

Pantex EM Project(s)
Baseline Summary
June 2008

BACKGROUND

The Pantex Plant is located in the Texas Panhandle, approximately 17 miles northeast of Amarillo, Texas. Pantex was established in 1942 to build conventional munitions in support of World War II. Pantex was deactivated in 1945 and sold to Texas Technical University. In 1951 the Plant was reclaimed for use by the Atomic Energy Commission to build nuclear weapons. Pantex continues with an active mission to support the nuclear weapons stockpile for the United States Department of Energy/National Nuclear Security Administration.

The primary mission of the Pantex Plant is to:

- Evaluate, retrofit, and repair nuclear weapons in support of life extension programs and certification of weapon safety and reliability programs.
- Dismantle nuclear weapons surplus to the stockpile.
- Demilitarize and sanitize components from dismantled weapons.
- Develop, test, and fabricate chemical and explosive components.
- Provide interim storage and surveillance of the plutonium components.

Pantex has a long-term mission to extend the life of nuclear weapons in the stockpile to preserve the security of the United States. The more than 3,500 federal employees and contractors who work at Pantex are dedicated to safely and securely maintaining the nation's nuclear weapons stockpile, dismantling weapons retired by the military, storing the resulting surplus plutonium on an interim basis, and developing, testing, and fabricating high explosives. Pantex work is done in full compliance with applicable federal and state environmental regulations.

Historical waste management operations at the Pantex plant have resulted in contamination of the soils and the groundwater. Primarily High Explosives, metals, and solvents exist in the soil located in the main operational areas and Burning Ground at the Pantex Plant. The perched groundwater contaminant plume has migrated past the Plant boundaries and onto adjacent landowner's property to the southeast. The lower Ogallala Aquifer is the primary water supply for Pantex and the area landowners. Located immediately north of the Pantex property boundary is a well field in the Ogallala Aquifer that supplies a portion of the water supply to the cities of Amarillo and Panhandle. Contamination in the perched groundwater has the potential to leach deeper if appropriate corrective measures are not implemented to mitigate the risk.

In 1989, the U.S. Environmental Protection Agency conducted a Resource Conservation and Recovery Act Facility Assessment of the Pantex Plant that identified 252 potential release sites, and resulted in an Environmental Protection Agency Order stipulating response measures for these release sites.

In 2008, TCEQ approved the Corrective Measure Study/Feasibility Study and EPA approved all of the Human Health Risk Assessments, the Ecological Risk Assessment, and the corrective

Measure study/Feasibility Study. Both agencies approved the Proposed Plan for public notice and distribution. Public comments on the proposed remedies were recently received, along with comments from EPA's National Remedy Review Board.

SCOPE DESCRIPTION

Starting in the late 1980's, DOE EM began funding the ER Program at Pantex. This Program investigates historical release sites, as well as potential contamination sites, and performs corrective actions to mitigate future releases, risks to human health and the environment. Corrective actions are implemented using a risk-based corrective action approach that is consistent with applicable state and federal regulatory requirements.

Environmental work is identified and conducted under the requirements of the current solid and hazardous waste permit issued by the State of Texas to Pantex. Also, the Environmental Protection Agency has listed Pantex Plant on the National Priority List.

The remedial investigation and feasibility study phases of the program were implemented through a Memorandum of Agreement between the Environmental Protection Agency (EPA) and the Texas Commission on Environmental Quality (TCEQ). The EPA and TCEQ provided oversight for investigations and risk assessments with the majority of the work being conducted under the Resource Conservation and Recovery Act (RCRA) process. The EPA retained oversight of radionuclide contamination and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) issues.

Pantex is currently working closely with the EPA, Region 6 and the TCEQ through a Core Team. This team collectively reviews site data to expedite integration of both RCRA and CERCLA statutory requirements. Interactions between DOE/NNSA, EPA, and TCEQ were recently redefined with issuance of a tri-party Interagency Agreement. This agreement became effective on February 22, 2008 and establishes the framework for completing CERCLA requirements for the site.

As required by CERCLA, a draft Record of Decision was submitted to TCEQ and EPA, including responses to comments received on the Proposed Plan. Comments on the draft ROD were just received in June 2008. A few remaining issues are being resolved with EPA and TCEQ to achieve a final, signed and approved, Record of Decision in August 2008.

PROJECT MANAGEMENT

Based on the direction from EM Headquarters, Pantex developed the near-term baseline for each of its projects. These project baselines have undergone an independent review to verify the reasonableness of the scope, cost, and schedule for each project. An approved near-term baseline reflects the identified scope that can reasonably be accomplished for the identified cost in the identified time period if near-term baselines are funded as profiled and contingency funds are provided as required during project execution. It also establishes the baseline as an acceptable point from which to track and control future change. The review and approval process accommodates the likely changes in the EM complex, site priorities and funding plans. These changes could affect both near-term (within the next five years) and life-cycle cost,

schedule and scope. Such future changes may be required to comply with applicable environmental legal obligations while maintaining essential functions necessary to protect human health, the environment and national security; reflect funding different from the baseline assumptions; incorporate technological advances; realize specific programmatic risks; or implement programmatic business cases.

LIST OF PROJECTS

The Pantex EM program consists of two projects as shown below: The Near-Term Baseline (NTB) for these projects is from FY 2007 – FY 2008.

Project	Date Approved	
	Near Term Baseline (NTB)	Out Year Planning Estimate Range (OPER)
VL-PX-0030	Feb. 9, 2005	Project will complete in FY09
VL-PX-0040	Feb. 9, 2005	Project will complete in FY08

PROJECT SCOPE

VL-PX-0030 – Soil and Water Remediation - Pantex

The ER Program at Pantex investigates historical release sites, as well as potential contamination sites, and performs corrective actions to mitigate future releases, risks to human health and the environment. Corrective actions are implemented using a risk-based corrective action approach that is consistent with applicable state and federal regulatory requirements. The determination of appropriate corrective actions and preferred remediation alternatives has been evaluated in CMS and will be agreed upon in the ROD.

There are 237 identified release sites within 144 solid waste management units and areas of concern at Pantex. These sites are organized into Zones and as independent sites for investigation and remediation purposes. Final corrective action design and construction activities to implement preferred remediation alternatives are being implemented as documented in the ROD.

Corrective measures of the perched groundwater include the Southeast Pump and Treat to stabilize and treat the groundwater plume, the Playa 1 Pump and Treat to stabilize the head of the perched groundwater and treat contaminants, and In Situ Bioremediation to treat contaminants at specific areas of the groundwater plume with potentially higher risk of contaminant migration.

As of May 2008, the Texas Commission on Environmental Quality has approved closure of all 237 release sites, with an additional 15 active release sites remaining in operation after the Environmental Remediation project completion in FY 2009.

VL-PX-0040 – Nuclear Facility D&D - Pantex

The Pantex Deactivation and Decommissioning project reduces the plant footprint and risks to workers, public health, and the environment through safe shutdown, decontamination, and demolition of contaminated surplus facilities. These facilities are targeted for completion of deactivation and decommissioning activities during FY03 through FY07. When completed, the

facility sites are scheduled for transfer to the landlord for potential reuse or long-term monitoring.

Scope includes four performance metrics, which include deactivation and decommission of Building 8-08 (completed), Building 11-44 and equipment (completed), Zone 10 Ruins (completed), Building 12-24 Complex (Buildings 12-43, 12-25, 12-24A, 12-24 North, and 12-24 South) (D&D completed, site restoration to be completed in FY08). Technical approach is consistent with DOE Order 430.1-4, LCAM.

As of May 2008, all four performance measures have been completed.

PROJECT COST

(dollars in millions)

Cost Element	Project Number	
	VL-PX-0030	VL-PX-0040
1. Prior Year Costs (1997-2007)	168.2	18.4
2. Total Near-Term Baseline (50% Confidence Level)	45.7	0
3. Unfunded Contingency	0	0
4. Performance Baseline (80% Confidence Level)	181.8	18.4
5. Out Year Planning Estimate Range	0	0
6. Total Life Cycle Cost	181.8	18.4

SUMMARY LIFECYCLE BASELINE SCHEDULE

Activity ID	Activity Name	Finish	2004			FY2005			FY2006			FY2007			FY2008			FY2009			FY2010			FY2011		
			FQ3	FQ4		FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	
	ER General Management FY08 Baseline Revised 2/08	01-Sep-09																								
	BWXT Pantex ER Program General Mgmt Support	01-Sep-09																								
ER0000	ER General Management Start Milestone	01-Sep-09																								
ER1400	ER General Management Finish Milestone	01-Sep-09																								
	BWXT Pantex ER Program Technical Mgmt Support	27-Apr-07																								
ER0039	All RFI Reports Approved by Reg. Agencies	03-Jan-05																								
	Production Well	07-Dec-04																								
ER0164	Production Well Installation Finish Milestone	07-Dec-04																								
ER0162	Production Well Installation Start Milestone	07-Dec-04																								
ER0064	Federal Facilities Agreement (FFA)	27-Apr-07																								
ER0072.05	PXSO submit FFA to EPA(180 days followi...	27-Apr-07																								
	EDGIS support	30-Nov-06																								
	LTES Database Development	30-Nov-06																								
ER0072.05	FRC Records Report	30-Nov-06																								
	Zone 11 Soil - FY08 Baseline	16-Apr-08																								
	Risk Reduction Standard 2 Closure	31-Mar-05																								
Z10540	Zone 11 RRS 2 Closure Complete	31-Mar-05																								
Z10000	Begin Zone 11 Soil	31-Mar-05																								
	Interim Corrective Measures (ICM)	16-Apr-08																								
Z10975	ER Program/DOE Approval of ICMIR Adre...	04-Jan-08																								
Z11031	ER Program Approval of Final ICMIR	14-Nov-05																								
Z11420	Project Closeout Complete (CD-4)	16-Apr-08																								
Z10930	ICM Implementation Complete	17-Jun-05																								
	Zone 12 Soil - Baseline FY08 Baseline	01-Aug-08																								
	Interim Corrective Measures (ICM)	01-Aug-08																								
	Zone 12 Soil ICM	01-Oct-04																								
Z20000	Start Zone 12 Soils	01-Aug-08																								
	Zone 12 Soil - Ozon	01-Aug-08																								
Z20999	Complete Zone 12 Soils	01-Aug-08																								
Z21070	SWMU 122b Ozon ICM Expansion Compl...	30-Sep-05																								
Z20960	ICM Ozon Complete	01-Aug-08																								
Z21420	Ozon Project Closeout Complete (CD-4)	01-Aug-08																								
	Burning Ground Soil FY08 Baseline	03-Apr-08																								
	Interim Corrective Measures (ICM)	03-Apr-08																								
	Burning Ground soil ICM/VCA	03-Apr-08																								
BS1022	ICM O&M Complete	03-Apr-08																								
BS0000	Begin Burning Ground Soil	03-Apr-08																								
	Burning Ground soil Bio-Remediation	05-Jun-05																								
BS9999	Complete Burning Ground Soils	05-Jun-06																								
	Site-Wide Groundwater FY08 Baseline Revised 5-08	16-Feb-10																								
	RCRA Facility Investigation Report (RFIR)	03-Jan-05																								
Z20040	Regulatory Agencies Approve RFIR	03-Jan-05																								
Z20000	Begin Site Wide Groundwater	03-Jan-05																								
	Risk Reduction Standard 2 Closure	31-Mar-05																								
Z20560	Independent Sites RRS 2 Closure Complete	31-Mar-05																								
	Interim Corrective Measures (ICM)	05-Oct-06																								
	SWGW Permeable Reactive Barrier	05-Oct-06																								
Z24320	Design Completed	05-Oct-06																								
	Ecological Risk Assessment (ERA)	11-May-06																								
Z2RA0201	ERA Report Submittal Milestone	11-May-06																								
	Corrective Measures Report (CMR)	26-Feb-09																								
Z21420	Project Closeout Complete (CD-4)	26-Feb-09																								

Pantex Performance Baseline for VL-PX-0030 Soil and Water Remediation

Finish Date: 16-Feb-10

Run Date: 18-Jun-08

Start Date: 01-Oct-04

Data Date: 01-Oct-04

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Activity ID	Activity Name	Finish	2004		FY2005		FY2006		FY2007		FY2008		FY2009		FY2010		FY2011		
			FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3
Corrective Measures Study (CMS)																			
ZG0885.99	Publish NOA for Proposed Plan	17-Dec-07*																	
ZG0591	CMS Submitted Milestone	26-May-06																	
Corrective Measures Implementation Work Plan (CMiWP)																			
ZG1040.51	Regulatory Agencies Approve CP App.	07-Apr-09																	
ZG1040	Regulatory Agencies Approve Final CMiWP...	16-Jan-09																	
ZG1011	DF CMiWP/RD Sub Pkg. Submittal Milestone	15-Sep-08																	
ZG0990	ER Program Approval of DF CMiWP/RD S...	29-Aug-08																	
ZG1040.02	Award Plume Finder Contract																		
ZG1040.07	Plume Finder Project Complete	28-Nov-07																	
Corrective Measures Design (CMD)																			
ZG1081	BWXT CMD Design Completed	22-Aug-08																	
SWGW In-Situ Bio-Remediation System Design																			
ZG9000.18	Final Design In-Situ Bio Remediation	18-Jun-07																	
Corrective Measures Construction (CMC)																			
SWGW In-Situ Bio-Remediation System Installation																			
ZG8100.100	Construction Complete In-Situ Bio	25-Mar-08																	
ZG8000.30	Issue Notice to Proceed for In-Situ Bio Rem...	07-Aug-07																	
ZG9000.24	UIC Approval UIC Application for In-Situ Bl...	12-Sep-07																	
SWGW Playa 1 Dewatering System Installation																			
ZG1131.58	Construction Complete Playa 1	11-Sep-08																	
SWGW Zone 11 ISB																			
ZG7000.26	Receive Construction Funding	03-Dec-08																	
ZG7004.31	Construction Complete Zone 11 ISB	03-Dec-08																	
Risk Reduction Standard 3 Closure																			
ZG5999	Complete Site-Wide Ground Water	16-Feb-10																	

<ul style="list-style-type: none"> ◆ Publish NOA for Proposed Plan ◆ CMS Submitted Milestone ◆ Regulatory Agencies Approve CP App. ◆ Regulatory Agencies Approve Final CMiWP/RD Sub Pkg. ◆ DF CMiWP/RD Sub Pkg. Submittal Milestone ◆ ER Program Approval of DF CMiWP/RD Sub Pkg. ◆ Award Plume Finder Contract ◆ Plume Finder Project Complete ◆ BWXT CMD Design Completed ◆ Final Design In-Situ Bio Remediation ◆ Construction Complete In-Situ Bio ◆ Issue Notice to Proceed for In-Situ Bio Remediation ◆ UIC Approval UIC Application for In-Situ Bio Remediation ◆ Construction Complete Playa 1 ◆ Receive Construction Funding ◆ Construction Complete Zone 11 ISB ◆ Complete Site-Wide Ground Water 	<p>Start Date: 01-Oct-04</p> <p>Finish Date: 16-Feb-10</p> <p>Data Date: 01-Oct-04</p> <p>Run Date: 18-Jun-08</p> <p>© Primavera Systems, Inc.</p>	<p>Page 2 of 2</p> <p>Pantex Performance Baseline for VL-PX-0030 Soil and Water Remediation</p>
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Activity ID	Activity Name	Finish	2004		FY2005		FY2006		FY2007		FY2008		FY2009		FY2010		FY2011		
			FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3
Zone 10 Deactivation & Decommission - Baseline Aug07 ...																			
Zone 10 D&D Close-Out Phase																			
D12000	Project Complete	19-Jan-05																	
Zone 10 D&D - Building 10-2																			
Zone 10 D&D - Building 10-2 - Remediation Phase																			
D06500	BCP Approved	21-Feb-09																	
D06600	Requisition Approved	17-Oct-07																	
D12400	Receivie Proposals	21-Jan-08																	
D12600	Issue Notice to Proceed	21-Jan-08																	
Zone 10 D&D - Building 10-2 - Close-Out Phase																			
D34500	Contractor Contract Closeout	30-Jun-08																	
12-24 Complex D&D - Baseline FY07 Workplan																			
12-24 Complex D&D Summary																			
D21011	12-24 D&D FY05 Start Milestone	29-Sep-06																	
D21021	12-24 D&D FY05 Finish Milestone	29-Sep-06																	
D20000	Begin 12-24 Complex D&D																		
12-24 Complex D&D Remediation Phase																			
D21260	Reroute Steam Line - Contract Award	15-Nov-04																	
12-24 Complex D&D Close-Out Phase																			
D26999	Complete 12-24 Complex D&D	07-Feb-07																	



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