



TEN-YEAR
SITE PLAN

LIMITED UPDATE FY2015-FY2016

MAY 2, 2014



FINAL **FY2015 Ten-Year Site Plan Limited Update**

Front cover shows new High Explosive Pressing Facility
nearing construction completion.

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Section 1 - Executive Summary

This Limited Update is provided in response to the Office of Infrastructure and Operations (NA-00) Memorandum, dated March 27, 2014, and is provided in lieu of the annual update to the Ten-Year Site Plan. As requested, this update contains the information related to the following:

- Significant changes since the last submission.
- A prioritized list of proposed real property investments anticipated over FY2014-2016.
- A two-year projected accounting of office and warehouse space in support of the Office of Management and Budget's Freeze the Foot Print Initiative.

In support of the National Nuclear Security Administration (NNSA), B&W Pantex has identified facility and infrastructure gaps that continue to require resolution to ensure implementation of NNSA's Strategic Plan. These gaps will continue to be refined, communicated, and collectively resolved to support continued progress and ultimately the modernization of Pantex. The Fiscal Year (FY) 2014 Ten-Year Site Plan is considered the Pantex plan of record and will remain so until the next full version is submitted.

• *Integrated Funding to Sustain Peak Operations*

Integrated funding of Directed Stockpile Work (DSW), Readiness in Technical Base and Facilities (RTBF), and Safeguards & Security (S&S) is needed to accomplish the overall mission-related work scope.

The Office of Nuclear Weapon Stockpile (NA-122) DSW targets for FY2014 provide adequate funding to support the accomplishment of the NNSA defined workload. Targets for FY2015-2020 are sufficient to accomplish the overall negotiated, mission-related work scope. As of the April 2014 Budget Summit, the scope of the Office of Technology Maturation & Stockpile Assessment (NA-124) Component Manufacturing Development Readiness Campaign Targets for FY2015-2020 have not been structured to provide adequate funding to support projects critical to the B61 Life Extension Program (LEP).

Funding profiles for Pantex show the RTBF and Security budget(s) are not adequate to sustain current mission capability in FY2015-2020. The budgets do not fully sustain the infrastructure, arrest the growth of Deferred Maintenance (DM), or address security requirements necessary to support operations.

• *Mission Operations*

Based on FY2014 funding, B&W Pantex is proceeding in accordance with the workload as defined by Office of Science, Engineering & Production Programs (NA-12). Future workload projections suggest enhanced testing, and corresponding support activities will be necessary to satisfy basic stockpile stewardship and LEP activities. Depending on requirements for each program, this would include increased non-destructive and destructive evaluation, explosive component manufacturing, and pit requalification/reuse processes, as well as Canned Sub Assembly surveillance. The increase in surveillance work will be addressed through the construction of a new Weapon Surveillance Facility, existing facility modifications, and installation and qualification of essential diagnostic and support equipment.



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- ***High Explosives Center of Excellence (HE CoE)***

The cornerstones of the HE CoE are the HE Pressing Facility (HEPF), HE Science and Engineering (HE S&E), HE Packaging and Staging (HE P&S), HE Development Machining Center, HE Formulation, Inert Machining, and the HE Component Assembly Facilities. These facilities support elements of the HE mission including Research and Development. The HEPF construction remains on schedule and under budget. B&W Pantex is pursuing Line Item (LI) underruns of the HEPF to fund the HE P&S facility. The HE S&E Critical Decision (CD)-1 is planned for the 4th Quarter of FY2014. The remaining facilities are supported by the NNSA Construction Working Group and will require continued programmatic support to fully complete the transformation to a modern HE CoE capable of reliably producing and performing surveillance activities in support of the Stockpile Stewardship Program.

- ***Facilities and Infrastructure Sustainment/Modernization***

B&W Pantex has identified the near-term, intermediate, and long-term needs at Pantex to recapitalize and sustain the infrastructure required to support the NNSA mission. The common themes of these needs are that the infrastructure requires recapitalization and sustainment of the capabilities to arrest the decline in facilities and infrastructure. Infrastructure includes real property, installed equipment, and related real property that is supporting multiple program missions at a single program site. Of concern are the systems and equipment that are reaching the end of their useful life or the manufacturer no longer supports. Examples in the last 12 months include 4 fire protection lead-in failures, HE Synthesis process control equipment failure, and Perimeter Intrusion Detection and Assessment System (PIDAS) equipment. The End-of-Life Table in the Pantex FY2014-2023 Ten-Year Site Plan lists a few of the critical systems and equipment that will require replacement.

Advances in technology are accelerating the need for replacement due to “technical obsolescence.” The lack of availability of replacement parts and supported software is decreasing system maintainability and reliability. As examples, manufacturers of the Ultraviolet Flame Detection System, Radiation Alarm Monitoring System (RAMS), PIDAS, and HE Synthesis process control equipment have notified Pantex that the systems are or soon will be no longer supported.

B&W Pantex has met mission deliverables with an aging infrastructure; however, risks are increasing due to system failures and constrained and inconsistent budgets limiting recapitalization and modernization initiatives. The Future Years Nuclear Security Program is not adequate to support end-of-life and technical obsolescent equipment replacement of essential systems and infrastructure.

- ***Material Staging Facility***

A new facility will provide the capability and capacity for safe and efficient staging of weapons and nuclear weapon components while enhancing the site’s security posture at a reduced infrastructure cost. The facility supports the consolidation of the Pantex site and reduces the future recapitalization mortgage related to Zone 4 West and the associated PIDAS replacements. The CD-0 Mission Need Documentation for the Material Staging Facility was submitted to NNSA in April 2014.

- ***B61-LEP***

The successful implementation and delivery of the first production unit (FPU) of the B61 Mod 12 LEP by the planned date will require addressing multiple challenges at Pantex in the immediate future. The procurement and configuring of needed special nuclear material (SNM) equipment, as well as new projects and equipment in the high explosives facilities will require negotiation with other critical Plant initiatives for resources and priority. Funding for many of these new projects, as previously mentioned, particularly in the Component Manufacturing Development (Readiness) and RTBF funding will be crucial to success.

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Section 2 - Site Overview

Location: Amarillo, Texas
Type: Single-Program Site
Web site: <http://www.pantex.com>

Contractor Operator: B&W Pantex, LLC
Responsible Field Office: NNSA Production Office
Site Manager: Steven C. Erhart

Site Overview:

Pantex site, located outside of Amarillo, Texas, is operated by B&W Pantex under the direction of NNSA Production Office. B&W Pantex activities ultimately support the core mission of nuclear weapons stockpile stewardship. The Pantex Plant mission includes manufacture of specialty explosives; fabrication, and testing of HE components; assembly, disassembly, refurbishments, maintenance, and surveillance of stockpile nuclear weapons and weapon components; interim staging and storage of nuclear components from dismantled weapons; and pit requalification, surveillance, and packaging.

Capabilities

- C5 – High Explosives
- C7 – Weapons Assembly/Disassembly
- C9 – Special Nuclear Material Accountability, Storage, Protection, Handling, and Disposition
- C10 – Enabling Infrastructure
- C12 – Support of Other Missions/Program Capability

Real Property (as of 9/30/2013)

- 17,512 Acres (Owned/Leased)
- 622 Buildings/Trailers
 - 3,001,445 GSF Owned Active and Operational
 - 35,953 GSF Non-Operational
 - 84,754 GSF Leased
- Replacement Plant Value: \$4.11B
- DM: \$379M
- Facility Condition Index (FCI):
 - Mission Critical: 2.9%
 - Mission Dependent Not Critical: 14.4%
 - Site-wide FCI: 9.2%
 - Asset Utilization Index: 97.7%

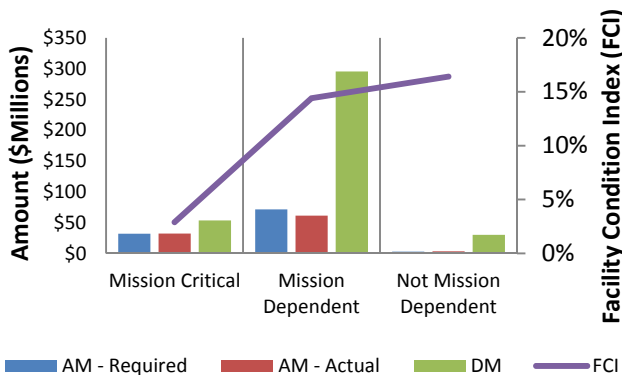


Figure 1 DM & FCI by Mission Dependency

Pantex Personnel Profile

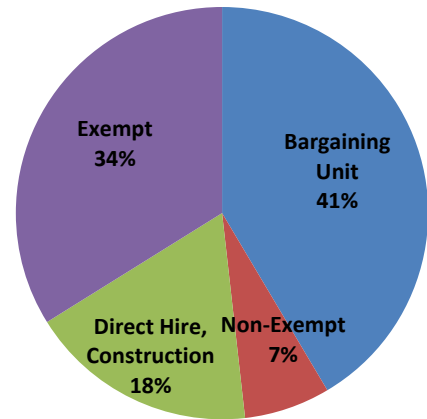
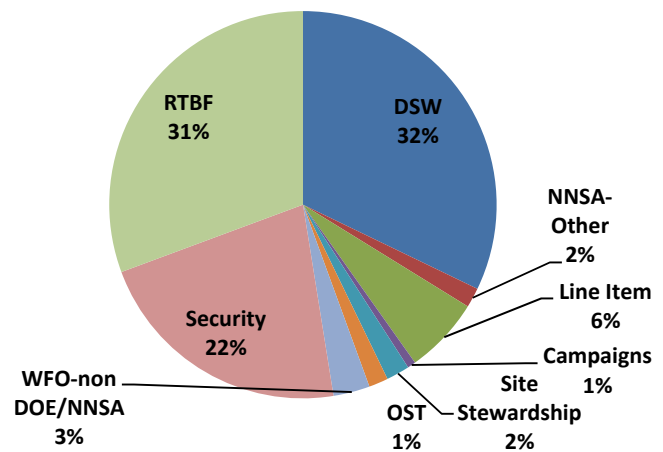


Figure 2 Personnel Profile

FY 2014 Funding by Source (\$M)

FY 2014 Total Site Operating Funding:	\$ 701.9M
FY 2014 Total NNSA/DOE Funding:	\$ 672.0M
FY 2014 Total Non-NNSA Work:	\$ 29.9M

FY13 Funding by Source



Work for Others (WFO), Office of Secure Transportation (OST), FIRP (Facilities and Infrastructure Recapitalization Program)

Figure 3 FY 2014 Funding by Source

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Section 3 - Prioritized Project List

The following list of projects has been risk ranked and prioritized along with other infrastructure projects at Pantex. The listing includes LI Projects, Capabilities Based Investments (CBI), and Recapitalization Projects with a recommended funding profile within the FY 2014–2016 timeframe.

Line Item (LI) Projects	FY2014	FY2015	FY2016
HEPF	\$ 1,010,000	\$ 340,000	\$ 10,000
HE S&E	100,000	11,800,000*	100,000
Zone 4 PIDAS Replacement**		1,000,000	700,000
Zone 12 PIDAS Replacement**		1,800,000	1,500,000
Material Staging Facility**		1,800,000	3,500,000
HE Fabrication & Qualification Facility			1,000,000

* Planning, Engineering, & Design

** CD-0 Document submitted in FY2014 for NNSA Program support

Capabilities Based Investments (CBI)	FY2014	FY2015	FY2016
Vacuum Chamber	\$ 1,917,000	\$ 7,000,000	
Bay/Cell Reinvestment (Flame Detection and RAMS)	3,500,000	15,200,000	19,000,000
3D Surface Imaging Microscope	350,000		
Gas Laboratory Equipment	250,000		
Replace Gas Laboratory		600,000	9,400,000

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Recapitalization Project	FY2014	FY2015	FY2016
Central Alarm Station Upgrade	\$ 9,500,000		
Design and Replacement of End-of-Life Critical Safety Systems (HPFL Lead-in Replacement, Flame Detection Systems and RAMS)	7,000,000		
Fiber Network to Support Flame Detection and RAMS	4,000,000		
Design and install Flame Detection System Prototype and RAMS in Three Bays	3,500,000		
12-84/104 UPS Replacement	3,100,000		
11-55 Domestic Water Process Piping Replacement	1,200,000		
12-44 Emergency E-Light Replacement	1,000,000		
Install ESD Floor Coating in 12-84, 12-98, 12-9 and 12-104	1,000,000		
Various Small Projects and Support Activities (PIDAS lighting/electrical evaluation, damper replacement, chiller installation, etc.)	9,200,000		
General Workplace Improvements	5,000,000	\$ 2,000,000	\$ 2,000,000
HPFL Lead-ins		5,000,000	
Emerging Issues		2,500,000	
Modular Pit Marking Station (B61-12 LEP)		150,000	
Roof Asset Management Program		2,200,000	2,400,000
Sampling and Backfill Stations Modifications (B61-12 LEP)		2,000,000	2,000,000
Microfocus Equipment and Installation (B61-12 LEP)		1,500,000	1,500,000
Eight Plane Radiography (B61-12 LEP)		500,000	1,000,000
HPFL Lead-in Replacements			5,000,000
High Mast Lighting Repairs			3,600,000

Section 4 - Freeze the Footprint

The “Freeze the Footprint” policy requires that agencies not increase the square footage of space predominately used for offices and warehouses compared to the FY2012 baseline. New office or warehouse space must be offset with corresponding reductions in office or warehouse space to ensure there is no net increase in the size. Facilities used to store weapons, SNM, explosives, programmatic components, and general storage are included in the warehouse category. Pantex has already completed construction of a Zone 12 HE storage facility in FY2013, and construction is underway on additional HE storage facilities associated with the HEPF which are to be completed in FY2015. Pantex currently has office and warehouse facilities available to demolish that could be used to offset the new storage space, but the lack of a funding source for facility disposition will make it challenging to meet the “Freeze the Footprint” policy for the Pantex Plant.

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Section 5 - Acronyms

BDI	Blast Door Interlock
CBI	Capability Based Investments
CD	Critical Decision
DM	Deferred Maintenance
DOE	Department of Energy
DSW	Directed Stockpile Work
FCI	Facility Condition Index
FIRP	Facilities and Infrastructure Recapitalization Program
FPU	First Production Unit
FY	Fiscal Year
GSF	Gross Square Feet
HE	High Explosive
HE CoE	High Explosives Center of Excellence
HEPF	High Explosive Pressing Facility
HE P&S	High Explosive Packaging & Staging
HE S&E	High Explosive Science & Engineering
LEP	Life Extension Program
LI	Line Item
NNSA	National Nuclear Security Administration
OST	Office of Secure Transportation
PIDAS	Perimeter Intrusion Detection and Assessment System
RAMS	Radiation Alarm Monitoring System
RTBF	Readiness in Technical Base and Facilities
S&S	Safeguards & Security
UPS	Uninterruptable Power Supply
WFO	Work for Others