U.S. DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

NUCLEAR WASTE TECHNICAL REVIEW BOARD
FULL BOARD MEETING

SUBJECT: EXPLORATORY STUDIES
FACILITY UPDATE

PRESENTER: RICHARD CRAUN

PRESENTER'S TITLE AND ORGANIZATION: ASSISTANT MANAGER, ENGINEERING AND FIELD OPERATIONS YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE LAS VEGAS, NEVADA

TELEPHONE NUMBER: (702) 794-7787

ARLINGTON, VIRGINIA
OCTOBER 17-18, 1995
Outline

• ESF Status
• Design Review Process Improvements
• FY96 Budget and Plan
• FY96 ESF Operation Goals
TBM Progress
Baseline vs Actual

STATION @ 0800 HRS 10-02-95
METERS FT
SCHEDULE 1280.0 4199.4
ACTUAL 2002.1 6568.5

Reached Milestone Sta. 12+80 on 8-21-95
Install conveyor booster #1
Install conveyor #1
Excavate North Ramp to Sta. 5+60m (1837 ft)
Test Alcove #2 Excavation
Test Alcove #3 Excavation
Excavate North Ramp to Sta. 3+76m (1230 ft)
Excavate 30 Meters of North Ramp
Low TBM Advance Rate Due to Poor Ground Conditions

CMO
REV 54 - 10/02/95
FY 95
TBM Progress
Baseline vs Actual

STATION @ 0800 HRS 10-09-95

METERS  FT
SCHEDULE  1280.0  4199.4
ACTUAL  2121.5  6960.2

INSTALL CONV. BOOSTER DRIVE #2
MILESTONE STA. 12+80 9/29/95
ALCOVE #4 EXCAVATE
ALCOVE #5 EXCAVATE
REFUGE CHAMBER @ 13+00 EXCAV.
REFUGE CHAMBER @ 25+85 EXCAV.

STATION 39+40 5/8/96

BEST PRODUCTION TO DATE

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<th>SHIFT</th>
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<th>FEET</th>
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<tr>
<td>SHIFT</td>
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CMO
Progress Overview

• TBM Tunneling Operations Update
  - Present Location, 8:00 am 10/10/95 2152.53 meters (7060 feet)
  - Best Production Week, 9/24/95 149.4 meters (490 feet)
  - Best Production Day, 9/29/95 50.0 meters (164 feet)
  - Best Production Shift, 10/03/95 (Grave) 23 meters (75 feet)
  - September’s Total Advance 587.3 meters (1926 feet)

• Accomplishments
  - Station 10 + 60 meters (3477 feet) on June 16, 1995 (55 days ahead of schedule)
  - Station 12 + 80 meters (4198 feet) on August 22, 1995 (ahead of schedule)
  - Alcove #3 completed August 24, 1995 (ahead of schedule)
  - Conveyor start-up on July 26, 1995
TBM Modifications

• Installed plates at the forward edge of the bottom gripper - Ski Nose
  – Prevents the machine from “diving” in soft materials
  – Alleviates some steering problems and tunnel alignment

• Installed braces and hydraulic rams from horizontal grippers to bottom vertical grippers - Three Shoe Gripper
  – Helps stabilize the TBM in poor ground conditions

• Installed shield slot closure plates
  – Prevents loose rock from falling in closed areas
  – Alleviated hazards to personnel and equipment
Design Review Process Improvements

Internal Reviewers:
DOE/YMSCO
YMSCO/QA
M&O
Test Coordination Office
Construction

External Observers:
NRC
State of Nevada
Affected Counties

All documents are mailed to the observers for review and observations

DOE responds to all comments
Design Review Process Improvements
(Continued)

- Design review process applied for the review of
  - Revised North Ramp Analysis (2C Package) to bound the ESF Loop (8A Package) design
  - Plan and profile drawings for main drift
  - Alcove #2 and #3 design
Board of Consultants

- S. H. Bartholomew, Chairman
- Dr. Ronald E. Heuer
- Jack Lemley
- Larry Snyder

First meeting scheduled for October 24-25, 1995
Las Vegas, Nevada
FY96 Budget and Plan

- ESF budget is $61.460 Million
- Maximize tunnel advance and minimize cost
  - Current planning is to proceed to Station 39 + 40 meters (12,923 feet) by March 1996. Decision to cease or continue with further excavation will be determined at the December-January Project Review
- Complete design elements essential for TBM excavation and scientific investigations
  - Alcove #4, Ghost Dance Fault Alcove #1 and Heater Test Alcove
- Complete essential surface facilities required to support TBM excavation
  - Change house, waste water, sewer, and compressed air
FY96 Budget and Plan

(Continued)

• Defer Calico Hills design/planning

• Defer design of ramp extension and south ramp

• Defer Ghost Dance Alcove #2

• Focus engineering and design efforts to support an “Investment Analysis”
Exploratory Studies Facility Design

ESF 1996 Excavation Plan

(CALICO HILLS IS APPROX. 170 METERS BELOW TOPOPAH SPRING. DEFERRED FOR FY 1996)
FY96 Budget & Plan
(Continued)

• Investment analysis design
  – Design supports TSPA needs/requirements
  – Design sufficient to support a defensible life-cycle cost estimate
  – Design sufficient to support a construction schedule
  – Identification of principal risks, issues, and/or concerns remaining and associated potential mitigators
FY96 ESF Operational Goals

- Increase FY 96 TBM average production rate to 22 meters (72.2 feet) per day; as compared to the 11 meters (36.1 feet) per day average rate achieved in 1995
- Excavate to Station 49 + 00 meters (16,072 feet) by March 1996
- Excavate heater test Alcove #1 near Station 28 + 00 meters (9184 feet)