

# *Project Baseline Summary Report*

Data Source: **EM CDB**

Operations/Field Office: **Ohio**

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

Project **OH-FN-05 / Waste Pits Remediation Project**

Report Number: **GEN-01b**

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

HQ ID: **0237**

---

## **General Project Information**

### **Project Description Narratives**

#### **Purpose, Scope, and Technical Approach:**

Definition of Scope: The Waste Pit Remedial Action Project (WPRAP), also known as Operable Unit 1 (OU1), includes the remediation of an approximately 37 acre area located in the northwest corner of the Fernald site. The target remedial features consist of Waste Pits 1-6; the clearwell; the burnpit; and associated berms, liners, and contaminated surface soils. This project will utilize rail transport to an offsite permitted commercial disposal facility.

Technical Approach: The waste pits are to be excavated, packaged, and shipped to an off-site permitted commercial disposal facility as established in the OU1 Record of Decision. The materials will be segregated, shredded, and dried as required.

The effort to process the pit materials (i.e. make ready for shipment) is being carried out by IT Corporation, which was selected by a competitive solicitation process. The IT contract is a subcontract to Fluor Daniel Fernald, the current environmental Restoration Management Contractor at the site. FDF will handle all shipping and disposal activities.

#### **Project Status in FY 2006:**

All materials from the Waste Pits will be dispositioned; waste treated by thermal drying as required to meet the Waste Acceptance Criteria of the disposal facility; off-site shipment of waste for disposal at a commercial disposal facility; waste not meeting WAC will be packaged for disposal at DOE's Nevada Test Site; decommissioning and removal

#### **Post-2006 Project Scope:**

Same as FY2006 status.

#### **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:**

Assumptions are that the alternative contracting approach will be used for construction and operation; the present level of RCRA, CERCLA, and NEPA integration will be maintained or improved; no contingency; and all waste shipments will go to an offsite permitted commercial disposal facility. 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 (FEMP) because the baseline estimates do not include contingency, and

---

Dataset Name: **FY 1999 Planning Data**

Date of Dataset: **9/20/1999**

Page 1 of 9

# Project Baseline Summary Report

Data Source: EM CDB

Operations/Field Office: Ohio

Site Summary Level: Fernald Environmental Management Project

Project OH-FN-05 / Waste Pits Remediation Project

Report Number: GEN-01b

Print Date: 3/9/2000

HQ ID: 0237

---

## Project Description Narratives

Operable Unit 4 (Silos Project) is in the process of amending the Record of Decision with the EPAs.

### Safety & Health Hazards:

There are no nuclear criticality safety concerns associated with the remediation of pits 1-6, the Burn Pit, the Clear Well, or any associated berms, liners, or soils (Report CSA-SD-96-0002, 7/96). IT Corporation Safety Basis Documentation supporting a hazard category of "Radiological Facility" is presented in submittals 10500-B-2, B-5, B-8, and B-11. Operation of onsite rail system was evaluated as a "Radiological Facility (Auditible Safety Record 95SA-0085). HAZOP analyses is included in IT Corporation submittal 10500-H-20; SA99-1005. Activities must be conducted in accordance with Safety Basis Documentation, FEMP Safety Requirements, WPRAP Radiological Safety Requirements, and WPRAP Quality Assurance Requirements. The hazards of this project include radiological hazards due to penetrating radiation, as well as the potential for internal dose from radionuclide uptake. Physical hazards include injury from heavy equipment operations. Exposure to hazardous chemicals and biological contaminants may also be encountered. In addition, workers can be expected to encounter normal occupational hazards such as lifting, tripping, or falling. Weather extremes expose personnel to heat and cold stress conditions.

### Safety & Health Work Performance:

The resources necessary to provide health and safety oversight in order to accomplish the planned work safely are provided through the projects allocation of assigned safety and health functional area subject matter experts. The selected contractor will provide all occupational, industrial and construction safety coverage for this project. FDF will retain all responsibility for the radiation safety program for this project. Full scope Standard Start-up Safety Reviews and Operational Readiness reviews are scheduled to be conducted prior to the start of waste processing. FDF safety and health resources representing functional areas such as radiological safety, occupational safety and health, fire protection engineering and emergency management are planned and allocated into the project by cost centers through the work break down structure. Safety and health funding for this project is expected to increase as the construction and operation of the this facility is commenced and then remain constant until final closure is accomplished. There are no unfunded Safety and Health categories.

### PBS Comments:

This project is a performance based contract at the FEMP.

The FEMP project has already undergone 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) innovative technology particularly for real-time analysis, certification of cleanup/release levels. 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).

Fernald developed and implemented an accelerated schedule in FY 1995. This baseline was validated and granted Level 1 approval on August 21, 1996. Impacts to the baseline due to the current funding targets will cause a three year schedule extension. Fernald has committed to implementing cost savings, productivity improvements, and incremental funding to complete the project within the FY 2006 timeframe.

### Baseline Validation Narrative:

---

Dataset Name: FY 1999 Planning Data

Date of Dataset: 9/20/1999

Page 2 of 9

# Project Baseline Summary Report

Data Source: **EM CDB**  
Operations/Field Office: **Ohio**  
Site Summary Level: **Fernald Environmental Management Project**  
Project **OH-FN-05 / Waste Pits Remediation Project**

Report Number: **GEN-01b**  
Print Date: **3/9/2000**  
HQ ID: **0237**

---

## Project Description Narratives

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:** 10/29/1998  
**Has Headquarters reviewed and approved project?** Yes  
**Date Project was Added:** 12/1/1997  
**Baseline Submission Date:** 7/8/1999  
**FEDPLAN Project?** Yes

<b>Drivers:</b>	<b>CERCLA</b>	<b>RCRA</b>	<b>DNFSB</b>	<b>AEA</b>	<b>UMTRCA</b>	<b>State</b>	<b>DOE Orders</b>	<b>Other</b>
	Y	Y	N	N	N	N	N	Y

## Project Identification Information

**DOE Project Manager:** Dave Lojek  
**DOE Project Manager Phone Number:** 513-648-3127  
**DOE Project Manager Fax Number:** 513-648-3076  
**DOE Project Manager e-mail address:** dave\_lojek@fernald.gov  
**Is this a High Visibility Project (Y/N):** Y

## Planning Section

### Baseline Costs (in thousands of dollars)

---

Dataset Name: **FY 1999 Planning Data**

Date of Dataset: **9/20/1999**

# Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Ohio**

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

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

HQ ID: **0237**

Project **OH-FN-05 / Waste Pits Remediation Project**

	<b>1997-2006 Total</b>	<b>2007-2070 Total</b>	<b>1997-2070 Total</b>	<b>1997</b>	<b>Actual 1997</b>	<b>1998</b>	<b>Actual 1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	
PBS Baseline (current year dollars)	357,393	0	357,393	13,561	11,866	12,495	13,082	53,729	46,130	48,988	53,368	57,503	64,285	7,334	0	
PBS Baseline (constant 1999 dollars)	334,625	0	334,625	13,561	11,866	12,495	13,082	53,729	44,917	46,446	49,269	51,690	56,267	6,251	0	
PBS EM Baseline (current year dollars)	357,393	0	357,393	13,561	11,866	12,495	13,082	53,729	46,130	48,988	53,368	57,503	64,285	7,334	0	
PBS EM Baseline (constant 1999 dollars)	334,625	0	334,625	13,561	11,866	12,495	13,082	53,729	44,917	46,446	49,269	51,690	56,267	6,251	0	
	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011- 2015</b>	<b>2016- 2020</b>	<b>2021- 2025</b>	<b>2026- 2030</b>	<b>2031- 2035</b>	<b>2036- 2040</b>	<b>2041- 2045</b>	<b>2046- 2050</b>	<b>2051- 2055</b>	<b>2056- 2060</b>	<b>2061- 2065</b>	<b>2066- 2070</b>
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

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

Dataset Name: **FY 1999 Planning Data**

Page 4 of 9

Date of Dataset: **9/20/1999**

# Project Baseline Summary Report

Data Source: **EM CDB**  
 Operations/Field Office: **Ohio**  
 Site Summary Level: **Fernald Environmental Management Project**  
 Project **OH-FN-05 / Waste Pits Remediation Project**

Report Number: **GEN-01b**  
 Print Date: **3/9/2000**  
 HQ ID: **0237**

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: 5/1/2005

Current Projected End Date of Project: 5/31/2005

#### Explanation of Project Completion Date Difference (if applicable):

The previous project completion date from last year's PBS simply states May 2005. When the data was seeded, the system assumed May 1, 2005. However, the baseline project completion date remains May 30, 2005.

### Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	373,961	Actual 1997 Cost:	11,866	Actual 1998 Cost:	13,082
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	349,013	Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):			9,423
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	358,436				

### Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):	48,353	(\$48,353K) due to actual contract costs lower than baseline.
Cost Reductions Due to Efficiencies (-):		
Cost Associated with New Scope (+):		
Cost Growth Associated with Scope Previously Reported (+):		
Cost Reductions Due to Science & Technology Efficiencies (-):		
<b>Subtotal:</b>	<b>310,083</b>	
Additional Amount to Reconcile (+):	-1,514	(\$1,185K) due to FY97/FY98 Uncosted Balances. (\$329K) due to FY97 Actuals escalation error in IDMS.
<b>Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):</b>	<b>308,569</b>	

# Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Ohio**

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

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

HQ ID: **0237**

Project **OH-FN-05 / Waste Pits Remediation Project**

## Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Load-out first railcar of Waste Pit Material.	1CB0010055		3/1/1999	3/1/1999			Y		Y		
Load-out first railcar of Waste Pit Material.			3/1/1999						Y		
Complete Waste Pits Remedial Action Project remediation.	1CB0010318		5/31/2005	5/31/2005			Y				
Complete ARASA pit remediation.			5/31/2005								
Initiate remediation of Waste Pits.			10/1/1992								
Complete Area 9, Phase I Certification Design Letter.			8/29/1999	8/29/1999			Y				

## 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
Load-out first railcar of Waste Pit Material.	1CB0010055		Y				1	1	1		This milestone was met on 2/23/99, when one railcar was loaded and another initiated. Each car holds approximately 107 tons.
Load-out first railcar of Waste Pit Material.										Y	
Complete Waste Pits Remedial Action Project remediation.	1CB0010318		Y		Y	Y	1	1	1		Completion of operations, including above-ground D&D.
Complete ARASA pit remediation.					Y					Y	
Initiate remediation of Waste Pits.				Y							Begin remediation activities for Waste Pits.
Complete Area 9, Phase I Certification Design Letter.											Per Table 1-5 of the FEMP SEP Final, schedule of Remedial Design deliverables.

## Performance Measure Metrics

Dataset Name: **FY 1999 Planning Data**

Page 6 of 9

Date of Dataset: **9/20/1999**

# Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Ohio**

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

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

HQ ID: **0237**

Project **OH-FN-05 / Waste Pits Remediation Project**

Category/Subcategory	Units	1997-2006 Total	2007-2070 Total	1997-2070 Total	Actual Pre-1997	Planned 1997	Actual 1997	Planned 1998	Planned 1999	Planned 2000	Planned 2001	Planned 2002	Planned 2003	Planned 2004
<b>RS</b>														
Assess.	NR	0.00	0.00	0.00	1.00									
<b>RS</b>														
Cleanup	NR	1.00	0.00	1.00										
<b>LLW</b>														
Storage	M3							0.00	76.00	0.00	59.00	153.00	180.00	0.00
<b>LLW</b>														
Ship to DOE Disp.	M3	3,122.00	0.00	3,122.00	0.00		0.00	0.00	24.00	752.00	1,026.00	398.00	722.00	200.00
<b>Rem. Waste</b>														
Disposed	M3	370,822.00	0.00	370,822.00	0.00		0.00	0.00	10,446.00	62,674.00	62,674.00	62,674.00	62,674.00	62,674.00
Category/Subcategory	Units	Planned 2004	Planned 2005	Planned 2006	Planned 2007	Planned 2008	Planned 2009	Planned 2010	Planned 2011 - 2015	Planned 2016 - 2020	Planned 2021 - 2025	Planned 2026 - 2030	Planned 2031 - 2035	Planned 2036 - 2040
<b>RS</b>														
Assess.	NR													
<b>RS</b>														
Cleanup	NR		1.00											
<b>LLW</b>														
Storage	M3	0.00												
<b>LLW</b>														
Ship to DOE Disp.	M3	200.00												
<b>Rem. Waste</b>														
Disposed	M3	62,674.00	47,006.00											

# Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Ohio**

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

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

HQ ID: **0237**

Project **OH-FN-05 / Waste Pits Remediation Project**

Category/Subcategory	Units	Planned 2036 - 2040	Planned 2041 - 2045	Planned 2046 - 2050	Planned 2051 - 2055	Planned 2056 - 2060	Planned 2061 - 2035	Planned 2066 - 2070	Exceptions	Lifecycle Total
<b>RS</b>										
Assess.	NR									1.00
<b>RS</b>										
Cleanup	NR									1.00
<b>LLW</b>										
Storage	M3									
<b>LLW</b>										
Ship to DOE Disp.	M3									3,098.00
<b>Rem. Waste</b>										
Disposed	M3									392,617.00

## Release Sites

Site Code	RSF ID	Change Flag	Description	Class/Subclass Name	Planned Assess. Year	Forecast Assess. Year	Actual Assess. Date	Planned Comp. Year	Forecast Comp. Year	Actual Comp. Date	Acc. Year	No Action	Comp. Status	RAD
FEMP	0215		OU1 \ Waste Pits Remedial Action Project (WPRAP)	Waste/Burn Pits	1995	1995	3/6/1995	2005	2005			N		N

## Technology Needs

Site Need Code: OH-F003

Site Need Name: Non-Intrusive Location of Buried Items

Focus Area Work Package ID: SS-10

Focus Area Work Package: Hot Spot Removal

Focus Area: SCFA

Agree with Technology Link: N

Benefits (Cost, Risk Reduction, Both): Cost

### Technologies

Cost Savings (in thousands of dollars)

Range of Estimate

Dataset Name: **FY 1999 Planning Data**

Page 8 of 9

Date of Dataset: **9/20/1999**

# Project Baseline Summary Report

Data Source: EM CDB

Operations/Field Office: Ohio

Site Summary Level: Fernald Environmental Management Project

Project OH-FN-05 / Waste Pits Remediation Project

Report Number: GEN-01b

Print Date: 3/9/2000

HQ ID: 0237

---

## Technology Needs

### Related CCP Milestones

### Related Waste Streams

### Agree?

### Change?

00067: LLW-7 - LLW Debris

Y

N

00063: LLW-3.1 - LLW Contaminated Soil

Y

N

00062: LLW-2 - LLW Contaminated Soil

Y

N