

Project Baseline Summary Report

Data Source: **EM CDB**

Operations/Field Office: **Ohio**

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

Project **OH-FN-13 / Post Source Term Removal Projects**

Report Number: **GEN-01b**

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

HQ ID: **0182**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

The baseline currently extends through FY 2008 with the completion of processing waste through the Operable Unit 4 (OU4) remediation facility, dispositioning of that waste, and final certification of the aquifer. There are several activities that are tied to the completion of OU4 and final certification of the aquifer that are not included in the FEMP baseline. The Post Source Term Removal PBS attempts to capture all of these activities that need to take place in order to place the FEMP site in a final closure configuration. Although many of the activities presented in this PBS will require EPA and Stakeholder approval, this document has made general assumptions and has attempted to put a rough order of magnitude estimate together for the scope, schedule, and cost for completing this work.

The PBS assumes a period of long term monitoring, maintenance, and support starting in FY 2007 and extending until 2070. This time frame corresponds to the RCRA type disposal area requirement. This could be modified to correspond to the transfer of the site to another DOE site by the regulators.

Adding together the FEMP's Total Project Cost outlined in the FY 1999 baseline together with the estimated cost in the Post Source Term Removal PBS will give a true life cycle plan.

Technical Approach: With the completion of the OU4 remediation facility activity, safe shutdown and D&D will commence on all structures in the D&D Complex. In addition, as the aquifer is certified as clean, safe shutdown and D&D will take place on the Advanced Waste Water Treatment (AWWT) Complex. All D&D debris meeting waste acceptance criteria (WAC) from these two complexes along with other minor structures may be placed in the final cell of the On-Site Disposal Facility (OSDF) or disposed of off site. All above WAC D&D debris will be disposed of at an approved off-site burial facility. It is desirable to not re-open the OSDF since the regulators are opposed to this action at this point in time.

The completion of D&D of all on-site complexes allows for the excavation of Area 7 soils and underground piping corridors and wells, as well as the excavation of the on-site access roads. All excavated material meeting WAC will be placed in the final cell of the OSDF or disposed of off site. All above WAC material will be disposed of at an approved off-site burial facility. Some of the piping and access roads may be abandoned "in place" if agreed to by the regulators.

If the regulators permit, the final OSDF cell (currently Cell 8) will be constructed for the placement of all remaining D&D debris and soil excavations. Following final waste placement, a permanent cap will be constructed to close out the OSDF.

The South Plume Interim Treatment (SPIT) water processing facility will remain on-line for leachate and excavation runoff treatment until the final cap is placed on the cell. The SPIT facility will then be D&D and debris disposed of at an off-site burial location. Following SPIT D&D, the OSDF leachate will be directed to a holding tank for potential treatment, processing, or discharge to the outfall line that has remained in place.

Project Status in FY 2006:

Dataset Name: **FY 1999 Planning Data**

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

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Project Description Narratives

This PBS does not begin until FY 2007.

Post-2006 Project Scope:

This sitewide PBS has been added to the existing 12 PBSs. This PBS includes all of the post-closure (FY 2007 - FY 2070) activities which are not currently part of the existing baseline. These activities include maintenance and standby of the Advanced Waste Water Treatment Facility (AWWT) to ensure full containment and capture of any residual contaminated groundwater plumes, monitoring and maintenance activities, D&D of the AWWT and related on-site and off-site pipelines and wells and related soils, and either shipment of this material off site or disposal in Cell 8 of the OSDF.

This PBS begins in FY 2007 with long term maintenance, monitoring, and support. This activity is anticipated to continue to FY 2070. The Post Source Term Removal PBS attempts to capture activities that are tied to the completion of OU4 and final certification of the aquifer that are not included in the FEMP baseline. Although many of the activities require EPA and Stakeholder approval, general assumptions have been made and an attempt to put a rough order of magnitude estimate together for the scope, schedule, and cost for completing this work has been completed.

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:

Estimates to support the baseline for this PBS were completed using a bottoms-up approach based on forced datil scope descriptions (conceptual work plan).

Work scope associated with this PBS does not begin until FY 2007 and is not included in the baseline.

Safety & Health Hazards:

This PBS includes D&D of the OU4 remediation facility and AWWT and long term monitoring, maintenance, and support. 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 accomplish the work safely will be provided.

PBS Comments:

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Project Description Narratives

Baseline Validation Narrative:

PBS OH-FN-13 is currently not part of the FEMP baseline which has been formally validated; therefore, PBS OH-FN-13 has not been formally validated.

General PBS Information

Project Validated? **Date Validated:**
Has Headquarters reviewed and approved project? No
Date Project was Added: 3/17/1999
Baseline Submission Date: 7/8/1999
FEDPLAN Project? Yes

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

Project Identification Information

DOE Project Manager: Johnny Reising
DOE Project Manager Phone Number: 513-648-3139
DOE Project Manager Fax Number: 513-648-3071
DOE Project Manager e-mail address: johnny.reising@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)	0	865,686	865,686						0	0	0	0	0	0	0

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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 (constant 1999 dollars)	0	419,430	419,430						0	0	0	0	0	0	0	
PBS EM Baseline (current year dollars)	0	865,686	865,686						0	0	0	0	0	0	0	
PBS EM Baseline (constant 1999 dollars)	0	419,430	419,430						0	0	0	0	0	0	0	
	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)	822	10,047	90,288	102,995	84,153	25,893	30,018	34,799	40,341	42,547	45,060	52,237	60,556	70,202	81,383	94,345
PBS Baseline (constant 1999 dollars)	664	7,905	69,578	77,738	59,702	16,556	17,300	18,077	18,887	17,953	17,138	17,907	18,709	19,549	20,425	21,342
PBS EM Baseline (current year dollars)	822	10,047	90,288	102,995	84,153	25,893	30,018	34,799	40,341	42,547	45,060	52,237	60,556	70,202	81,383	94,345
PBS EM Baseline (constant 1999 dollars)	664	7,905	69,578	77,738	59,702	16,556	17,300	18,077	18,887	17,953	17,138	17,907	18,709	19,549	20,425	21,342

Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
			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

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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:

Current Projected End Date of Project: 9/30/2070

Explanation of Project Completion Date Difference (if applicable):

This PBS includes all of the post-closure activities which are not currently part of the existing baseline. PBS FN-13 begins in FY 2007 with long term maintenance, monitoring, and support. This activity is anticipated to continue to FY 2070. This PBS attempts to capture activities that are tied to the completion of OU4 and final certification of the aquifer that are not included in the FEMP baseline. Although many of the activities require EPA and Stakeholder approval, general assumptions have been made and an attempt to put a rough order of magnitude estimate together for the scope, schedule, and cost for completing this work has been completed.

Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	Actual 1997 Cost:	Actual 1998 Cost:
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	0	Inflation Adjustment (2.7% to convert 1998 to 1999 dollars): 0
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	0	

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):		
Cost Reductions Due to Efficiencies (-):		
Cost Associated with New Scope (+):	419,430	New PBS in FY1999. \$419,430K is estimated costs for long-term stewardship, S&M, etc. at Fernald.
Cost Growth Associated with Scope Previously Reported (+):		
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	419,430	

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Project Reconciliation

Additional Amount to Reconcile (+): 0

Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars): 419,430

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Initiate post source term removal activities.			10/1/2007								
Complete post source term removal project activities.			9/30/2070								

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
Initiate post source term removal activities.				Y							
Complete post source term removal project activities.					Y	Y					

Performance Measure Metrics

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
LLW														
Storage	M3													
LLW														
Ship to DOE Disp.	M3	0.00	1,263.00	1,263.00										
Rem. Waste														
Disposed	M3	0.00	104,960.00	104,960.00										

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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
LLW													
Storage	M3						623.00						
LLW													
Ship to DOE Disp.	M3						640.00	623.00					
Rem. Waste													
Disposed	M3						7,532.00	54,262.00	43,166.00				
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			
LLW													
Storage	M3												
LLW													
Ship to DOE Disp.	M3									1,263.00			
Rem. Waste													
Disposed	M3									104,960.00			