

Project Baseline Summary Report

Data Source: **EM CDB**

Operations/Field Office: **Ohio**

Site Summary Level: **Fernald Environmental Management Project**

Project **OH-FN-09 / Thorium Overpack**

Report Number: **GEN-01b**

Print Date: **3/9/2000**

HQ ID: **0240**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

The Thorium Overpack project involved the overpacking of drummed thorium waste. The project is complete, and all drums have been overpacked.

Technical Approach: Drums of thorium were overpacked by remote-controlled vehicle based manipulation for safe transportation and permanent, off-site disposal.

Emerging Technologies: The FEMP transferred the robotic forklift and associated equipment, as well as the technical know-how, to aid in the deployment at the FEMP or at other DOE sites, as deemed appropriate.

Project Status in FY 2006:

All materials have been disposed. There is no work scope for this PBS in FY2006.

Post-2006 Project Scope:

All materials have been disposed. There is no work scope for this PBS after FY2006.

Project End State

Access to the OSDF will remain restricted and monitored and under institutional controls in perpetuity. The remainder of the site is expected to achieve final cleanup levels which could support various land uses. However, the decision to limit use to ecological restoration and recreational use was made based on DOE's Natural Resource Damages Act obligations and stakeholder input. Residential and agricultural uses will not be considered for any portion of the site consistent with the recommendations of the Fernald Citizens Advisory Board. Industrial uses may be considered for the 23 acres of potential economic development land. DOE, or a successor agency, will maintain stewardship responsibility for the site.

Cost Baseline Comments:

The assumption is that all ROD requirements can be implemented (i.e., waste disposition options remain viable throughout the period), and that no contingency is available. Estimates to support the baseline for this PBS were completed using a bottoms-up approach.

The Ohio Field Office has an aggressive cost savings program in place to contain or reduce the Total Estimated Cost of the project; however, there is potential for cost growth at the Fernald Environmental Management Project because the baseline estimates do not include contingency, and Operable Unit 4 (Silos Project) is in the process of amending the Record of Decision with the EPAs.

Safety & Health Hazards:

The hazards of this project included radiological hazards due to penetrating radiation as well as the potential for internal dose from radionuclide uptake. Physical hazards included injury from heavy equipment operations. In addition, workers were expected to encounter normal occupational hazards such as lifting, tripping, or falling. Weather extremes exposed personnel to heat and cold stress conditions.

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Project Description Narratives

Safety & Health Work Performance:

The resources necessary to accomplish the work safely were provided through the Authorization basis, the site's Safety Performance Requirements manual, the Radiation Protection Program and through the resources allocated to the site's safety management system in the following functional categories: radiological safety, industrial hygiene, criticality safety, occupational safety and health, emergency management, fire safety and occupational medicine. S&H resources were planned and allocated into these categories by cost centers through the work breakdown structure. There are no unfunded safety and health categories.

PBS Comments:

This Project is complete.

The FEMP project underwent strategic planning to accelerate the cleanup from 25 years to 10 years. This has resulted in a significant amount of savings. To further reduce mortgage costs and allocate additional funds to the cleanup activities requires: a) the removal of the nuclear materials from the site; b) completion of safe shutdown activities; c) utility reduction projects, and d) improved technology for waste excavation and transport. A factor that allowed the FEMP to pursue accelerated cleanup is the agreement and recommendations made by the Citizens Task Force on cleanup levels and disposition of the waste (amount and waste acceptance criteria levels for onsite disposal facility and disposition off-site for wastes above the waste acceptance criteria). Efforts at recycling materials from the site have been initiated to help reduce/minimize the size of the disposal cell.

The activities at Fernald have been baselined and validated. The Ten Year Plan baseline was approved by Level 1 on August 21, 1996. Fernald developed and implemented an accelerated schedule in 1995. The initial analysis of the Baseline at this funding level will cause a two year schedule extension. Fernald has committed to implementing cost savings, productivity improvements, incremental funding and privatization to complete the project within the Fernald Baseline.

Baseline Validation Narrative:

On October 29, 1998, DOE-FEMP received DOE-HQ approval on the Fiscal Year 1999 Replan Baseline Change Proposal to the current FEMP Baseline. The FEMP Baseline had been previously validated after DOE-HQ completed their review and provided their approval on August 21, 1996. Many internal and external reviews have been performed on the FEMP Baseline. In March 1998, the U.S. Corps of Engineers performed an external cost review on the OSDF project with results showing the disposal cell estimates consistent with industry standards. In August 1997 and January 1996, external cost reviews were performed on Operable Unit 4, one by the U.S. Corps of Engineers and one by the U.S. Department of Interior (DOI) and the U.S. Department of Energy (DOE). In June 1996, LMI, Janson Associates, and Burns & Roe performed an external cost review on support costs showing the cost estimates were reasonable. In July 1995, DOI and DOE performed an external cost review on Operable Unit 1 and made formal recommendations to generate technical and/or economic advantages. In September 1993, MTC, Booz-Allen, and Burns & Roe performed an external cost review on the FEMP site and had no significant findings. In addition to external cost reviews, since 1991 almost fifteen internal reviews have been performed.

General PBS Information

Project Validated?	Yes	Date Validated:	8/21/1996
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General PBS Information

Has Headquarters reviewed and approved project? Yes
 Date Project was Added: 12/1/1997
 Baseline Submission Date: 7/8/1999
 FEDPLAN Project? Yes

Drivers:	CERCLA	RCRA	DNFSB	AEA	UMTRCA	State	DOE Orders	Other
	Y	Y	N	N	N	N	N	Y

Project Identification Information

DOE Project Manager: John Sattler
 DOE Project Manager Phone Number: 513-648-3145
 DOE Project Manager Fax Number: 513-648-3706
 DOE Project Manager e-mail address: john.sattler@fernald.gov
 Is this a High Visibility Project (Y/N):

Planning Section

Baseline Costs (in thousands of dollars)

	1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006
PBS Baseline (current year dollars)	2,447	0	2,447	2,447	1,932		95		0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	2,447	0	2,447	2,447	1,932		95		0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	2,447	0	2,447	2,447	1,932		95		0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	2,447	0	2,447	2,447	1,932		95		0	0	0	0	0	0	0

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	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
PBS Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.00%			2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.10%
2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%

Project Reconciliation

Project Completion Date Changes:

Previously Projected End Date of Project: 7/1/1997

Current Projected End Date of Project: 7/1/1997

Explanation of Project Completion Date Difference (if applicable):

Project complete in FY1997.

Project Cost Estimates (in thousands of dollars)

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Project Reconciliation

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	1,695	Actual 1997 Cost:	1,932	Actual 1998 Cost:	95
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	-332	Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):			-9
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	-341				

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):		
Cost Reductions Due to Efficiencies (-):		
Cost Associated with New Scope (+):		
Cost Growth Associated with Scope Previously Reported (+):	840	\$840K. Due to project acceleration, revised estimate required additional man-hours to complete.
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	499	
Additional Amount to Reconcile (+):	-499	\$(446K) due to FY97/FY98 Uncosted Balances. (\$54K) due to FY97 Actuals escalation error in IDMS.
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	0	

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Complete Thorium Overpack project.			7/1/1997								
Begin thorium overpack project.			10/1/1992								

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critical Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Complete Thorium Overpack project.					Y	Y					
Begin thorium overpack project.				Y							

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