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**Civilian Radioactive Waste Management System
Management & Operating Contractor**

Monthly Summary Report

January 1997

Prepared for:

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1. PROGRAM-LEVEL REPORT

January was a "mixed bag" for the program's most visible element, the ESF. The TBM continued to struggle through the worst rock conditions yet encountered. Progress was slow and the schedule continued to slip. The TBM advanced just over 70 feet. Conversely, test alcove construction proceeded well. The lower portion of the heated drift in the ESF was extended 99 feet and the upper portion was extended 69 feet. The Southern Ghost Dance Fault Alcove advanced almost 204 feet.

Other activities at Yucca Mountain moved forward. Among the most significant was our submittal of a letter to DOE requesting authorization to begin the Large Block Test. This will be a highly-visible and important part of the program's site characterization effort. Also, two highly successful Modeling Abstraction/Testing workshops, key steps leading to completion of the TSPA-VA, were held.

The M&O staff provided analyses and presentations of program-wide issues to support DOE/OCRWM during testimony and discussions with Congress. A revised program cost estimate for use during Congressional hearings was prepared.

The signing of a Record of Decision concerning a dual-track strategy including "irreversible disposal" in a repository by the Secretary of Energy on January 14, 1997 emphasized the continuing importance of technical work in support of both the Office of Materials Dispository (MD) and the Office of Environmental Restoration and Waste Management (EM). Additional funds for performance of a repository waste package analyses were provided to RW for EM this month.

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2. YUCCA MOUNTAIN PROJECT REPORT

January was a month of continued success in developing testing alcoves and in continuing scientific testing in the ESF. ESF tunneling progress was extremely slow due to poor rock conditions. The project completed two highly successful Modeling Abstraction/Testing Workshops-key steps leading to the completion of TSPA-VA.

HIGHLIGHTS

- Advanced tunnel excavation to Construction Station 71+53.3 meters (23,459 feet or 4.4 miles). Progress using the TBM was 22.5 meters (73.8 feet).
- Advanced the upper portion of the Heated Drift to completion at Station 0+60.5 meters (198.5 feet) with total progress at 21.1 meters (69.2 feet). The lower portion of the Heated Drift was excavated to Station 0+42.0 meters (138 feet) with total progress at 30.2 meters (99.1 feet). Also completed excavation of an electrical niche on the right rib of the Connecting Drift.
- Excavated 62.1 meters (203.8 feet) of the Southern Ghost Dance Fault Alcove.
- Finalized the design of the galvanic coupled specimens for long-term testing and initiated procurement of the specimens. Also initiated the shorter term electrochemical galvanic effects tests.
- Submitted a letter (Level 3 deliverable) to DOE requesting authorization to start the Large Block Test. The test will provide small scale field measurements of thermal-hydrologic processes important to understanding expected potential repository behavior under thermal loading.
- Completed pneumatic monitoring and gas sampling; presently conducting air-permeability borehole testing in the North Ghost Dance Fault Alcove of the ESF. Results imply that the Ghost Dance fault may be a fast pathway in the tested area.
- Combined gas and liquid data in a coupled inverse model as part of calibrating the three-dimensional, unsaturated zone, site-scale flow model. This work represents a major step in the combined calibration of the UZ model to gas pressure, saturation, and water potential data and clarifies the relationship between the fracture and matrix flow.
- Conducted a Thermohydrology Modeling Abstraction/Testing Workshop to develop a strategy, plan, and schedule for incorporating major effects of thermohydrology into TSPA-VA analyses.
- Conducted a Waste Package Degradation Abstraction/Testing Workshop to develop a strategy, plan, and schedule for incorporating major effects of waste package degradation into TSPA-VA analyses.
- Completed software development of RDMS II, and production scanning is now being performed. An estimated cost avoidance of over \$1,000,000 in providing records images at the desktop is expected.

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3. WASTE MANAGEMENT AND INTEGRATION (WM&I) REPORT

The development of analyses and presentations of Program cross-cutting issues to support OCRWM management during a period of intense negotiations with Congressional committees continues to be emphasized. A revised program cost estimate was prepared for OCRWM management to use in Congressional hearings. It was briefed to RW-1 and RW-2 and a written report was completed by month's end.

Technical support to RW interactions with EM concerning potential disposal of DOE wastes and with MD concerning disposition plans for weapons-usable fissile materials continues to be a high priority. Additional funds for technical support work by the M&O were transferred from EM to RW during this month.

Work included interactive development with OCRWM OWAST managers of long range schedules and milestones to be incorporated into a baseline update for WAST. The baseline update will reflect the developing strategy for the market-driven approach to waste acceptance and transportation and preparation for interim storage activities should a site be authorized.

Work progressed well on both the TSAR for a Phase 1 ISF and preparation of responses to the NRC staff concerning the Actinide-Only Burnup Credit Topical Report. Five cask vendors have agreed to provide calculations specific to their designs to be included in an appendix to the revised topical report. Although some additional resources will be required to complete backup analyses for the TSAR submittal, schedules for completion of both reports will be met.

WASTE ACCEPTANCE, STORAGE, AND TRANSPORTATION (WAST) HIGHLIGHTS

- Gave an update of the WAST multi-year baseline M&O briefing to RW-40 and staff. DOE's additional guidance was used to complete the baseline update and deliver it on January 31, well ahead of the March 31 scheduled date.
- The January focus for the ISF TSAR was completion of design activities; the focus for February will be on TSAR development. The Draft TSAR is on schedule for submittal for DOE review on March 19.
- Completed CI design criteria documentation and drafts of CI system descriptions.
- Completed drafts of engineering analysis, site boundary dose analysis, occupational ALARA dose analysis, and hazards analysis to define credible accidents, off-normal conditions, and accident consequence analysis.
- The M&O will support the RSA procurement.
- Participated in meetings with RW Front Office and senior management to discuss the annotated outline for the Final Policy and Procedures for implementing Section 180(c) of the NWPA. As a result, the next Federal Register Notice on 180(c) will be another proposed policy for public comment. The M&O will provide a draft Notice in May.

- Presented the background information issues associated with the current method for determining the fee due for disposal of DOE SNF/HLW.
- Made technical presentations on changes to the Actinide-Only Burnup Credit Topical Report and responses to the NRC's round one questions during a successful DOE/NRC Technical Exchange.
- Obtained preliminary/informal agreement from commercial vendors that they will perform a sample calculation using the Actinide-Only burnup credit methodology to produce a loading curve for their individual casks/canisters. The calculations will be included in an appendix to the revision of the Burnup Credit Topical Report to be submitted to the NRC. The vendors are: General Atomic, Holtec, NAC, Transnuclear, and Vectra.

PROGRAM MANAGEMENT AND ADMINISTRATION HIGHLIGHTS

- Completed a draft Rough-Order-of Magnitude program cost estimate and briefed to RW-1 and RW-2.
- Completed a top-level study of disposal options for repository site-generated wastes and delivered the final report to RW-51.
- Completed an initial evaluation of repository early receipt and storage schedule, costs, and key issues. A briefing was presented to RW-51.
- Completed and delivered the deliverable on the criticality analysis appendix for the INEL SNF plan to DOE.
- An additional \$220K was transferred from EM to RW for TSPA and included in the M&O cost baseline.
- Submitted the paper work for an additional \$515K, approved by EM, to RW. Work start is pending availability of data requested from Savannah River.

REPOSITORY ANALYSIS FOR PLUTONIUM DISPOSITION HIGHLIGHTS

- The Secretary of Energy signed the ROD on the *Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic Environmental Impact Statement* on January 14. This finalizes a dual-track strategy to "irreversibly dispose" of excess Pu in a geologic repository.
- DOE MD met with the NRC commissioners to discuss the MD program and its future direction. NRC interaction with MD will increase due to new facilities coming under NRC jurisdiction, and the need for security is different for this material. These issues will be worked on in the coming months. Regular meetings with NRC are planned.

4. PROGRAM QUALITY ASSURANCE REPORT

HIGHLIGHTS

- **OCRWM audited YMP M&O during the last week of the month. The overall conclusion was that the M&O is effectively implementing the QA program. The report is expected to note several areas where there was outstanding implementation and include one Corrective Action Report, one Deficiency Report, and several recommendations. Five items were Corrected During the Audit.**
- **Consolidation of OCRWM QA Functions Transition Phase A was approved allowing M&O QA Verification Functions to begin transitioning to OQA in February.**