I CHAPTER 2 CHAPTER 3 CHAPTER 4 CHAPTER 5 CHAPTER 6 CHAPTER 7 APPENDIX A APPENDIX B	X X X	X X X X	

(1)DOE - OCRWM, WESTON

(2) DOE-NVO/WYPO, SAIC, SNL, USGS, LANL, LLINL



WHO WROTE THE DRAFT EA? (CONT.)

CITES APPROXIMATELY 502 REFERENCES DRAWING FROM EXISTING LITERATURE. USES EXISTING KNOWLEDGE ABOUT GEOLOGY, HYDROLOGY, GEOCHEMISTRY, AND CONCEPTUAL ENGINEERING DESIGN.

DUE - DEPARTMENT OF ENERGY

OCRWM - OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

IWO/WIPO - NEVADA OPERATIONS OFFICE/WASTE MANAGEMENT PROJECT OFFICE

SAIC - SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

SNL - SANDIA NATIONAL LABORATORIES LANL - LOS ALAMOS NATIONAL LABORATORY

LLNL - LAWRENCE LIVERMORE NATIONAL LABORATORY

USGS - UNITED STATES GEOLOGICAL SURVEY



WHAT DOES THE DRAFT EA ACCOMPLISH?

- O SCREENS FROM 9 TO 5 SITES FOR NOMINATION BY THE SECRETARY OF THE DEPARTMENT OF ENERGY (DUE) TO THE PRESIDENT
- O SCREENS FROM 5 TO 3 SITES FOR RECOMMENDATION BY THE SECRETARY OF THE DUL AND THE PRESIDENT FOR SITE CHARACTERIZATION
- COMPARES EACH SITE WITH GENERAL SITING GUIDELINES (IOCFR960) FOR THE FOLLOWING FACTORS:

 DISQUALIFYING CONDITIONS
 POTENTIALLY ADVERSE CONDITIONS
 FAVORABLE CONDITIONS
 QUALIFYING CONDITIONS
- O STEPS IN THE COMPARISON FOR IOCFR960
 DIVERSITY OF GEOHYDROLOGIC SETTINGS
 DIVERSITY OF ROCK TYPES
 KEGIONALITY (APPLIES AFTER THE FIRST REPUSITORY)
- O EVALUATION WITH POSTCLOSURE GUIDELINES

SYSTEMS IOCFR60, 40CFR191



TECHNICAL
GEOHYDROLOGY
GEOCHEMISTRY
ROCK CHARACTERISTICS
CLIMATIC CHANGES
EROSION
DISSOLUTION
TECTONICS
HUMAN INTERFERENCE
NATURAL RESOURCES
SITE OWNERSHIP AND CONTROL

O EVALUATION WITH PRECLOSURE GUIDELINES

SYSTEMS
IOCFR20, IOCFR60, 40CFR191
TECHNICAL
POPULATION DENSITY AND DISTRIBUTION
SITE UWNERSHIP AND CONTROL
METEOROLOGY
OFFSITE INSTALLATIONS AND OPERATIONS
ENVIRONMENTAL QUALITY
SOCIOECONOMIC IMPACTS
TRANSPORTATION
SURFACE CHARACTERISTICS
HYDROLOGY
TECTONICS

O FINDINGS REQUIRED (PER IOCFK960, APPENDIX 111) OF ALL SITES BEING NOMINATED AND RECOMMENDED



HOW DO YOU MAKE COMMENTS ABOUT THE

DRAFT EA?

O IN PERSON AT HEARINGS

FEBRUARY 25, 1985 AMARGOSA VALLEY - AMARGOSA VALLEY

COMMUNITY BUILDING

I0:00 AM - 2:00 PM 6:00 PM - I0:00 PM

FEBRUARY 26, 1985 LAS VEGAS - HACIENDA HOTEL, MADRID

ROOM, 3950 S. LAS VEGAS BOULEVARD

I0:00 AM - 2:00 PM 6:00 PM - I0:00 PM

FEBRUARY 28, 1985 RENO - UNR, PINE ROOM, JOT TRAVIS

STUDENT UNION

10:00AM - 2:00PM 6:00PM - 10:00PM



HOW DO YOU MAKE COMMENTS ABOUT THE DRAFT EA? (CONT.)

O WRITTEN COMMENTS SENT TO:

U. S. DEPARTMENT OF ENERGY ATTIN: COMMENTS ON THE EA 1000 INDEPENDENCE AVENUE SW WASHINGTON, D. C. 20585

DEADLINE

O ORAL AND WRITTEN COMMENTS MUST BE RECEIVED BY MARCH 20, 1985



HOW DO COMMENTS GET CONSIDERED IN THE DRAFT EA?

- O CONSIDERED WHEN DRAFT EAS ARE REVISED TO FIVE FINAL EAS
- O COMMENT AND RESPONSE DOCUMENT



LOCATIONS WHERE A COMPLETE SET OF REFERENCES ARE AVAILABLE

DOE-NEVADA OPERATIONS OFFICE, LAS VEGAS
UNIVERSITY OF NEVADA, LAS VEGAS
CLARK COUNTY LIBRARY, LAS VEGAS
UNIVERSITY OF NEVADA, KENO
WASHOE COUNTY LIBRARY, RENO
NEVADA STATE LIBRARY, CARSON CITY
NUCLEAR WASTE PROJECT OFFICE, OFFICE OF GOVERNOR, CARSON CITY
NEVADA LEGISLATIVE COUNCIL BUREAU RESEARCH LIBRARY, CARSON CITY
LINCOLN COUNTY LIBRARY, PIOCHE
BEATTY LIBRARY, BEATTY
AMARGOSA VALLEY LIBRARY, AMARGOSA VALLEY
NORTHERN NEVADA COMMUNITY COLLEGE LIBRARY, ELKO
NYE COUNTY LAW LIBRARY, TONOPAH
NUCLEAR REGULATORY COMMISSION, WASHINGTON, D. C.



PUSTCLUSURE GUIDELINES

SYSTEM GUIDELINE

QUALIFYING 40CFR191/10CFR60

TECHNICAL GUIDELINES

GEOHYDROLOGY

QUALIFYING - 1

FAVORABLE - 5

PUTENTIALLY ADVERSE - 3

DISQUALIFYING - I

GEOCHEMISTRY
QUALIFYING - I
FAVORABLE - 5
POTENTIALLY ADVERSE - 3

ROCK CHARACTERISTICS
QUALIFYING - I
FAVORABLE - 2
POTENTIALLY ADVERSE - 3



PUSTCLOSURE GUIDELINES (CONT.)

```
CLIMATIC CHANGES
  QUALIFYING - I
  FAVORABLE - 2
  POTENTIALLY ADVERSE - 2
EROSION
  QUALIFYING - I
  FAVORABLE - 3
  POTENTIALLY ADVERSE - 2
  DISQUALIFYING - I
DISSOLUTION
  QUALIFYING - 1
  FAVORABLE - I
  POTENTIALLY ADVERSE - I
 DISQUALIFYING - I
TECTONICS
 QUALIFYING - I
 FAVORABLE - 1
 POTENTIALLY ADVERSE - 6
 DISQUALIFYING - I
```



POSTCLOSURE GUIDELINES (CONT.)

NATURAL RESOURCES
QUALIFYING - I
FAVORABLE - 2
POTENTIALLY ADVERSE - 5
DISQUALIFYING - 2

SITE OWNERSHIP
QUALIFYING - I
FAVORABLE - I
POTENTIALLY ADVERSE - I



PRECLOSURE GUIDELINES

SYSTEM GUIDELINE

IOCFR20, IOCFR60, 4OCFR191
RADIOLOGICAL SAFETY
ENVIRONMENTAL, SUCIOECONOMICS, TRANSPORTATION
EASE AND COST OF SITING CONSTRUCTION, OPERATIONS, CLOSURE

TECHNICAL GUIDELINES

RADIOLOGICAL SAFETY

POPULATION DENSITY AND DISTRIBUTION
QUALIFYING - I
FAVORABLE - 2
POTENTIALLY ADVERSE - 2
DISQUALIFYING - 3

SITE OWNERSHIP AND CONTROL QUALIFYING - I FAVORABLE - I POTENTIALLY ADVERSE - I



PRECLOSURE GUIDELINES (CONT.)

```
METEOROLOGY
QUALIFYING = 1
FAVORABLE = 1
POTENTIALLY ADVERSE = 2

OFFSITE INSTALLATION AND UPERATIONS
QUALIFYING = 1
FAVORABLE = 1
POTENTIALLY ADVERSE = 2
DISQUALIFYING = 1
```

ENVIRONMENTAL, SOCIUECONOMICS, TRANSPORTATION

ENVIRONMENTAL QUALITY
QUALIFYING - I
FAVORABLE - 2
POTENTIALLY ADVERSE - 6
DISQUALIFYING - 3

SOCIOECONOMIC

QUALIFYING - I

FAVORABLE - 4

POTENTIALLY ADVERSE - 4

DISQUALIFYING - I



TRANSPORTATION

PRECLOSURE GUIDELINES (CONT.)

```
QUALIFYING - 1
      FAVORABLE - 9
      POTENTIALLY ADVERSE - 4
EASE AND COST OF SITING, CONSTRUCTION, UPERATIONS, AND CLOSURE
    SURFACE CHARACTERISTICS
      QUALIFYING - I
      FAVORABLE - 2
      POTENTIALLY ADVERSE - 1
    ROCK CHARACTERISTICS
      QUALIFYING - I
      FAVORABLE - 2
      POTENTIALLY ADVERSE - 5
      DISQUALIFYING - I
    HYDROLOGY
      QUALIFYING - 1
      FAVORABLE - 3
      POTENTIALLY ADVERSE - I
      DISQUALIFYING - I
    TECTONICS
      QUALIFYING - I
      FAVORABLE - I
```

POTENTIALLY ADVERSE - 3

DISQUALIFYING - I



APPENDIX 1 - GUIDELINES

NRC AND EPA REQUIREMENTS FOR POST-CLOSURE

- O CONTAINMENT FOR 10,000 YEARS AFTER DISPOSAL. RELEASES SPECIFIED IN TABLE 2 OF EPA 40CFR191
- O CONTAINMENT WITHIN WASTE PACKAGES SUBSTANTIALLY COMPLETE FOR 300 1000 YEARS AFTER PERMANENT CLOSURE
- O RELEASE RATE OF ANY KADIONUCLIDE FROM ENGINEERED BARRIER SHALL NOT EXCEED I PART IN 100,000 PER YEAR AT THE INVENTORY CALCULATED TO BE PRESENT AT 1,000 YEARS FOLLOWING CLOSURE
- O PREWASTE EMPLACEMENT GROUND-WATER TRAVEL TIME ALONG FASTEST PATH OF
 LIKELY RADIONUCLIDE TRAVEL FROM DISTURBED ZONE TO ACCESSIBLE
 ENVIRONMENT SHALL BE AT LEAST I,000 YEARS, OR OTHER AS APPROVED BY NKC



APPENDIX II - GUIDELINES

NRC AND EPA REQUIREMENTS FOR PRE-CLOSURE REPUSITORY PERFORMANCE

- O CONDUCT OPERATIONS TO REDUCE EXPOSURE TO MEMBERS OF THE PUBLIC TO EXTENT REASONABLY ACHIEVABLE (40CFRI91 AND IOCFK20)
- O NORMAL OPERATIONS SHALL BE CONDUCTED SO THAT THE COMBINED ANNUAL DOSE EQUIVALENT TO ANY MEMBER OF THE PUBLIC SHALL NOT EXCEED* 25 MILLIREMS TO WHOLE BODY, 75 MILLIREMS TO THYROID, OR 25 MILLIREMS TO ANY OTHER ORGAN.

*EXCEPT FUR VARIANCES

O SPECIFIES REQUIREMENTS FOR WASTE RETRIEVAL



APPENDIX III - GUIDELINES

APPLICATION OF SYSTEM AND TECHNICAL

GUIDELINES DURING SITING PROCESS

ESTABLISHES 4 LÉVELS OF FINDINGS (A POSITIVE OR A NEGATIVE POSITION IS POSSIBLE FOR EACH FINDING) FOR SYSTEMS AND TECHNICAL GUIDELINES

EXAMPLES OF POSITIVE FINDINGS:

- I. EVIDENCE DOES NOT SUPPORT A FINDING THAT THE SITE IS DISQUALIFIED
- 2. EVIDENCE SUPPORTS A FINDING THAT THE SITE IS NOT DISQUALIFIED ON THE BASIS OF THAT EVIDENCE AND IS NOT LIKELY TO BE DISQUALIFIED
- 3. EVIDENCE DOES NOT SUPPORT A FINDING THAT THE SITE IS NOT LIKELY TO MEET THE QUALIFYING CONDITION
- 4. EVIDENCE SUPPORTS A FINDING THAT THE SITE MEETS THE QUALIFYING CONDITION AND IS LIKELY TO CONTINUE TO MEET THE QUALIFYING CONDITION



APPENDIX IV - GUILELINES

TYPES OF INFORMATION FOR THE NOMINATION OF SITE AS SUITABLE FOR CHARACTERIZATION

GEOHYDROLOGY

GEOCHEMISTRY

ROCK CHARACTERISTICS

ÜLIMATIC ÜHANGES

EROSION

DISSOLUTION

. TECTONICS

NATURAL RESOURCES

SITE UWNERSHIP AND CONTROL

POPULATION DENSITY AND DISTRIBUTION

METEUROLOGY

OFFSITE INSTALLATIONS AND OPERATIONS

ENVIRONMENTAL QUALITY

SOCIUECONOMIC IMPACTS

TRANSPORTATION

SURFACE CHARACTERISTIC HYDROLOGY

DRAFT AGENDA STATE/TRIBAL/DOE QUARTERLY MEETING

JANUARY 29, 30, 1985 LA JOLLA VILLAGE INN LA JOLLA, CALIFORNIA

JANUARY 29TH

7:30am - 9:00 am State-Tribal representatives

9:00am State/Tribal/DOE meeting

1. DOE update (Mission Plan, Defense Plan, MRS, etc.).

II. Consultation on EA after public comment period.

12:00pm - 1:30pm Lunch

. 1:30pm III. Grant guidelines review.

5:00pm Adjourn

JANUARY 30TH

8:00am IV. Site characterization plan development.

12:00pm - 1:30pm Lunch

1:30pm V. Indentification of major consultation areas over next year.

4:30pm Adjourn

SCHEDULE OF STATE ACTIVITY EA REVIEW PROCESS

WEEK OF 12/17/84	Letter from the Governor sent to state agency heads together with agenda for the 1/8/85 briefing and a schedule of state EA activities.
December 19. 1984	Draft EA's delivered to state officials by DOE representatives.
December 20, 1984	Draft EA's delivered to local government officials and others by DOE.
December 20-31.1984	Draft EA's mailed to other recipients by DOE.
January 8. 1985	Briefing for state and local government reviewers of the draft EA in Carson City.
January 22, 1985	Public hearings on EA in Las Vegas (7pm).
January 23, 1985	Public hearings on EA in Beatty (7pm).
January 24, 1985	Public hearings on EA in Reno (7pm).
Week of 2/18/84	State prepares comments for DOE public hearings.
February 25, 1985	DOE public hearing in Amargosa Valley (10am - 2pm and 6pm - 10pm).
February 26, 1985	DOE public hearing in Las Vegas (10am - 2pm and 6pm - 10pm).
February 28, 1985	DOE public hearing in Reno (10am - 2pm and 6pm - 10pm).
March 8, 1985	Deadline for reviewers' comments to be received by the state office.
March 29, 1985	State office submits formal comments on the draft EA to DOE/headquarters.

NOTE: Periodically throughout the comment period, the State Nuclear Waste Project Office will contact reviewers to ascertain the status of their reviews and to offer assistance as needed.

AGENDA

BRIEFING FOR STATE AND LOCAL GOVERNMENT REVIEWERS OF THE ENVIRONMENTAL ASSESSMENT FOR YUCCA MOUNTAIN

DATE: JANUARY 8, 1985

PLACE: CAPITOL BUILDING, 2ND FLOOR (OLD ASSEMBLY CHAMBERS)

9:00 AH - 12 NOON

DOE orientation and briefing relative to the EA, including background, document organization and questions & answers.

12 NOON - 1:30 PM

LUNCH BREAK

1:30 PM - 3:30 PM

State portion of EA briefing:

Overview of the state's role in the EA review process (Bob Loux).

Overview of the Nuclear Waste Policy Act and the position of the EA relative to the site selection process, including: requirements of the Act; dates and major decision points; how the EA fits in; next steps following the EA; etc.

Overview of schedule of state activity for the EA review process.

Review list of state and local government reviewers.

Review general format for comments by state reviewers.

Overview of state's concept of its response document (i.e. what that document will include and what format it will take).

EA references - where they are physically located and how best to access them.

General discussion of issues including questions and answers.

3:30 PM - 4:00 PM

Wrap up and adjourn.

FORMAT FOR COMMENTS OF REVIEWERS PARTICIPATING IN THE STATE E.A. REVIEW

In order to facilitate the integration of comments from various reviewers into a comprehensive state response document, the Nuclear Waste Project Office is asking that the following format be used in preparing your comments:

- (1) Comments should be provided on letterhead stationery.
- (2) The name, title and phone number of the person(s) actually responsible for preparing the comments should be clearly indicated.
- (3) The first section of your comment document should address areas, issues, etc. of a general nature. For example, you should identify those areas, subjects, issues, etc. in the EA that are of major concern within your field of expertise. You may also include here comments relative to such things as the overall quality of the EA, the organization of the document, adequacy of references, etc.
- (4) The second section of your comment document should address very specific areas, issues, items, etc. contained in the EA. Specific comments should identify the Chapter, page number and paragraph (or relative position on the page) of the issue being addressed.
 - (5) In the course of your review, you may find that you are aware of additional data, references, etc. which are not included in the EA but which, in your experience, are relevant to the topics reviewed. These might include other or more current references that either refute or support a certain position; references/data that suggest alternatives to conclusions or assumptions in the EA; etc. Please note those references, data, etc. in your comments.

For additional information, contact Bob Loux, Carl Johnson, or Joe Strolin at 885-3744.

LIST OF ENVIRONMENTAL ASSESSMENT REVIEWERS

(Carl)	1)	Desert Research Institute, Water Resources Center (contract)	Marty Mifflin (LV)	798-8882	hydrogeologi issues
(Carl)	2)	Nevada Bureau of Mines & Geology (contract)	John Bell or John Schilling	784-6691 -	, geologic- mineral issu
(Bob)	3)	Western Interstate Energy Board	Doug Larson	(303)377-9459	transportatio
(Bob)	4)	University of Nevada - Reno. Bureau of Business and Economic Research	Sam Males	784-6877	Socio-econom community service impacts
(Bob)	5)	University of Nevada - Las Vegas Center for Business and Economic Research	Phil Taylor	739-3191	socio-economi community service impacts
(Bob)	6)	Davenport and Murphy (contract)	Jim Davenport, Mal Murphy	(206)754-6001	legal issues siting & comparative evaluations
(Bob)	7)	Attorney General's Office	Harry Swainston	885-5866	legal issues
(Car1)	8)	David Tillson (geology contractor)		(801)363-4091	site screeni methodology
(Joe)	9)	Department of Transportation	Ron Hill	885-5440	transportati issues

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(Bob)	10)	Office of Community Services	John Walker	885-4420	organization. issues
(Carl)	11)	Department of Conservation and Natural Resources - Divisions of Environmental Protection, Water Resources, Historic Preservation and Archeology, State			·
		Lands, Water Planning	Vern Rosse	885-4670	environmental related, hist & cultural issues
(Bob)	12)	Emergency Management - Department of the Military	Don Dehne	885-4240	emergency planning preparedness, especially in areas of transportatio
(Joe)	13)	<u>Division of Health</u>	John Vaden* Carolyn Ford**	885-4750	*radiological health issues **health planning issues
(Carl)	14)	Department of Minerals	Paul Iverson	885-5050	mineral resource issues
(Joe)	15)	Department of Wildlife	William Molini	<i>789</i> -0500	flora-fauna, endangered species & related issue
(Carl)	16)	Department of Industrial Relations	Jim Barnes	885-3032	mine safety & general occupational health & safe issues
			·		

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(Joe)	17)	Department of Agriculture	Thomas Ballow	789-0180	agricultural land use issues/ agricultural economics issues
(Bob)	18)	Development Development	Andy Grose	885-4325	impacts on tourism, industry & economic development
(Joe)	19)	Nevada Indian Commission	Elwood Mose	789-0347	socioeconomic historic, cultural
(Joe)	20)	Nye County	Steve Bradhurst	323-4141 (Reno) 482-3581 (Tonop	
(Joe)	21)	Clark County Comprehensive Planning	Dennis Bechtel	386-3181	
(Joe)	22)	City of North Las Vegas	Jane Poulos	649-5811, ext.	252
(Joe)	23)	Lincoln County	Rick Hardy Mike Baughman	725-3356 883-1600	
(Joe)	24)	City of Las Vegas	Jack Thomason	386-6551	
[Joe)	25)	City of Henderson	Gary Bloomquist	565-2080	
Joe)	26)	Boulder City	Robert Boyer (Acting City Manager)	293-9202	
Bob)	27)	Legislative Subcommittee	Fred Welden	885-5637	

10TE: The name in parenthesis () indicates the person in the Nuclear Waste Project Office who is the primary contact person for that reviewer.

ATTENDEES AT STATE OFFICIALS BRIEFING CARSON CITY, NEVADA JANUARY 8, 1985

Dr. Donald L. Vieth, Director Waste Management Project Office U.S. Department of Energy Nevada Operations Office Post Office Box 14100 Las Vegas, NV 89114

Maxwell B. Blanchard Chief, Geologic Investigations Branch Waste Management Project Office U.S. Department of Energy Nevada Operations Office Post Office Box 14100 Las Vegas, NV 89114

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Cindy Alexander
Richard Belanger
Mary Lou Brown
Margery Olson
Susan Volek
Jean Younker
Science Applications
International Corporation
2769 South Highland
Las Vegas, NV 89109

E.A. REVIEWERS BRIEFING

JANUAURY 8, 1985

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John Vaden	Div. of Health	505 E King Car	ran City, MK
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R. Jane Pouros	3	2200 Civic Cntr	649-5811
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MAXIVELL BLANCHARD		LAJ VELAS PRILY	
Mary Cheston	USGAO	Forrestel - 68256 Washington De	
Doug DRIESHER	NEVADA DEPT of MWERAUS	3 ''	882-2020
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alu M. Becker		Nye Bldg	5-5138
Thomas Disbellow	New Dept. of Agriculture		789-0180
Martin Mofflin	DRI	2505 Ehandler	758882
	DOE-HO	10/10	202)252 9696
Galon MOZawa			
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John Schiller		Reno	181.mm
YOU HILL	NEV. D.O.T.		885-5440
JAHN BELL	WEV. BURNINES-GEOL	RENO	784-6691
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E.A. REVIEWERS BRIEFING

JANUAURY 8, 1985

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	RAME	ORGANIZATION	ADDRESS	PHONE !
	SOHN B. WALKER	Office of Community S.	CALLON CITY	88544XU
	PETER CHRISTIANS		l /	885-4420
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	Margery Olson	SAIC	LV	702 295 0853
÷	MIKE DELGINSS.	DIV. OF STATE LANDS	Carsur City	8554363
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. (Steve Bradhurt	Nge County	Reno, NU Eggs	323-4141
	HENT ROLLINS	STATE MINE INSP.	2619 CASTLEUIUSU	
Nor	ton Pickett	DIVISION OF MINE INSP	1380 S Curry	885.5243
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	12.17. WILSON	CITY OF HENDERSON	Heno.	565-2101
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	Bill Kobinson	UNEN		
	FentonRKay	NDOW	Reno	289-0500
	RichBelanger	SAIC		619-4TB-2533
	DON VIETH	DOF/WMPO	1 1	702-295-3662
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