



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

Reply to:

301 E. Stewart Ave., #203
Las Vegas, NV 89101
Tel: (702) 388-6125

DATE: November 22, 1993

TO: Joseph Holonich, Director
Repository Licensing and Quality Assurance Project
Directorate

FROM: Philip S. Justus, Sr. On-Site Licensing Representative,
HLPD

SUBJECT: ON-SITE LICENSING REPRESENTATIVE'S REPORT ON YUCCA
MOUNTAIN PROJECT FOR OCTOBER 1993

INTRODUCTION

During the fourteenth month as On-site Licensing Representative (OR), I participated in three site visits, a DOE/NRC Technical Exchange on ESF Design Control, a Nuclear Waste Technical Review Board Meeting on DOE's Testing Program and the Yucca Mountain Project (YMP) - Project Manager's/Technical Project Officer's (TPO) Meeting, among other activities. This report summarizes those activities that I consider particularly relevant to staff work.

A principal purpose of these OR reports is to alert NRC staff, managers and contractors to information from DOE's programs for site characterization, repository design, performance assessment and environmental studies that may be of use in fulfilling NRC's role during prelicensing consultation. Relevant information includes such things as new technical data, DOE's plans and schedules and the status of activities to pursue site suitability and Exploratory Studies Facility (ESF) development. In addition to communication of information, any potential licensing concerns identified are reported, as appropriate. The principal focus of this and future ORs reports will be on DOE's programs for ESF, surface-based testing (SBT), performance assessment, data management systems and environmental studies (at this time, mainly water resources).

EXPLORATORY STUDIES FACILITY (ESF)

1) DOE/NRC TECHNICAL EXCHANGE (TE) ON THE ESF. On 10/4-5, I participated in the TE held in Las Vegas the purpose of which was

102
WM-11
NRC 3

"to hold discussions on DOE activities related to the ESF design and design control process" (see Agenda, Enclosure 1). An official DOE/NRC meeting summary will be prepared and will contain the handouts. A complete set of handouts is on file in the ORs office. Some of the matters discussed at the TE will involve OR participation. These include: continuation of the Controlled Document library in the NRC Las Vegas office (NRC Office Automation Assistant, Nancy White, is now the NRC designated Controlled Document coordinator); design reviews including, but not limited to, 50% and 90%; periodic observation of the Change Control process; DOE's early notification of opportunities for NRC staff observation of DOE product acceptance reviews, e.g., field inspections; continuation of improvements in communication between DOE and NRC on DOE's proposed design ideas and changes.

2) DOE ACTIONS TO KEEP NRC INFORMED OF ESF DESIGN CONTROL PROCESS. At the TPO meeting, 10/29, Mr. T. Petrie, Dep. Div. Dir. Engineering and Development, DOE, described the communications and interactions between NRC and DOE on design control process - letter of 8/20/93, 9/17 DOE/NRC Management Meeting and 10/4-5 TE (see item 1, above). He listed five actions taken and proposed to gain NRC staff's confidence that the design process is being conducted properly and that the design is adequate:

- better inform NRC and enable it to observe the design process without severely impacting DOE;
- hold bi-monthly technical exchange meetings;
- continue informal weekly 'teleconferences' between NRC and ESF Branch Chief;
- develop plans to improve process for exchange of information such as Design Packages;
- provide NRC opportunities to observe DOE product acceptance process (i.e., acceptance reviews, inspections; Enclosure 2E).

3) OPPORTUNITIES TO OBSERVE DOE ACCEPTANCE REVIEWS IN FY94. The ORs were notified that in FY94 several Acceptance Reviews will be scheduled and NRC staff may observe them (see item 1, above). An Acceptance Review, in these cases, refers to DOE telling the constructor, REEC Co, that it has acceptably completed a particular component of the ESF. An Acceptance Review Procedure is to be issued around January 94. In the January-February timeframe, an Acceptance Review Package containing such things as required documents and drawings will be available. Prior to the end of March DOE expects to conduct Acceptance Reviews (AR) of the following Package 1A components: Starter Tunnel, Test Alcove #1 and, perhaps, the Topsoil Storage Pad. The ORs are to be kept informed of the FY94 AR milestones and schedules.

4) CONSTRUCTION OF TEST ALCOVE #1. Drilling and blasting of Alcove #1 was one of two significant ESF activities in October. Fibercreting of the corners was completed. Geologic mapping of a section near the entry was completed. Wire mesh was installed with split set rock bolts, no grout will be used in Alcove #1. By end

of October the Alcove had advanced about 40 ft from the ramp centerline. A decision by the geologist and hydrologist Principal Investigators (PIs) on when to complete alcove advance is expected to be made in later part of November, when a shear zone projected to be intersected by the Alcove has been penetrated. Testing will not begin, however, until the tracer gas injection system, needed for testing, is on-site, sometime in December. The relevant Study Plan activities are 8.3.1.2.2.4.4 and 8.3.1.2.2.4.8. The field test coordinator will notify the ORs of the impending decision point and test milestones. A proposed layout plan and section was distributed at the TRB meeting on 10/19 (see Enclosure 3). The next test alcove is not scheduled for construction until FY95 when the TBM encounters the Bow Ridge Fault.

5) CONSTRUCTION MONITORING ACTIVITIES (CMA). CMA was a second significant ESF activity in October. On 10/27 the ORs were briefed in the field on the implementation of DOE's CMA program for ESF operations in accordance with Study Plan 8.3.1.15.1.8, "In situ Design Verification" and Job Package 92-20D, Rev.0, "Construction Monitoring in the Starter Tunnel." CM tools being installed to detect rock instabilities include multi-point borehole extensometers (MPBX) in three boreholes, steel-tape extensometer anchors, and seismometers in boreholes. The ORs observed the locations of CM boreholes and anchor sites for each method, including the MPBX hole in the crown near the 200 ft. point. The MPBX boreholes will be about 45 ft. long; two will be vertical in the crown, one will be horizontal, perpendicular to the other two, in the south wall. The CMA PI and crew, Sandia National Labs contractors, demonstrated calibration tools and walked through their Scientific Notebook and methods for performing and documenting their scientific investigations. The ORs observed the PI to be using generally sound QA practices.

6) TRACERS, FLUIDS AND MATERIALS (TFM) TRACKING PROCESS. On 10/28, the ORs were briefed on the TFM evaluation and tracking process by the Los Alamos National Lab (LANL) TFM coordinator (this function has since been transferred to the M&O). The following is a summary of selected parts of the process. The TFM tracking process is based on a management plan, "Yucca Mountain Site Characterization Project Tracers, Fluids and Materials Management Plan," Rev.1, November 1992. The plan directs that evaluations be performed on TFM proposed to be used in the project: 1) importance to waste isolation evaluation (ITWI), 2) test interference evaluation (TIE), and 3) potential health effects on workers. ITWI and TIE are performed by the M&O and lead to a statement of potential impact/no impact/use with certain provisions. LANL TFM coordinator sends evaluation results to DOE Regulatory & Site Evaluation Division Director who authorizes the use, restricted use, or, may deny use of the TFM. Data on the kinds and quantities of TFM used are kept by LANL (to be kept by M&O), EG&G for the YMP database, SAIC on hazardous materials, REEC Co, the principal user in the field, and others, such as USGS-hydrology PIs. A user is given a limit on the

TFM quantity, such that if more is needed, another ITWI and TIE would be performed. The M&O makes the call on how much TFM, e.g., grout, is too much. The ORs will continue to report on the use of TFM.

7) STATUS OF TUNNEL BORING MACHINE (TBM) AND PROPOSED ESF ACTIVITIES FOR FY94. The main ESF activities for FY94 support the startup of the TBM (see Enclosure 2D). Much preparation is involved, including such things as installation of conveyor system, of electrical power, of compressed air system, and concrete liner to support the TBM's footers. YMPD announced at the TRB meeting, 10/19, that it plans to have the TBM up and running in place in August 94. Two shifts per day are budgeted. Thus, the TBM is expected to operate for about one month in FY94.

The front part of the TBM train is shown in Enclosure 4. Note that the geologic mapping platform is not closer than about 150 ft from the working face.

SURFACE-BASED TESTING (SBT)

1) NUCLEAR WASTE TECHNICAL REVIEW BOARD (TRB) MEETING. On 10/19-20 I attended the TRB meeting in Las Vegas on "Surface-based Dry Drilling/Underground Testing Program" (see Agenda, Enclosure 5). S. Jones pointed out to the TRB NRC's involvement in DOE's site characterization testing program in at least three areas - SCP and Study Plan reviews, and evaluation of test results. M. Chornack, USGS, described clearly the unsaturated zone characterization program details. Your presentation on NRC's views of DOE's design control process was well received. Refer to the NRC HQ staff's report of the meeting for a description of the contents. The handouts are on file in the OR office.

2) BOREHOLE UZ-14 STATUS. At the TRB meeting on 10/19, R. Luckey, USGS, summarized the results of activities at UZ-14. It has been concluded that the fluid in UZ-14 is the same as that from nearby UZ-1; that the fluid contains polymer used to drill G-1 in 1980; and that the nature of the fluid in UZ-14 is not known (see OR report for September for hypotheses). One of the hypotheses, the water is perched, may not be able to be conclusively demonstrated. The reason is that the G-1 water was taken from well J-13, completed in the Topopah Springs unit several miles away. If UZ-14 water is perched in the Topopah Springs unit, it would have a chemical signature similar to, perhaps indistinguishable from, the J-13 water introduced in G-1. Dr. Luckey speculated on the possibility that J-13 water with polymers from G-1 could have migrated within the footprint of the repository, based upon rough and preliminary calculations and assumptions regarding the shape and size of a G-1 plume. Also, J. Rousseau, USGS, indicated that the water temperatures are lower than expected. The LM-300 sampling system at UZ-14 was discussed by D. Williams at the TRB meeting (Enclosure 6) along with a comparison of drilling statistics for UZ-14 and UZ-16 (Enclosure 7).

3) STRATIGRAPHIC NOMENCLATURE FOR YMP TO BE FORMALLY REVISED. This is a heads up. The USGS, in collaboration with LANL, is redefining the stratigraphy of the entire Cenozoic volcanic section of the greater Nevada Test Site area. New terms will be established for rock stratigraphic units and published in the Geological Society of America Bulletin in late 1993 or early 1994. Radiometric ages of units will be published for the first time. Look for a USGS Open-file Report (OFR) on YM stratigraphic nomenclature to be published in 1994. The OFR and Bulletin article are designed to be compatible references for YM stratigraphy. The OFR will apparently include tables that indicate how the lithologic units are related to the thermo-mechanical and hydrologic units. Such correlation tables would be helpful in mitigating the confusion of stratigraphic terms applied to the same rock units by the various participants. The OFR would appear to overlap in scope the stratigraphic compendium that is under development by the M&O (see OR report for September 1993).

The USGS work in Forty-Mile Wash has been focusing on the outcropping Calico Hills (CH) rock unit stratigraphy and lateral lithologic variability. Results will be discussed at the International HLW Conference in Las Vegas in May 1994 (two published abstracts were sent to HQ staff on 10/12). The CH contains at least five lava flows, nine massive breccias and five bedded sequences where it is exposed in the Paintbrush Canyon area. However, in the north flank of YM, the CH apparently has one lava flow. It may not be obvious from an inspection of a borehole (BH) containing one lava flow as to which of several lava flows present in another BH the one flow may be correlated with, if any. Such lateral variation may have led the same subunits of the CH being given different names in different places. The ORs will continue to follow developments in this subject area.

4) GEOPHYSICAL TESTING PROGRAM: FY93 ACCOMPLISHMENTS, FY94 PLANS. At the TRB meeting, 10/19, D.Williams summarized the FY93 work and FY94 plans in geophysics in these categories: BH logging, seismic refraction, gravity and magnetics, geodetic leveling, earthquake monitoring, engineering geophysical testing. See Enclosure 8 for details. At TPO meeting, 10/29, S.Jones indicated that the seismic reflection surveying planned for FY94 can be expedited if REECo would drill the shotholes, rather than the seismic surveyor.

5) PNEUMATIC-TESTING PROGRAM. R. Craig, USGS, on 10/4 (DOE/NRC TE) and 10/20 (TRB) described the BH testing program to provide baseline data on gas and fluid flow characteristics along the ESF alignment in the undisturbed state (pre-ESF construction). In particular, nine BHs have been designated as key to establishing such measurements: USW NRG-6, UE-25a#4, UE-25 NRG-2b, UE-25 NRG-4, UE-25 NRG-5, USW UZ-7, USW UZ-14, USW SD-12 and USW SRG-4 (see map, Enclosure 9).

6) LARGE-BLOCK EXPERIMENT (LBE) AT FRAN RIDGE IS PROCEEDING. In October site preparation for the LBE continued. Controlled drilling and blasting to isolate the test block occurred. Apparently, LLNL considered that site preparation work need not be conducted under a QA program because of its prototype nature. Water used need not be traced or metered. A spill of about 2.5 gallons of hydraulic fluid occurred on or near the test block, but was considered by LLNL field rep to be satisfactorily cleaned. Excavation plan and section details were presented by D. Wilder, LLNL, at the TRB meeting, 10/20 (Enclosures 10A, plan view; 10B, cross section).

7) GHOST DANCE FAULT (GDF) STUDIES. On 10/21 Wm.Boyle, G.Stirewalt and I observed the GDF pavement at Antler Ridge. The west pavement clearly showed extensive brecciation. Lithophysae were scarce or absent. The east pavement was being cleared by hand. Water hoses, brooms and shovels were used to clean the pavement. There appeared to be a higher percent of non-brecciated tuff and lithophysae in the east pavement. It appears that the intensity and extent (width) of brecciation in the GDF zone at this locality is greater than expected from the existing descriptions of the zone. Such an observation raises questions about such things as the detectability of fault breccia from surface mapping at the scale used (how accurate is the mapped breccia), and about the reliability of projections of the GDF zone to repository depth at this early stage of understanding its characteristics (how accurate is the portrayal of the GDF at repository depth). The USGS has determined that the GDF zone needs further investigation; apparently funds are available for certain FY94 work. The ORs will continue to follow this activity.

8) NATURAL RESOURCES ASSESSMENT. At the TPO meeting, 10/29, Dr. Z.Peterman, USGS, discussed the plan to implement Study Plan 8.3.1.9.2.1, "Natural Resources Assessment of YM," in FY94. He identified two invaluable maps that should be obtained by reviewers. The USGS has already sampled gold mines in the Bare Mtn. area and will sample YM core. Dr. Peterman stated with confidence that the USGS could predict metal mineralization of marine carbonates, e.g., Paleozoic limestones such as those underlying YM, by determining the delta strontium87 values. His handout was sent earlier to NRC HQ staff (Enclosure 2G).

9) STATUS OF SBT. At the TPO meeting, S.Jones discussed the status of SBT activities. The following is selected from her discussion:

- C-well test. Continue site restoration and pad construction;
- Volcanism studies. Prof. G.Thompson, Stanford Univ., is reviewing geophysics support program; Study Plan 8.3.1.8.1.2 was submitted to NRC staff on 10/4;
- UZ-16. Air permeability tests to be conducted early November; walkaway vertical seismic profiling using grouted geophones planned for 5/94;
- Midway Valley report on geology due December 1993;

- Bare Mtn. Excavate five more test pits;
- GDF. Completed data collection across fault along line from WT-2 to UZ-16 for gravity, magnetics and shallow seismic reflection.

GENERAL

1) DOE, YMPO MANAGEMENT CHANGES AND REORGANIZATION PLAN ANNOUNCED. YMPO announced on 10/8 that Mr. C.Gertz accepted a 90-day detail to lead a task group of experts seeking to accelerate the Hanford Tank Wastes remediation program. Effective in mid-October, Dr. Russ Dyer would be Acting Project Manager; Dr. Susan Jones would be Acting Director of the Regulatory and Site Evaluation Division. At TPO meeting, 10/29, Ms. Smith reiterated that Dr. D.Dreyfus had been confirmed by the senate to head DOE/OCRWM and Mr. L.Barrett would be his principal deputy director. Also, she indicated that three options for reorganizing YMPO are under consideration by Mr. Dreyfus.

2) OCRWM DIRECTOR'S GOALS AND PRIORITIES FOR FY94. Mr. Dreyfus's FY94 goals and priorities were enumerated at the TPO meeting (Enclosure 2C):

- comply with all laws and regs;
- maximize prioritized scientific investigations essential to YM site suitability determination with balance between ESF, SBT and PA attendant to scientific investigations;
- enhance waste acceptance capability: continue to support MRS; optimize MRC for availability in 1998; pursue limited 1998 transportation capability;
- limit program support to essential for advancing waste acceptance objectives;
- support Secretary's program emphasizing stakeholder involvement.

3) YMPO PROJECT MANAGER'S GOALS AND PRIORITIES FOR FY94. R. Dyer's FY94 goals and priorities were enumerated at the TPO meeting (Enclosure 2C):

- continue ESF development
- continue SBT
- continue ID/resolution of difficult technical issues
- continue development of standardized waste package
- continue to comply with regs and DOE orders
- continue to define and implement cost controls.
- continue ACD
- continue environmental data

4) HANTAVIRUS RISK AT YM "VERY LOW." At the TPO meeting results of cooperative sampling and blood testing by Center for Disease Control, State of Nevada, Washoe County and EG&G/EM of 496 rodents near YM and 57 rodents on Paiute and Ranier Mesas were described. The YM rodents, including the few deer mice captured there, tested negative for hantavirus antibodies suggesting no exposure. Ten of the 57 rodents from northern end of NTS tested positive for hantavirus antibodies. All ten were deer mice. The antibody-positive mice apparently were all from elevations higher

than occur at YM. YMPO stated, "the risks for exposure at YM appears to be very low based on these tests."

5) YMPO DESCRIBES A BUDGET SCENARIO LEADING TO LICENSE APPLICATION (LA) SUBMITTAL IN CY2006. At the TPO meeting, and at other meetings in October, YMPO described a budget plan that would lead to a LA submittal to NRC in FY2005/CY2006 (Enclosure 2C) and still maintain a 2010 waste emplacement date. YMPO emphasized that other scenarios are possible which would lead to different outcomes. It appears unlikely to YMPO, with the current funding plan, that a LA will be submitted in 2001. However, YMPO insisted that, under certain budget scenarios and assumptions about YM candidate site, waste could be emplaced at YM in 2010, as currently projected. The LA in FY2005 scenario includes such assumptions as a doubling of funds in FY95 to \$519M sustained at about that level for eight years, TBM is operational in FY94 and a second one purchased in FY95.

6) MONTHLY REPORTS PRODUCED BY DOE PARTICIPANTS ARE NOT QA DOCUMENTS. Note that data, analyses and other information provided in DOE participant's monthly reports have not been reviewed or approved by DOE. They are internal documents required of all DOE contractors by DOE Order 4700. As such, the monthlies should not be referenced as sources of significant data. Of course, they remain useful leads to data sources.

ON-SITE REP (OR) ACTIVITIES

1) APPENDIX 7 VISITS. The ORs arranged four Appendix 7 meetings in October: 10/6, Design Review Package 2A followup, DOE Las Vegas; 10/6 & 10/21, NRC HQ/CNWRA staff Site visit, YMP site; 10/18-19, NRC Global Positioning Satellite Research station measurements, YMP site.

2) NYE COUNTY/OR INTERACTION. On 10/21 NRC HQ and CNWRA staff and I visited the Nye County On-Site Rep's office at the Field Operations Center (FOC) and met N. Stellavato, Nye Co. OR, and L. Bradshaw. DOE and Nye Co. are negotiating a protocol by which Nye Co. can drill, sample and test on the YM site. This is of interest to NRC insofar as the results of the Nye Co. program are intended to be used by the Co. to become a well-informed participant in any future licensing proceeding. DOE discussed this matter at the TPO meeting.

3) PHOTOINDEX AVAILABLE FOR INSPECTION. YMPO has made available for perusal an index of photographs taken at the YM site. Browsing must be done at the FOC or in YMPO office. Request Johnson Control's "YMSO Photo Proofbook Reference."

4) NRC STAFF VISITORS. The following NRC staff visited the site

and/or attended meetings in Las Vegas in October: Wm. Belke, Wm. Boyle and J. Holonich, twice each; Wm. Ford; M. Nataraja; S-J. Chern; R. Ballard; Geo. Birchard (staff who attended the Licensing Support System Advisory Review Panel meeting 10/6-7 are not included).

Enclosures:

1.	DOE/NRC Technical Exchange Agenda	10/4-5
2A.	TPO Meeting Agenda	10/29
2B.	" " L. Smith Update	"
2C.	" " R. Dyer Update	"
2D.	" " T. Petrie ESF Status	"
2E.	" " T. Petrie Results of TE	"
2F.	" " S. Jones SBT Status	"
2G.	" " Z. Peterman Nat.Res SP	"
3.	TRB Meeting D. Williams Alcove #1 Plan and Section	10/19
4.	" " N. Elkins North Ramp & TBM Profile	"
5.	" " Agenda	"
6.	" " D. Williams LM-300 Sampling at UZ-14	"
7.	" " D. Williams UZ-16 vs UZ-14 Drilling Stats	"
8.	" " D. Williams Geophysics FY93 Accompl, FY94 Plans	"
9.	" " R. Craig BH Location Map for Accelerated Tests	"
10A.	" " D. Wilder LBE Excavation Plan	"
10B.	" " D. Wilder LBE Cross Section	"

cc w/encl: R. Nelson, DOE
D. Shelor, DOE
T. Hickey, State Senator
W. Patrick, CNWRA
R. Loux, State, Nuclear Waste Project Office

cc w/o encl: C. Abrams, M/S 4 H 3
R. Bernero, M/S 6 E 6
S. Gagner, M/S 2 G 5
J. Linehan, M/S 4 H 3
E. O'Donnell, M/S NLS 260
H. Thompson, 17 G 21
B. Youngblood, M/S 4 H 3
G. Cook, Region V
R. Dyer, DOE
A. Gil, DOE
T. Petrie, DOE
J. Martin, Region V
S. Jones, DOE
D. Foust, M&O
R. Leonard, M&O
S. LeRoy, M&O
J. Russell, CNWRA
L. Reiter, NWTRB
D. Bechtel, Clark Co.
L. Bradshaw, Nye Co.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SEP 14 1993

MEMORANDUM FOR: Joseph J. Holonich, Director
Repository Licensing and Quality Assurance
Project Directorate
Division of High-Level Waste Management

FROM: Charlotte Abrams, Senior Project Manager
Repository Licensing and Quality Assurance
Project Directorate
Division of High-Level Waste Management

SUBJECT: FORTHCOMING NUCLEAR REGULATORY COMMISSION/U.S. DEPARTMENT OF
ENERGY (DOE) TECHNICAL EXCHANGE ON THE EXPLORATORY STUDIES
FACILITY*

DATES: October 4 and 5, 1993

TIME: 8:00 a.m. - 5:00 p.m.

LOCATION: San Tropez Hotel Convention Center
455 E. Harmon Ave.
Las Vegas, Nevada
(702) 369-5400

PURPOSE:

To hold discussions on DOE activities related to the
Exploratory Studies Facility design and design control
process. See enclosed agenda.

PARTICIPANTS:

NRC

C. Abrams
J. Holonich
R. Ballard

DOE

C. Einberg
T. Petrie

State of Nevada

C. Johnson

- * Meetings and technical exchanges between NRC and DOE are open to members of the public, Petitioners, intervenors, or other interested parties wishing to attend as observers pursuant to the spirit of "Open Meeting Statement of NRC Staff Policy," 43 Federal Register 28058, dated June 28, 1978, which details the open meeting policy for applicants and licensees.

9309160196

Affected Local Governments

M. Murphy, Nye County, NV
D. Bechtel, Clark County, NV
V. Poe, Mineral County, NV
C. Schank, Churchill County, NV
R. Williams, Lander County, NV
B. Mettam, Inyo County, CA

M. Baughman, Lincoln County, NV
F. Sperry, White Pine County, NV
P. Niedzielski-Eichner, Nye County, NV
L. Florenzi, Eureka County, NV
J. Hoffman, Esmeralda County, NV
L. Bradshaw, Nye County, NV

Charlotte Abrams

Charlotte E. Abrams, Senior Project
Manager
Repository Licensing and Quality Assurance
Project Directorate
Division of High-Level Waste Management

Enclosure: As stated

cc: S. Goldberg, OMB
D. Weigel, GAO
F. Parker, NAS
W. Barnard, NWTRB
A. Kadak, YAEC
R. Newlin, OPA

AGENDA
U.S. DEPARTMENT OF ENERGY - U.S. NUCLEAR REGULATORY COMMISSION
TECHNICAL EXCHANGE ON EXPLORATORY STUDIES FACILITY
October 4-5, 1993
San Tropez Hotel Convention Center
455 E. Harmon Ave.
Las Vegas, NV
8:00 a.m. - 5:00 p.m.

October 4, 1993

Opening remarks

DOE, NRC, STATE OF NV.
AFFECTED COUNTIES

DOE

NRC/OCRWM COMMUNICATIONS
Site Characterization Program Baseline
Semiannual Progress Report (PR 6&7 C2)
NRC On-Site Licensing Representatives
ESF Design Reviews
Technical Exchanges
Suggestions for improving communications

DOE

DESIGN STRATEGY
Background
Option 30 and Modified Option 30
Title I Design Summary Report
ESF Technical Baseline
Modifications to Title I Baseline and
Control Process
Connection to Title II Design

BREAK

DESIGN/CONSTRUCTION PROCESS AND DESIGN CONTROL
IMPROVEMENT PLAN

DOE

PROPOSED ESF DESIGN CHANGES

DOE

LUNCH

DESIGN/CONSTRUCTION PLAN

DOE

Phases
Design and Construction Sequence
Surface
Subsurface

DOE REQUIREMENTS HIERARCHY THROUGH ESFDR (SCA 130C) Document Description - Old/New Transition Plan	DOE
ARCHITECT/ENGINEER REQUIREMENTS HIERARCHY Transition RSN/M&O Basis for Design	DOE
BREAK	
DETERMINATION OF IMPORTANCE EVALUATIONS Q-List (PR 6&7 C3) Importance to Safety Importance to Waste Isolation Importance to Test Interference Analyses That Have Been Completed	DOE
<u>October 5, 1993</u>	
SELECTED DESIGN ISSUES	
ESF VENTILATION IMPACT ON TESTING (SCA 123C and PR 6&7 Q1)	DOE
FIRE SUPPRESSION	DOE
IMPACT OF UNDERGROUND DIESEL EMISSIONS IN ESF	DOE
RESULTS OF ESF TECHNICAL ASSESSMENT FOR SEISMIC DESIGN BASIS (SCA 121C)	DOE
ROOF BOLTS AND GROUND CONTROL OPTIONS	DOE
BREAK	
ESF WATER STORAGE TANKS, WASTE LAGOON, AND SEPTIC FIELD (SCA 55Q)	DOE
FLEXIBILITY OF ESF TO ACCOMMODATE IN SITU TESTING OF WASTE PACKAGE (SCA 58Q)	DOE
LUNCH	
DESIGN INTERFACES ESF/Geologic Repository Operation Area Interfaces Connectivity Between Waste Package, Repository Alternative Conceptual Designs, and ESF Surface Based Testing/Underground Test Interfaces	DOE

DOE

CONSTRUCTION STATUS
 Construction, Construction Inspections, and Title III
 Inspections (Items Important to Safety, Waste
 Isolation, and Test Interference)
 Inspection Documents
 Photographs

BREAK

ALL

OPEN DISCUSSION

CLOSING REMARKS

DOE, NRC, STATE OF NV,
 AFFECTED COUNTIES

ADJOURN

NOTE: TIME WILL BE ALLOTTED FOR DISCUSSION FOLLOWING EACH AGENDA TOPIC

(Rev. 0, 10/15/93)

AGENDA**YUCCA MOUNTAIN PROJECT - PROJECT MANAGER'S/TPO MEETING****OCTOBER 29, 1993, FRIDAY****SAIC CONFERENCE ROOM 450**

TIME	WHAT	WHO	EXPECTED OUTCOME
9:00-9:10	Welcome & Introductions o Review Agenda	M. Blanchard	
9:10-9:20	Status of Office of Geologic Disposal (OGD)	L. Smith	Understand Current Status of Program
9:20-10:00	Status of Yucca Mountain Site Characterization Project (YMP)	R. Dyer	Understand Current Status of Project
10:00-10:15	Status of Design and Construction Effort Supporting the Exploratory Studies Facility (ESF)	W. Simecka	Understand Current Status of ESF Design and Construction Effort
10:15-10:30	Status of Site Characterization Testing Program and Preparation and Approval of Study Plans (SPs)	S. Jones	Understand Current Status of Testing Program and SPs
10:30-10:45	BREAK		
10:45-11:00	Results from the NRC Management Meeting and Technical Exchange on Design Control	T. Petrie	Understand Results of Meeting with the NRC
11:00-11:30	Recent Results of Progress in the Natural Resources Assessment and Plans for the Future	Z. Peterman	Understand Current Status of Natural Resources Assessment
11:30	ADJOURN FOR LUNCH		

YUCCA MOUNTAIN NEWS ITEMS

TODAY'S DATE IS: October 29, 1993

1. REVIEW BOARD CRITICAL OF YUCCA MOUNTAIN NUCLEAR WASTE STUDY
Pahrump Valley Times, 10/22/93
2. WORKSHOP TACKLES POPULATION QUESTION
Pahrump Valley Times, 10/22/93
3. NATION'S NUCLEAR WASTE MAY PASS THROUGH ELKO
Elko Daily Free Press, 10/21/93

NEVADA NEWSPAPER SOURCES: CIRCULATION:

Las Vegas Review-Journal	140,500 Daily	208,789 Week
Las Vegas Sun	34,011	208,789
Henderson Home News		16,000
Austin Reese River Reveille		500
Death Valley Gateway Gazette		5,500
Elko Free Daily Press	6,700	
Eureka Sentinel		500
Lincoln County Record		1,500
Mason Valley News		3,850
Moapa Valley Progress		2,800
Pahrump Valley Times		5,500
Record Courier (Gardnerville)	7,000	7,000
Tonopah Times		3,000
Reno Gazette-Journal	67,104	83,490
Carson City Nevada Appeal	11,500	12,520
Sparks Tribune	7,000	10,000
Ely Daily Times	2,392	2,600
Inyo Register		3,000

**For further information or assistance please contact:
Corey Lieber, Institutional and External Affairs, SAIC,
phone (702) 794-7246, FAX (702) 794-7623**

October 22, 1993, Pahrump Valley Times, Page 9

Review board critical of Yucca Mountain nuclear waste study

The Nuclear Waste Technical Review Board has issued a report critical of the Dept. of Energy's site characterization work at Yucca Mountain, proposed site for a nuclear waste repository.

According to the report, despite improvements during the last four years in the DOE's plans for exploration and testing in an underground facility, the NWTRB remains concerned that, because of past delays in initiating excavation and attempts to comply with overly optimistic schedules, the DOE is making technical decisions about the design and excavating "without sufficient analysis."

Underground exploration and testing are major components of the DOE's efforts at Yucca Mountain to evaluate the site for suitability for locating a permanent repository for spent nuclear fuel and high level defense waste.

This geo-engineering board would work with the management and staff at Yucca Mountain on a regular basis to review detailed decisions as they are made to provide guidance on improving the management of the design and excavation of the facility.

There is a wealth of expertise the DOE could draw on for the project, according to the report.

Workshop tackles population question

More people equal more Yucca impact dollars

By RICH THURLOW

When it comes to potential federal funding, Pahrump's population is worth much more than coffee shop debate. According to Les Bradshaw, head of Nye County's Nuclear Waste Repository Project Office, it can also mean big bucks when it comes to mitigating Yucca Mountain impacts.

The problem, then, is determining what the population actually is, Bradshaw said, and having that population figure stand up to close scrutiny.

That was the thrust of Wednesday morning's Pahrump population estimates workshop held in the Yucca Mountain office at Pahrump Station. The workshop was led by Bradshaw and Planning Information Corp. officials, and was attended by Dept. of Energy officials,

members of the local planning advisory board, town board chair Bob Little and town manager Roger Baltz, among others.

PIC, which has been handling the socio-economic work for the county relating to Yucca Mountain, estimates Pahrump's population at 11,731 as of July 1. That's slightly higher than the Pahrump Valley Times' low-end estimate for the end of the first quarter, and about 2000 less than the newspapers' mid-range population estimate for the end of the first quarter.

Both the newspaper and PIC use the 1990 census as a baseline for current projections.

As Bradshaw explained, however, any population figure

(See "Population," Page 19)

Population

(Continued from Page 18)

affixed to Pahrump has to be "credible," just like the county's oversight work on technical aspects of site characterization at Yucca Mountain.

For example, Bradshaw said the county could go to DOE and report that before Yucca Mountain work started, Pahrump had 1000 residents, but now it has 4000, "and we want mitigation impact money. We want schools, police cars, computers for the town office."

Bradshaw added it is the county commission's objective to "get as many benefits" as possible "out to the community." Bradshaw added that was a "worthy objective."

George Blankenship of PIC noted most people in Pahrump believe his group's estimates of the population are "too conservative." However, he said it's tough to get a complete picture of what is going on in Pahrump since there are "no institutional controls" such as building permits.

Standard sources of information, such as electrical or telephone hookups, do not count the people who don't have phones or who have their own generators.

With that in mind, Blankenship said he was open to suggestions as to how to improve population estimates in Pahrump.

Basically, according to Lloyd Levy of PIC, Pahrump's population estimates are based on housing units and telephone hookups. That formula was criticized by Little, who noted a disparity in the number of current housing units provided to PIC. He said that was lower than the number of housing units he was aware of as of July 1. Both PIC and Little said their information came from the

county assessor.

Little also chose to dispute PIC's 2.4 residents per household figure, and noted the per-household figure elsewhere in the county was higher. As a real estate seller, Little said his work is almost evenly divided among retirees and young families with children.

Little suggested volunteers divide Pahrump into 10 sections and go out and starting counting people. As long as those taking the count weren't asking for any information other than how many lived in the home, they probably wouldn't meet any resistance, he said.

Others talked of having a formal census taken in Pahrump, or county-wide. Estimates of how much it would cost varied widely.

As Little put it, the town needs something "to hang its hat on."

Other census ramifications, according to Ron Williams of county planning, could include Pahrump getting a third commissioner.

The free-flowing discussion continued for over two hours. When it came to a close, postmaster Bob Philpot threw more figures on the table. Based on mail deliveries in Pahrump and the 2.4 persons per household, the population would be over 18,000. But Philpot agreed that figure was too high, since it included businesses. He added, however, in some cases several families get their mail from one post office box.

The group will get together for another workshop in the near future, perhaps late November or early December. In the interim, PIC and others will study several suggested methods for determining the population.

Those methods include a volunteer census, an official census, infrared aerial photography on a January night (to determine where houses are located and who is living in them, based on the heat in the home), and postal service data.

Nation's nuclear waste may pass through Elko

Thousands of tons of high level radioactive waste could come through downtown Elko when the Yucca Mountain Nuclear Repository begins operation, according to nuclear waste shipment expert Robert Halstead.

Halstead presented a slide show outlining potential routes to Yucca Mountain from across the country and fielded questions during an informal meeting last night at the Northeastern Nevada Museum.

The meeting, attended by only a dozen Elko residents, was sponsored by the Nevada Nuclear Waste Project Office.

Joe Strolin, administrator of planning for the agency, said the purpose of the meeting was to provide information to area residents and raise issues regarding the transportation of nuclear waste to Yucca Mountain.

Strolin attributed the low turnout of people to game four of the World Series.

Strolin said the state opposed the creation of a nuclear waste repository in Nevada but was carefully studying the safest routes to the potential site in the event its creation could not be halted. He said the federal government funded the state's transportation studies.

He said when the repository was conceived in 1983, Congress commissioned a team of scientists to locate the most geologically stable site in the nation. Early studies indicated salt domes in southern Louisiana would be a good site to store radioactive waste, he said.

But, Strolin said, in 1987 Congress abandoned the study of all potential sites other than Yucca Mountain even though the area was one of the most geologically active studied.

Strolin said the federal govern-

ment has spent more than \$2 billion since 1983 on research and planning for the repository.

Halstead said the federal government has not decided whether to utilize trains or trucks in shipping waste to Yucca Mountain.

He said transportation experts agree the safest method was by trains dedicated to carrying only specially designed casks containing the waste. But no rails exist leading to the proposed repository site, he said.

Halstead said three separate rail routes are currently being considered. One route would divert shipments from the south through Jean, a second route would bring waste into the state through Caliente, and a third would ship it through West Wendover, Elko and Carlin.

Halstead said the Caliente route was the only one of the three the federal government has studied. He said the study showed the route could be the most costly with construction es-

timated at between \$1 and \$5 billion. Running rails through Hancock Summit alone would cost between \$60 million and \$200 million, he said.

Halstead said the Jean route would divert 90 percent of the nation's high level radioactive waste within one quarter of a mile of the strip in downtown Las Vegas. It also would jeopardize the habitat of the desert tortoise, he said. The tortoise is protected under the Endangered Species Act.

Halstead said another factor that makes the Jean route unlikely is the fact it would divert the nation's nuclear waste through California, a state with a powerful political lobby.

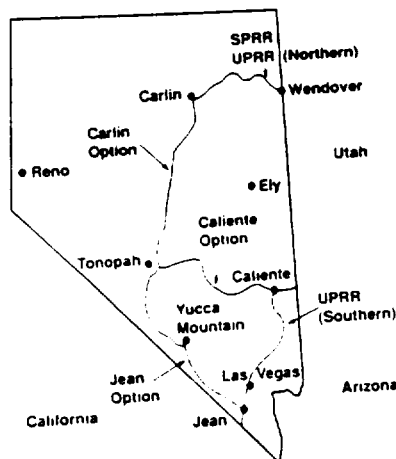
Halstead predicted the route through Elko County, called the Carlin route, would be the next studied by the federal government. The route would bring the nation's nuclear waste through downtown Elko.

He said the most difficult task poised by the Carlin route would be getting out of the Humboldt River valley. To do that would require climbing bluffs between 75 feet and 100 feet high, he said.

Halstead said completion of the repository at Yucca Mountain may never occur but if the federal government forces Nevada to house the site, he wanted to ensure shipment would be safe.

"This is what Congress and the Department of Energy has dumped on us," he said. "Maybe it can be avoided, but if not, the next best thing is being prepared."

The Nuclear Waste Project Office made similar presentations earlier in the day to Elko County and Eureka County Commissioners. Halstead also spoke today to the Inter-Tribal Council of Nevada Convention at the Elko Convention Center.



Routes to Yucca Mountain