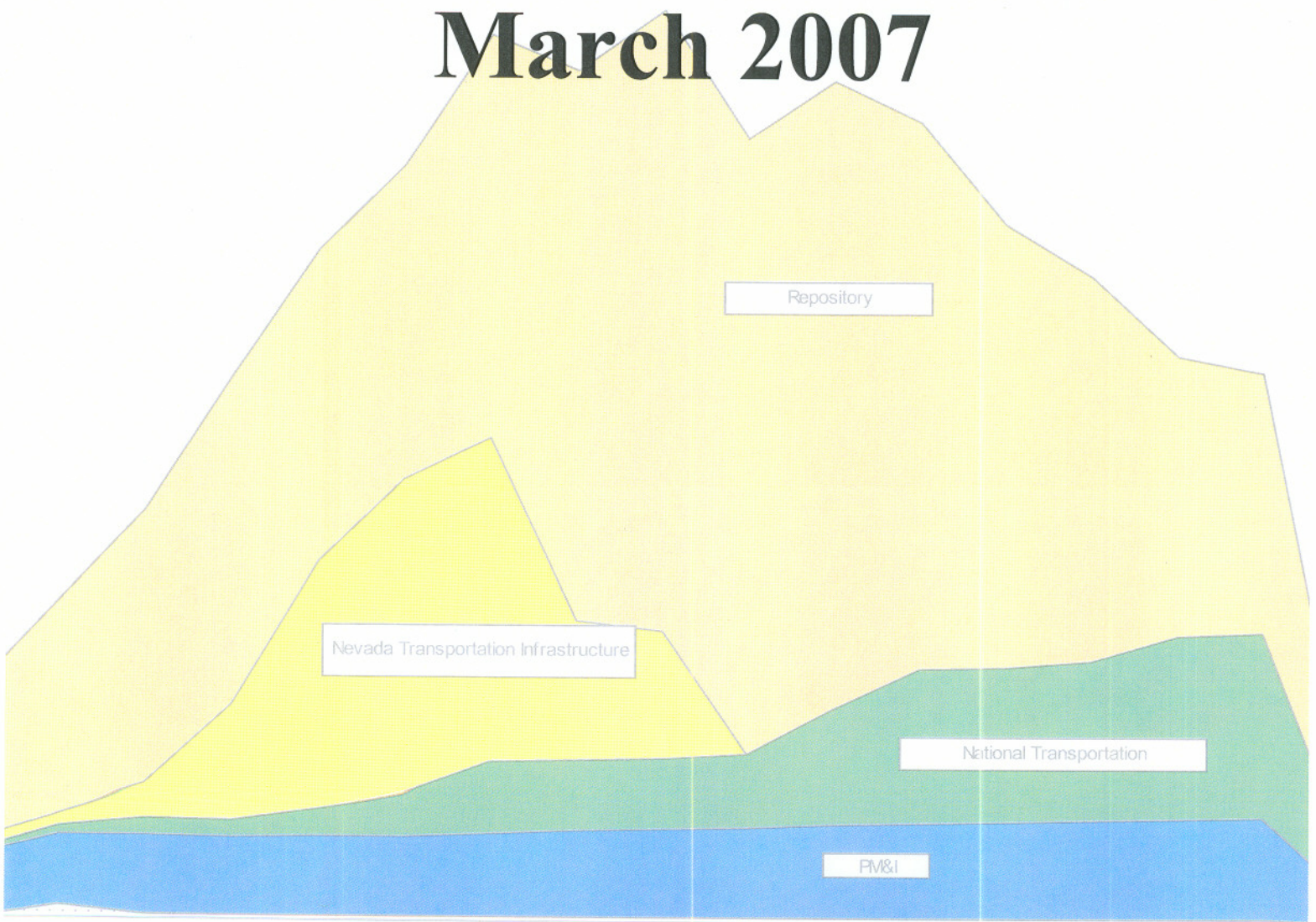


OCRWM Budget Projection FY 2009 – FY 2023 Executive Summary

March 2007



Office of Civilian Radioactive Waste Management (OCRWM)
National High-Level Radioactive Waste Repository
BUDGET PROJECTION
FY 2009-FY 2023

BACKGROUND

On July 19, 2006, in testimony before the Subcommittee on Energy and Air Quality, Committee on Energy and Commerce, U.S. House of Representatives, the OCRWM Director presented a schedule for the national high-level radioactive waste repository Program. At that hearing, the Director was requested to provide an updated budget authority requirements projection for building the repository in accordance with the revised schedule. This document is in response to that request.

Assuming a license application submittal not later than June 30, 2008, as currently planned, the Best-Achievable Schedule for commencing repository operations is March 2017. This Best-Achievable Schedule is predicated on the following:

- Enactment of the Administration's proposed legislation entitled "Nuclear Waste Management and Disposal Act"
- Appropriations by Congress consistent with the annual budget projections contained in this document
- Issuance by the Nuclear Regulatory Commission (NRC) of a construction authorization within the three-year period specified in the Nuclear Waste Policy Act
- The timely issuance of all other necessary authorizations and permits, and the absence of litigation-related delays

This document summarizes annual budget projections (in year of expenditure capital dollars) of integrated Program needs through completion of the repository surface facilities in December 2021. By this date, all repository facilities would be operational, but not all of the underground emplacement drifts will have been excavated. The total budget projection is approximately \$18.5 billion.

This budget projection includes costs for: design and construction of repository surface facilities (buildings to receive and handle the waste stream); subsurface design and construction (access tunnels and emplacement drifts); design and fabrication of waste packages and Transport, Aging, and Disposal (TAD) canisters; design and construction of the aging pads; design and construction of the Nevada transportation infrastructure, including a rail line within Nevada to Yucca Mountain; design of specialized train cars and acquisition of the rail cars needed for initial operations; and costs for Program management and integration.

Operational costs are estimated at \$8.4 billion for FY 2016 through FY 2023.

Included in the estimates are funds for contingency and management reserve such that the estimates provide an 80 percent confidence level, i.e., that there is an 80 percent probability that the costs will be at or less than the figures provided.

These figures will be used to develop a revised Total System Life Cycle Cost estimate that will be submitted to Congress later this year.

SUMMARY OF COSTS (\$ in billions)

Total to complete operational facilities and transportation infrastructure	\$18.5
Operational costs – 2016-2023	<u>8.4</u>
TOTAL – 2009-2023	\$26.9

MAJOR MILESTONES

These major milestones are based on factors within the control of the Department of Energy, appropriations consistent with optimum project execution, issuance of an NRC construction authorization consistent with the three-year period specified in the Nuclear Waste Policy Act, and timely issuance by the NRC of a license to receive and possess waste.

June 2008	DOE Submits License Application to NRC
September 2011	NRC Issues Construction Authorization
June 2014	Nevada Rail Line Operational
March 2017	Begin Receipt
December 2021	All Repository Facilities Operational

BUDGET PROJECTION

The budget projection is displayed graphically in Figure 1-1, OCRWM Capital Budget Projection Tier 1.

Repository costs, shown in orange, include development of the license application and Licensing Support Network; engineering, procurement, and construction of the surface facilities (including Canister Receipt and Closure Facility, Wet Handling Facility, Initial Handling Facility, Receipt Facility) and subsurface facilities needed for Initial Operating Capability (main access tunnels and emplacement drifts); design and procurement of the waste package; physical security systems; and Program management.

Nevada Transportation Infrastructure costs, shown in yellow, include design and construction of the Nevada rail line and rail support facilities (Interchange Facility, End-of-Line Facility, Maintenance of Way Facilities, Train Control Center); field investigations; and the Yucca Mountain Rail Corridor and Rail Alignment Environmental Impact Statement.

National Transportation costs, shown in green, include development of specifications and acquisition of rail and truck cask systems; design, acquisition, manufacture, testing and acceptance of rolling stock; acquisition of TAD canisters needed for Initial Operating Capability in 2017; national institutional activities, including implementation of the Nuclear Waste Policy Act's 180(c) provisions; physical security systems, and project management.

Project Management and Integration (PM&I) costs, shown in blue, include waste acceptance activities; design, development, and certification of TAD canisters; quality assurance; physical security systems; program support; and program direction.

Table 1, in the first block of numbers, shows the capital cost estimates of \$18.5 billion displayed in Figure 1-1. The second block of numbers shows operating cost estimates between FY 2016 and FY 2023 of \$8.4 billion. The third block of numbers sums the capital and operating costs of \$26.9 billion.

Table 2 shows a further breakdown of the major cost categories in Table 1, as displayed in Figure 2.

Figure 2 displays the same costs as Figure 1-1, but in greater level detail, and is entitled OCRWM Capital Budget Projection Tier 2.

KEY ASSUMPTIONS

All amounts represent required Budget Authority (BA), in year of expenditure dollars.

The budget projection is based on projected funding requirements for construction of the repository and the transportation infrastructure needed to meet the Best-Achievable Schedule repository opening date of March 2017.

Costs for Nevada rail are based on the Caliente corridor.

Dedicated trains will be used.

Locomotives will not be purchased, but leased.

Navy will provide their own rolling stock, so those costs are excluded.

Costs for design and procurement of the escort cars will be shared with the Navy.

Cask and rolling stock maintenance facilities will be constructed at Yucca Mountain.

BASIS OF ESTIMATE

Estimates were developed by OCRWM contractors doing the design work. Repository cost estimates were “bottoms up,” since that design is the most advanced. Cost estimates for Nevada and National Transportation were based on commercial industry standards. An independent “reasonableness review” was conducted by an independent major engineering/construction firm.

This budget projection represents the best available information. Each year’s delay beyond the March 2017 date will result in increased potential taxpayer liability to utility contract holders, as well as in increased costs for storage at defense waste sites across the country. Those costs are not included in this budget projection.