

PANTEX FY2008 - FY2017  
**TEN-YEAR**

**Site Plan**

March 16, 2007



**PANTEX**



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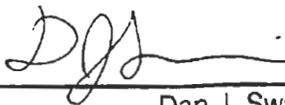
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# Pantex Plant

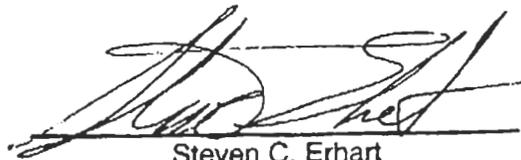
## FY 2008 - 2017

### TEN-YEAR SITE PLAN

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Pantex Plant

FY 2008 TYSP

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## Acronyms and Abbreviations

A - B - C	
AB	Authorization Basis
ADAPT	Advanced Design and Production Technologies
AEP	Acquisition Execution Plan
AL	Action Levels
AL-R8/SI	AI-R8 Sealed Insert
ARIES	Advanced Recovery and Integrated Extraction System
ARG	Accident Response Group
ATR	Applied Technology Roadmap
BBS	Behavior Based Safety
BIO	Basis for Interim Operations
BNA	Baseline Needs Assessment
BNTI	Bechtel North Texas, Inc.
BWXT	BWXT Pantex, LLC
BOP	Balance of Plant
BTU	British Thermal Unit
CAIS	Condition Assessment Information System
CAMS	Continuous Air Monitoring System
CAS	Condition Assessment Survey
CCTV	Closed Circuit Television
CD	Critical Decision
CDR	Conceptual Design Report
CEF	Component Evaluation Facility
CERCLA	Comprehensive Environmental Response, Compensation, & Liability Act
CFR	Code of Federal Regulations
CMS/FS	Corrective Measure Study/Feasibility Study
CNPC	Consolidated Nuclear Production Center
CP	Compliance Plan
CPDS	Construction Project Data Sheet
CRA	Contractor Readiness Assessment
CREM	Classified Removable Electronic Media
CRP	Conservation Reserve Program
CSA	Canned Subassembly
CSPP	Cyber Security Program Plan
D - E - F	
D&D	Deactivation and Decommissioning
D&I	Disassembly & Inspection
D&P	Development and Production
DBT	Design Basis Threat
DM	Deferred Maintenance

DNFSB	Defense Nuclear Facility Safety Board
DoD	Department of Defense
DOE	Department of Energy
DSW	Directed Stockpile Work
EA	Environmental Assessment
EI	Enterprise Integration
EIS	Environmental Impact Statement
EM	Office of Environmental Management, Department of Energy
EMS	Environmental Management System
EPA	Environmental Protection Agency
EPIC	Enterprise Process Improvement and Control
ER	Environmental Restoration
ESA	Environmental Site Assessments
ESAAB	Energy System Acquisition Advisory Board
ES&H	Environment, Safety, and Health
ESPC	Energy Savings Performance Contracts
F&I	Facilities and Infrastructure
FAA	Federal Aviation Administration
FCI	Facility Condition Index
FIMS	Facilities Information Management System
FIRP	Facilities and Infrastructure Recapitalization Program
FIRR	Facilities and Infrastructure Recapitalization Rating
FM	Farm-to-Market
FPU	First Production Unit
FTP	Full-Time Personnel
FY	Fiscal Year
FYNSP	Future Years Nuclear Security Program
<b>G - H</b>	
GPE	General Purpose Equipment
GPP	General Plant Project
GPRA	Government Performance and Results Act (of 1993)
HE	High Explosive(s)
HEWO	High Explosives Weapons Operations
HMX	High Melting Explosive
HNS	Hexanitrostilbene
HPFL	High Pressure Fire Loop
HRP	Human Reliability Program
HVAC	Heating, Ventilation, and Air Conditioning
<b>I - J - K - L</b>	
IAEA	International Atomic Energy Agency
ICPP	Integrated Construction Program Plan
IDEM	Integrated Design, Engineering, and Manufacturing
IEP	Interactive Electronic Procedure
IIP	Integrated Implementation Plan

IPDS	Implementation Plan Data Sheet(s)
IR	Infrared
ISM	Integrated Safety Management
ISMS	Integrated Safety Management System
ITM	Information Technology Management
ISS	Classified Information Systems Security
IT	Information Technology
IWAP	Integrated Weapons Activity Plan
JTA	Joint Test Assembly
JTOT	Joint Technical Operations Team
KCP	Kansas City Plant
KwH	Kilowatt-hour
LANL	Los Alamos National Laboratory
LEO	Life Extension Options
LEP	Life Extension Program
Linac	Linear Accelerator
LLC	Limited Liability Corporation
LLCE	Limited Life Component Exchange
LPSO	Lead Program Secretarial Office
LTES	Long-Term Environmental Stewardship
LTOP	Long-Term Operating Plan
LTS	Long-Term Stewardship
<b>M - N</b>	
M&A	Management and Administration
M&O	Management and Operating
MAA	Material Access Area
MARS	Management Analysis Reporting System
MC	Mission Critical (formerly Mission Essential - ME)
MD	Office of Materials Disposition, DOE
MDNC	Mission Dependent, Not Critical
MOI/CG	Moment of Inertia/Center of Gravity
MR	Modified Richmond
MTE	Major Technical Effort
NDE	Non-Destructive Evaluation
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NMD	Not Mission Dependent
NNSA	National Nuclear Security Administration
NOA	Notice of Award
NPR	Nuclear Posture Review
NSA	National Security Asset
NTP	Notice to Proceed
NWC	Nuclear Weapons Complex

<b>O - P</b>	
OA ISM	Office Assessment Integrated Safety Management
OPC	Other Project Costs
OPEC	Operations Security
OSF	Other Structures and Facilities
OST	Office of Secure Transportation
OUO	Official Use Only
P&PD	Production and Planning Directive
PAAA	Price-Anderson Amendments Act
PA/CRMP	Programmatic Agreement & Cultural Resource Management Plan
PARS	Project Assessment Reporting System
PCD	Program Control Document
PDRD	Plant Directed Research, Development, and Demonstration
PE&D	Preliminary Engineering & Design
PIDAS	Perimeter Intrusion Detection and Assessment System
PM	Preventive Maintenance
PMP	Performance Management Plan
PPBES	Planning, Programming, Budgeting, and Execution System
PPIV	Positive Personnel Identification Verification
PSIG	Pounds per Square Inch Gauge
PS&I	Planning Scheduling & Integration
PTIP	Performance Throughput Improvement Plan
PXSO	Pantex Site Office
<b>Q - R - S</b>	
QER	Quality Evaluation Report
QET	Quality Evaluation Test
QIP	Quality Assurance Improvement Plan
RAP	Radiological Assistance Program
R&D	Research and Development
R&I	Receiving and Inspection
RAMS	Radiation Alarm Monitoring System
RCM	Reliability Centered Maintenance
RCRA	Reliability Conservation Recovery Act
RDD	Radiological Dispersal Device
RI	Responsive Infrastructure
RIK	Replacement-In-Kind
ROD	Record of Decision
RPV	Replacement Plant Value
RRR	Risk Reduction Rule
RRS	Risk Reduction Standard
RRW	Reliable Replacement Warhead
RTBF	Readiness in Technical Base and Facilities
RTG	Radioisotopic Thermoelectric Generator
S&M	Surveillance and Maintenance
S&S	Safeguards and Security
SA	Supplement Analysis

SAC	Steel Arch Construction
SAR	Safety Analysis Report
SCBA	Self-contained Breathing Apparatus
SECOM	Security Communication Equipment
SECON	Security Condition Levels
SFI	Significant Finding Investigation
SGT	Safeguard Transporters
SHPO	State Historic Preservation Office
SI	Sealed Insert
SMRI	Stockpile Management Restructuring Initiative
SNL	Sandia National Laboratories
SNM	Special Nuclear Material
SQA	Software Quality Assurance
SR	Strategic Reserve
SRF	Special Response Force
SS-21	Seamless Safety – 21 <sup>st</sup> Century
SSC	Structures, Systems, and Components
SSSP	Site Safeguards and Security Plan
SST	Safe Secure Trailer
SWMU	Solid Waste Management Unit
<b>T - U - W - X</b>	
TBP	Technical Business Practice
TCEQ	Texas Commission on Environmental Quality
TEC	Total Estimated Cost
TLAP	Texas Land Application Permit
TPC	Total Project cost
TPV	Total Plant Value
TSR	Technical Safety Requirement
TSSM	Technical Surveillance Countermeasures
TTSD	Transportation Technical Support Department
TYSP	Ten-Year Site Plan
UCNI	Unclassified Controlled Nuclear Information
U.S.	United States
USCOE	United States Corps of Engineers
USQ	Unreviewed Safety Question
UV	Ultraviolet
WETL	Weapons Evaluation Test Laboratory
WI	Work Instruction
WIR	Weapons Incident Response
WFO	Work for Others
WR	War Reserve
XTX	Extrudable Explosive
YTD	Year-to-Date

Not all acronyms and abbreviations are used in this document, however the list is provided as a reference.



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# FY 2008 Pantex Site Ten-Year Site Plan (TYSP)

## EXECUTIVE SUMMARY

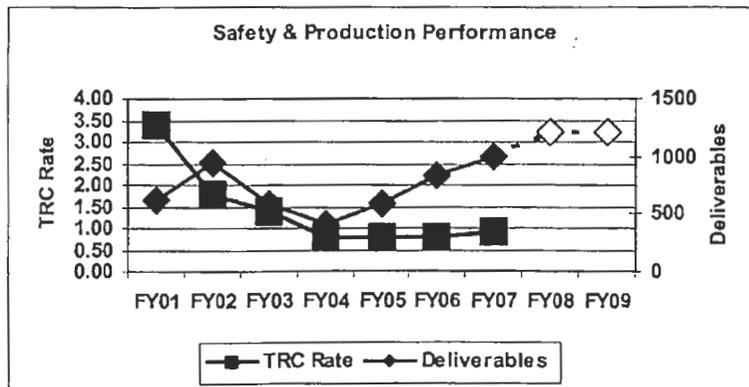
### Introduction

**“Getting the Job Done” – Sustained Superior Plant Performance & Steadfast Commitment to the Nation’s Stockpile Stewardship Mission**

Pantex is fundamental to the National Nuclear Security Administration’s (NNSA) mission for the Department of Defense (DoD), and sustained superior Plant performance at Pantex provides the catalyst for the NNSA’s future transformation of the Nuclear Weapons Complex (NWC). Pantex Plant’s Ten-Year Site Plan (TYSP) outlines strategic facilities and infrastructure requirements to revitalize, operate, and maintain the plant for the next 10 years, and assure sustained near and long-term delivery of vital commitments to NNSA’s Stockpile Stewardship mission. Over the next 20 years Pantex is pivotal to NNSA achieving the increased dismantlement and refurbishment mission and support of the Reliable Replacement Warhead (RRW). As the NWC focuses on the current draw down and refurbishment of the stockpile, Pantex also embraces the importance of ensuring a long-term (beyond 2017) responsive nuclear infrastructure to support the nation’s future nuclear deterrent strategies. Pantex is committed to NNSA’s goal to achieve a long-term responsive and right-sized infrastructure. Therefore, the requisite and foundational plant facilities and infrastructure requirements, to provide a robust and responsive infrastructure, are identified in Pantex FY 2008 through FY 2017 TYSP.

Improving the throughput at Pantex is a high priority to the NNSA. Pantex has managed to significantly improve its overall productivity the past two years. As an example, warhead dismantlements have been accelerated by more than 49% from FY 2006 to FY 2007, and Pantex eliminated the surveillance backlog in FY 2007. The increased productivity was achieved without compromise to Pantex’s excellent safety posture.

Productivity improvements were the result of adequate Plant funding and the sheer determination of a mature and high performance management team – both BWXT Pantex and NNSA/Pantex Site Office (PXSO). Together we continue to meet the DoD deliverables.



The facility and infrastructure plans set by Pantex in this FY 2008 TYSP are consistent with NNSA's goals and objectives. Adequately and consistently funding Pantex required Readiness in Technical Base and Facilities (RTBF) base operations and infrastructure requirements, Line Item (LI) projects, and Facility and Infrastructure Recapitalization Program (FIRP) projects, as identified in this TYSP, will position the site to safely and reliably meet NNSA's goals and expectations:

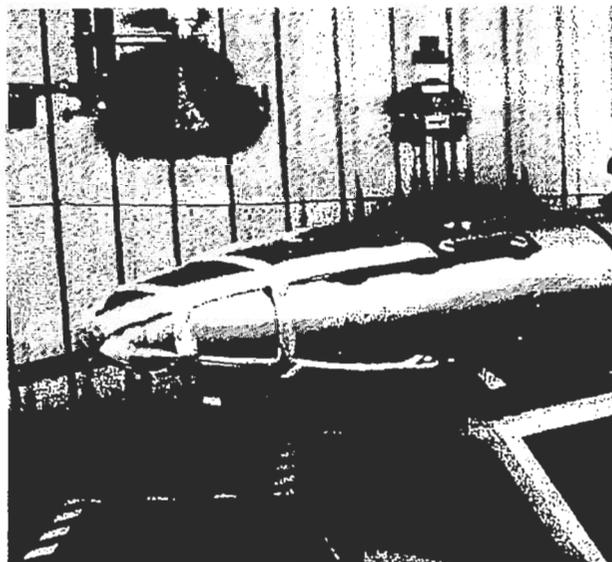
- Exceptional Industrial & Nuclear Safety Performance
- Near-term and long-term Stockpile Stewardship Program mission, e.g., Dismantlements, Life Extension Programs, Surveillance
- Safe and secure management of Special Nuclear Material
- Enhanced project management
- Real property maintenance and overall facility condition goals
- Responsive Infrastructure for long-term mission requirements, e.g., Reliable Replacement Warhead (RRW)
- Establish Pantex as "Center of Excellence" for high explosive development, manufacturing, and testing
- Excellence in environmental and energy management

Based on Pantex's proven performance over the past several years, appropriately and consistently funding Pantex is central to NNSA achieving its objectives. Appropriately funded, Pantex will establish a reliable and responsive infrastructure for the near and long-term NNSA mission and continue to have an unparalleled safety program. A continued and sustained investment in Pantex will secure NNSA's Stockpile Stewardship goals and objectives.

## **NNSA / BWXT Pantex Notable Accomplishments**

### **Stockpile Stewardship**

BWXT Pantex delivered the first production unit for the life extension of the B61-7/11. This is a major milestone, reached on time because of excellent work by the plants, the site offices, and Headquarters. The B61 was first produced in 1966 at the Pantex Plant. Pantex Plant is now charged with weapons maintenance and disassembly. The W76 is an important part of the U.S. nuclear weapons stockpile. Refurbishments will enhance the W76 safety and security, and extend its life an additional 30 years.



At almost the same time, BWXT Pantex completed the disassembly of the last W56 warhead (an old warhead for Minuteman missiles). Designed in an era where disassembly was not given a great deal of thought in design, the W56 posed a number of difficult challenges that were successfully overcome.

BWXT Pantex is on schedule to deliver W76 LEP FPU. Key to achieving this major milestone is the startup of the Special Nuclear Material (SNM) Component Requalification Facility (SNMCRF) to recertify W76 pits. SNMCRF startup authorization will be received in the 2<sup>nd</sup> quarter of FY 2007, a significant Plant accomplishment.

### **Safeguards & Security**

Pantex successfully implemented the FY 2003 DBT. Implementation of the FY 2005 DBT has begun and is on schedule with the approved implementation plan. Three infrastructure projects required to support this plan are underway and are on track to meet all milestones.

### **Environmental Management**

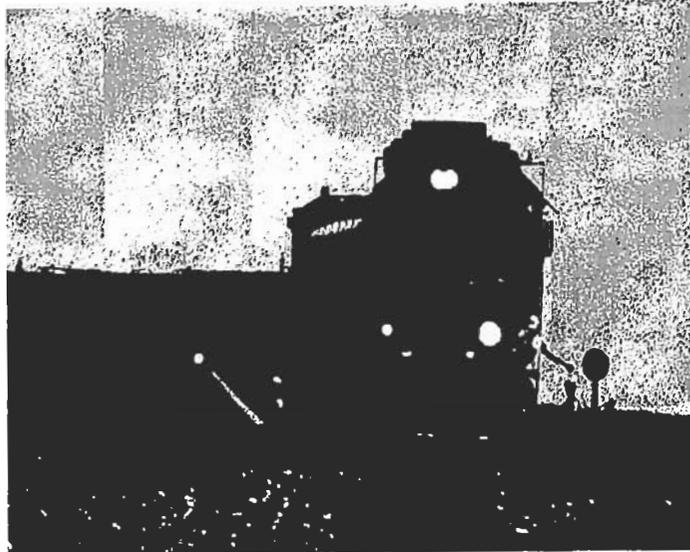
Pantex's environmental cleanup program is scheduled to transition to Long-Term Stewardship by FY 2009. This is a significant milestone for NNSA. Innovative technologies such as Ozone injection, In Situ Bioremediation and Permeable Reactive Barriers ensure that the use of the Ogallala Aquifer, the primary source of drinking water for this region, will remain a clean and viable natural resource for generations to come.



Environmental monitoring will remain an important part of Long-Term Environmental Stewardship at Pantex.

## Deferred Maintenance Reduction

Pantex continues to make progress toward NNSA's goal of reducing deferred maintenance (DM). Pantex eliminated \$52 million in DM in FY 2006, of which \$38 million was eliminated through the execution of FIRP and RTBF Operations of Facility Plus-up projects. Condition Assessment Survey (CAS) inspections identified assets previously reported as deferred to be in adequate condition and not in need of repair or replacement. The condition of these assets was updated in CAIS thus eliminating \$13.5

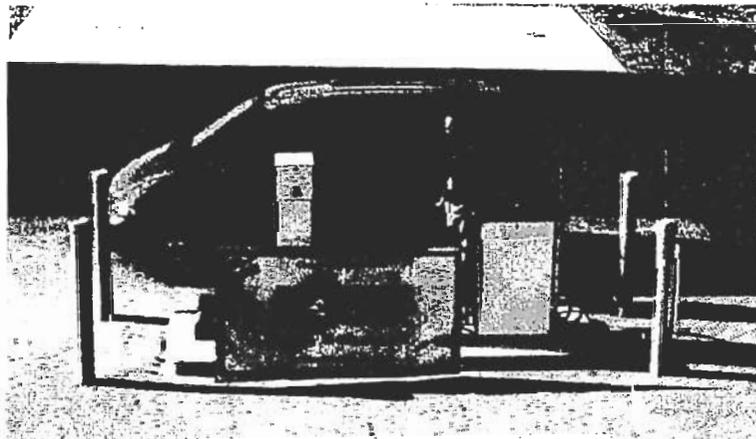


million from the backlog. Refer to Attachments F-1 through F-5. Some of the key DM bought down in FY 2006 was the removal of the Pantex rail system. Several of the trains used to transport weapons across the rail lines were donated to the Amarillo Railroad Museum and the Atomic Museum in Albuquerque.

In FY 2007, Pantex has allocated approximately \$64 million of Operations of Facilities funding toward real property maintenance. This equates to approximately 47% of the total Operations of Facilities budget and approximately 2% of Replacement Plant Value (RPV). This funding level is sufficient to stabilize maintenance and prevent growth in the backlog in FY 2007.

## Energy Conservation

Conserving energy is important to Pantex. BWXT Pantex and PXSO initiated aggressive energy management plans to control the rising cost of plant utilities and meet President Bush's September 26, 2005 directive to reduce energy consumption by 10% from the FY 2004 baseline. This aggressive plan exceeded the President's plan and reduced energy consumption at the Plant by 13%. Construction activities associated with the recently awarded \$19.5 million Energy



Savings Performance Contract (ESPC) to NORESKO are accelerating in FY 2007, providing enhanced engineered controls designed to conserve energy. The energy saving benefits of this project will begin to be realized by FY 2009. In September 2003, Pantex began converting its fleet of vehicles from traditional gasoline and diesel fuel to vehicles that run on biodiesel and E85. Now 100 percent of the plant's diesel vehicles run on biodiesel and 113 vehicles run on E85. Pantex now has its own E-85 fueling station. Previous to this, E-85 vehicles had to be refueled in Amarillo.

Recycling electronics, conserving energy and greening the site's cafeterias are all award-winning activities at the Pantex Plant. The NNSA Pollution Prevention Awards Program recently honored BWXT Pantex with three NNSA Environmental Stewardship Awards and one Best-In-Class award. These programs are being submitted for the White House Closing-the-Circle competition.

### **Transformation of Pantex – Long-Term Capability and Responsive Facilities & Infrastructure**

Line Items (LI) projects that provide additional mission capacity and capability or ensure a responsive infrastructure for the long-term. Several significant Pantex FIRP and RTBF LI projects currently pending authorization and/or funding decisions are:

- Capacity/Capability:
  - ▶ 12-44 Phase II (Cells 5 & 6)
  - ▶ High Explosive Pressing Facility
  - ▶ Component Evaluation Facility (CEF)
- Reliable Infrastructure:
  - ▶ Electrical Distribution System Upgrade
  - ▶ Gas Main & Distribution System Upgrade
  - ▶ High Pressure Fire Loop (HPFL), Zone 12 South MAA

Each of these LI projects, as well as those represented in Tables A1-A2, provide for additional plant capacity, capability and/or reliable and responsive infrastructure. The CEF facility provides for additional mass properties and radiography capacity. The additional operational bays provided by CEF support NNSA's vision of a responsive infrastructure and the NWC of 2030 and beyond, to include RRW. Additional HE infrastructure enhancements, e.g., HE Component Fabrication and Qualification, HE Formulation, are being evaluated to become responsive and meet expectations associated with future stockpile management and small-lot manufacturing. Ultimately, the Stockpile Stewardship mission will dictate the required projects, and Pantex is prepared to execute NNSA's decisions.

In order to achieve the vision of the smallest nuclear weapons stockpile needed for our national security, the NNSA has outlined a strategy that will not only reduce the

number of weapons, but lead to a safer and more secure stockpile, with weapons that are more easily manufactured and maintained, backed up by a more responsive nuclear weapons infrastructure. The vehicle for this transformation is NNSA's concept for the RRW. RRW is not a new weapon providing new or different military capabilities and/or missions. It will meet the same military requirements as current legacy warheads by utilizing replacement components. It will be able to ensure greater long-term confidence in safety and reliability while decreasing the likelihood that underground nuclear testing would ever be needed to ensure that confidence. Through innovative and enhanced safety and surety features, RRW will also have the capability to prevent unauthorized use.

In the meantime, NNSA will continue to maintain and extend the life of the current stockpile through its Life Extension Program. The current stockpile consists of warheads that were developed and nuclear tested during the Cold War to stringent requirements. As weapons are refurbished and their lifespan extended, the inevitable accumulation of small changes that occur results in refurbished weapons that have moved away from their original designs. This raises concerns among scientists about our ability to assure the safety and reliability of the legacy stockpile indefinitely, absent underground nuclear testing.

Through NNSA program planning, an appropriate set of technology upgrades and construction projects has been defined and initiated to deliver the post-FY 2007 LEP capacity requirements. The Building 12-44 Production Cells Upgrade (Phase I and II) and the Special Nuclear Material (SNM) Component Requalification Facility (SNMCRF) Line Item projects are all in process to ensure there is sufficient production capacity and capability to support the post-FY 2008 LEP workload. Additionally, the High Explosive Pressing Facility and the Component Evaluation Facility are being designed to ensure Pantex has the infrastructure necessary to support the high explosive mission and responsive infrastructure to support the RRW initiative. The Long Term Operating Plan shown in [Figure ES-1](#) identifies key project milestones that must be completed at Pantex to upgrade the infrastructure and deploy required technologies and capabilities to meet production requirements safely and securely.

In order to ensure success, BWXT Pantex has developed a long term operating strategy that incorporates the following success factors:

- Maintain exceptional safety posture
- Compliance (e.g., Nuclear Safety, Environmental, 10 CFR 851)
- Deliver weapons per Program Control Document (PCD) schedules
- Satisfy LEP Plan requirements
- Meet Long Term Operating Plan project completion schedules
- Expand Plant storage capacity.
- Establish an High Explosive Center of Excellence



## Strategic Issues

BWXT Pantex and NNSA must achieve and/or address the following key issues to ensure the success of the Stockpile Stewardship mission at Pantex.

- Continue to improve Plant performance to achieve and sustain 1,200 units per year capability in 2008
- Consistently fund DSW commensurate with the directive schedule
- Fund RTBF consistent with increased DSW mission

A critical and near-term concern that NNSA must address is Pantex's RTBF Operations of Facilities FY 2008 and 2009 FYNSP targets. The FY 2008 FYNSP is less than the actual funding received in fiscal year 2003. At the present RTBF Operations of Facilities FY 2008 FYNSP level, \$95 million, Pantex will only be able to support approximately 75% of the on-board headcount supporting the Plant's maintenance, facility engineering and industrial/nuclear safety functions. The number of impacted personnel would be approximately 215 FTPs (based on current staffing level), which would significantly affect the site's ability to meet mission goals and impact production abilities in future years. The FY 2009 FYNSP further exacerbates the Plant's ability to meet NNSA maintenance and facility condition goals, and would result in a further reduction of Plant personnel and services. The loss of these resources would further degrade the Plant's infrastructure condition, affect the safety posture, and impact the DSW mission. The requisite RTBF Operations of Facilities funding to support DSW mission is outlined in this 2008 TYSP.

Pantex will achieve 1000 units in FY07 and is on course to achieve 1200 units in FY 2008. With NNSA's commitment to adequately fund both DSW and RTBF, Pantex will be positioned to meet the near and long-term Stockpile Stewardship mission.

## 1.0 Introduction

This section provides an overview of the content of the Ten Year Site Plan (TYSP) and defines the foundation upon which the site's long-range facilities and infrastructure planning process is built. This section includes assumptions, current situation, and changes from the prior year TYSP.

Long-range facilities and infrastructure planning at Pantex is based on a combination of efforts:

Annual strategic planning session to review changes to NNSA policies and directives, workload drivers, new initiatives, and changes to current long-range plans.

Consultation with programmatic and functional subject matter experts throughout the year to advise of changes in the activities they manage.

Together, these activities and communication paths ensure the basis for the TYSP is current and supports the strategic objectives of NNSA. Refer to [Section 4.1](#) for a complete description of the planning process.

### 1.1 Overview

The TYSP is prepared by the sites within the Nuclear Weapons Complex (NWC) and is the foundation for strategic planning for the physical complex, incorporating the various programs' technical requirements and budget planning. The Fiscal Year (FY) 2008 plans serve to support the FY 2009 budget submission and are aligned with the NNSA's implementation of the Planning, Programming, Budgeting, and Evaluation System (PPBES) process and site-specific strategic plans. The FY 2008 TYSP also supports the Complex 2030 initiative.

The TYSP process allows an objective assessment of where Pantex is today and where it needs to be in the future to accomplish its mission and the NNSA goals. The content and format of this site plan comply with the following requirements and guidance:

- Department of Energy (DOE) Order 430.1B, *Real Property Asset Management*
- NNSA, FY 2008 – 2017 TYSP Guidance, December 21, 2006
- NNSA Complex 2030, *An Infrastructure Planning Scenario for a Nuclear Weapons Complex Able to Meet the Threats of the 21<sup>st</sup> Century*

The Pantex Plant TYSP also provides information relative to personnel, technologies, and strategic planning, which facilitates a more complete analysis of the requirements integral to achieving the mission goals of the NNSA.

This TYSP is for FY 2008 through FY 2017; however, certain information is shown over a much longer time period due to the extended weapon production-planning horizon and the planning required for implementation of the Complex 2030 strategic initiatives.

Points of contact for the FY 2008 Ten Year Site Plan are:

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## 1.2 Assumptions

This TYSP is based on various assumptions concerning projected budget targets, projected workload, regulatory environment, available facilities, technology, productivity, and the work environment. In some cases, operating basis assumptions are interdependent, and one may affect another.

### 1.2.1 Budget Assumptions

- Budget data for DSW, Campaigns, and RTBF are based on NA-133 Defense Program Site Splits for FY 2009-2013, adjusted for the 3% HQ reserve. All other NNSA funding, including FIRP, Security, and Material Disposition (MD) are consistent with the FY 2008 Congressional Budget Request published by NA-10 for FY 2007-2012 (February 2007). The budget data are shown in Appendix 1. Variations in funding levels occur in DSW for changes in the workload. LI construction projects funding fluctuations are the reflection of execution phase of projects. DSW has experienced increased operational requirements in Production Support and Dismantlement. These increases have been managed within available funding; however, the impacts can be seen in the requirements for additional facilities and personnel. For FY 2013, targets are based on an escalation factor of 2.3% based on NNSA guidance. Refer to Table 1-1 and Figure 1-1 on the following pages.
- For FY 2008 and beyond, the Safeguards & Security budget request assumes funding levels necessary to support sustainment of the FY 2003 Design Basis Threat (DBT), implementation and sustainment of the FY 2005 DBT, deployment of new technologies, infrastructure upgrades, lifecycle replacement of required equipment/systems and implementation of new security orders.
- Attachment E in the FY 2008 TYSP reflects FIRP disposition funding ending in FY 2009 and any additional disposition activities funded from other sources. Pantex has identified four additional buildings for consideration in the FIRP



D&D program in 2013.

- The ICPP process used by NNSA evaluates and selects Line Item construction projects to satisfy program requirements and funding constraints identified in the Future Year Nuclear Security Program (FYNSP). Attachments A-1 and E-2 are consistent with the ICPP (exceptions footnoted) dated November 7, 2006. Additional candidate RTBF, S&S, DSW, and MD Line Item projects requested for inclusion in the out years of the ICPP are noted in Attachment A-2.
- Responsibility for the Environmental Restoration Program is expected to transition to NNSA in FY 2009. Funding targets in DOE EM's Integrated Planning Accountability and Budgeting System (IPABS) for FY 2009 – FY 2013 are approximately \$5 million; however, recent CERCLA and RCRA requirements identified in the Corrective Measure Study/Feasibility Study (CMS/FS) will result in requests to NA-56 for approximately \$8 million annually.
- Operations of Facilities programs have been impacted by increased requirements in safety authorization basis and additional funding required to sustain maintenance. Congressional Plus-Up has principally covered Operations of Facilities base program shortfalls and GPP and Expense projects. Pending a FY 2008 Plus-Up or alternative funding strategy, Pantex RTBF Operation of Facilities base program requirements of approximately \$123.4 million in FY 2008 are under funded at the \$95 million FYNSP level in the President's budget. An additional \$21.8 million annually above base is required to maintain an adequate facility condition index. Reference Appendix 3 of this TYSP for further discussion.

**Table 1-1, Pantex Ops of Facilities Budget FY 2008-2013**

<b>FY 2008 - 2013 Operations of Facilities Budget</b>						
\$ In Millions						
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Base Requirement	123.4	131.5	140.5	150.0	160.2	171.2
Projects Requirement	21.8	22.1	22.4	22.8	23.1	23.4
Total Requirement	145.2	153.6	162.9	172.8	183.3	194.6
FYNSP	95.0	99.2	101.5	104.6	106.7	109.3
Difference	(50.2)	(54.4)	(61.4)	(68.2)	(76.7)	(85.2)

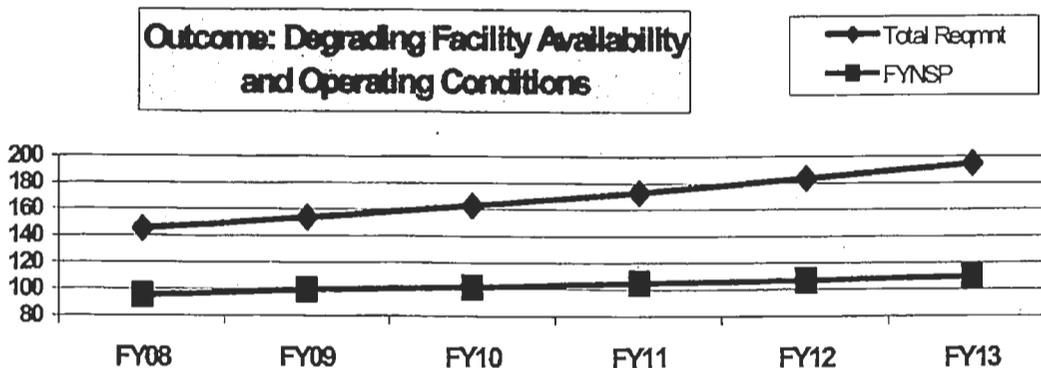


Figure 1-1, Ops of Facilities Funding

**1.2.2 Site Boundaries Assumptions**

- The site boundaries of Pantex are defined as described in Section 2 of this TYSP. Changes to these boundaries are anticipated and are outlined in Section 2 and Section 3.
- Pantex is surrounded by predominantly cultivated agricultural land, some of which is in the Conservation Reserve Program (CRP). Refer to Figure 2-9, *Agricultural Land Use at Pantex*. This land is privately owned and could be acquired to support an increase in future mission including the Consolidated Nuclear Production Center (CNPC).
- Due to the remote location, safety and security concerns, and the type of construction, facilities at Pantex are generally not eligible for transfer to other agencies, or available for transfer to the State of Texas, or for commercial use. Transfer of portable trailers is evaluated when no longer required at Pantex.

**1.2.3 ES&H Operating Conditions/Constraints Assumptions**

- The Pantex Plant is operated within all applicable environmental, safety and health requirements, including 10 CFR 851. Projects have been identified in order to improve operating safety for the plant.

**1.2.3.1 Environmental Restoration Operating Conditions/Constraints Assumptions**

- Environmental, Safety, and Health (ES&H) is built into all work through the adoption of DOE Integrated Safety Management (ISM) principles. ISM principles are demonstrated through methods such as Safety and Health Plans, Job Hazard Analyses, and Tailgate Safety Meetings. Pantex has developed process documents that implement the intent of the sections of DOE Order 413.3A, Program and Project Management for the Acquisition of

Capital Assets, and that apply to baseline development, maintenance, and implementation.

- The Texas Commission on Environmental Quality (TCEQ) and the Environmental Protection Agency (EPA) jointly regulate Environmental Restoration (ER) activities at Pantex, under a memorandum of agreement for activities at federal facilities. Under this memorandum of agreement, EPA is the lead agency for radiological legacy release issues under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and TCEQ is the lead agency for non-radiological legacy release issues under Resource Conservation Recovery Act (RCRA).
- Pantex received approval for the completion of its RCRA Facility Investigations from the TCEQ and EPA in August 2005. Process documents are in place that implement controls to obtain regulatory approval of soil disturbances, during construction activities, that have the potential to interfere or disturb a Solid Waste Management Unit (SWMU) defined by the Compliance Plan (CP) No. 50284 as part of the Pantex Plant RCRA Permit Hazard Waste-50284. Refer to Figure 3-3, Pantex Solid Waste Management Units, and Attachment H, *Summary of Pantex Future Environmental Liabilities*.
- A baseline risk assessment is required to determine if the risks resulting from CERCLA-related spills or releases require remediation. Acceptance and approval of the baseline risk assessment is expected in FY 2007. In addition to a site investigation and a baseline risk assessment, other required RCRA/CERCLA elements include a CMS/FS, public participation, a Federal Facility Agreement, EPA's issuance of a Record of Decision (ROD) and cleanup implementation.
- National Environmental Policy Act (NEPA) requirements are being addressed in conjunction with the CMS/FS processes, allowing for an evaluation of, and public input on, the impacts of proposed remedial actions before they are selected. The Environmental Assessment of Corrective Measures for Perched Groundwater will be submitted to the public in FY 2007.
- Long Term Environmental Stewardship (LTES) activities will be maintained as required, based on regulatory clean-up levels achieved. Generally, once the regulatory agency has approved a Corrective Measure Implementation Report, the corrective action identified will be implemented and operated until no longer required to protect human health and the environment in accordance with regulatory permits. Media that is remediated to industrial land use standards will require continued LTES via institutional controls.

#### 1.2.4 Workload Assumptions

- The ten-year weapons workload was derived from the Draft Production and Planning Directive (P&PD), issue 2007-0. The P&PD reflects the stockpile developed to implement the Nuclear Posture Review (NPR) findings that have

been included in the approved Nuclear Weapons Stockpile Memorandum/Requirements and Planning Document. The Draft P&PD 2007-0 provides the long-term plans to support the new NPR stockpile. Future treaties and/or strategic defense reassessments, or NWC realignment that could have impacts on the Pantex Plant are not included in this TYSP and would require re-evaluation. If the U.S. adopts future strategic arms reduction agreements, significant production resources could be required. For example, if large quantities of weapons are scheduled for elimination from the stockpile, additional personnel and equipment will be required to dismantle the weapons. In addition, as the stockpile is reduced in size, it is anticipated that the scope of the evaluation program will increase; i.e., an evaluation scope increase for each weapon surveyed and an increase in the number of weapons surveyed. Analysis of any future change in stockpile levels as stated in the Draft P&PD 2007-0 will be required. NNSA is currently evaluating its options to consolidate the NWC. Any decisions as the result of this analysis are not included.

- Production workload and facility forecasts are determined through modeling processes and are based on existing activity process times. The model includes schedule contingency for some weapon activities that are anticipated, but not yet defined by the design agencies.
- Production workload and facility forecasts are based on all weapon systems utilizing one unit per production area (bay or cell) during operations. Efforts are ongoing to achieve multiple unit processing; however, it is not planned in Draft P&PD 2007-0. Analysis was performed to determine the impact of simultaneously processing multiple units per production facility and showed that for both single unit and multiple unit processing, the need for additional production capacity scheduled to be provided by the Line Item projects for upgrading Building 12-44 will still be required. The benefits that multiple unit processing provides are the increased confidence (or reduction in risk) that the Life Extension Program (LEP) workload can be accomplished in the facilities available and the additional capacity to accommodate the increasing workloads projected beyond FY 2013. It does not eliminate the requirement to have additional production cell capacities available in FY 2007. (Refer to Section 4.1.9)
- Lightning downtime is tracked on a monthly basis and reviewed at the end of the fiscal year to determine adjustments to lightning downtime factors in the model. These factors have been incorporated in the production workload and facility forecasts.
- Limited Life Component support for the inactive weapon stockpile is not included in the resource requirements.
- A backlog of legacy weapons and inert weapon components generated from past weapon dismantlement operations exists on-site that was generated from past weapon dismantlement operations. Component disposition activities

scheduled from FY 2005 through FY 2014 consist of this backlog in addition to components generated from active weapon dismantlement and evaluation programs.

- Component disposition of DOE-owned components that are in the custody of the DoD or other DOE facilities are not included in the ten-year workload.
- The Reliable Replacement Warhead (RRW) is a weapon replacement for legacy systems that is easier to assemble, disassemble and maintain. RRW concepts include increased safety and surety features over current stockpile systems and is assumed to provide reduced Documented Safety Analysis controls and increase throughput.
- The RRW-1 First Production Unit (FPU) is scheduled for FY 2012. The production rate for War Reserve (WR) assembly is anticipated to be limited by new pit production from the Los Alamos National Laboratory TA-55 facility. New Material testing is assumed to begin in parallel with WR production as well as Joint Test Assembly production. Stockpile surveillance activities are assumed to begin in FY 2014. Assembly inspection and surveillance diagnostic requirements have yet to be developed by the design agencies, but could significantly increase the process flow time and resource requirements.
- All explosives and explosive components residing at Pantex as a result of the explosive manufacturing process or weapon assembly/disassembly process will be sanitized to meet current requirements prior to release.
- Security conditions change in response to the world political situation. Whether a change will occur cannot be predicted, nor can the length of time at a heightened state of awareness be predicted. Heightened security levels may cause delays in operations and construction. These delays have not been factored into workload or ongoing project schedules.
- The workload at Pantex continues to rise based on production throughput plans. Refer to sections 3.1.10 Workload, 4.1.9 Production Personnel, and 4.1.9 Workforce Profile.

### **1.2.5 Technology Development, Deployment, & Obsolescence Assumptions**

- The Nuclear Weapons Complex (NWC) is undergoing a period of transformation as evidenced by the Complex 2030 vision. The NNSA has identified four strategies that will support the vision and transform NWC into a flexible, agile, and responsive enterprise: (1) transformation of the nuclear stockpile through development of Reliable Replacement Warheads (RRW), refurbishment of limited numbers of legacy designs, and accelerated dismantlement of the Cold-War stockpile; (2) transformation to a modernized, cost-effective NWC; (3) creation of a fully-integrated and interdependent NWC;

and (4) driving the science and technology base essential for long-term national security.

- The assumption is that enabling technologies will be in place to support the Complex 2030 vision. Information technology is a transparent enabler of productivity; delivering on-demand the information and computing resources required to achieve the Plant's mission. Electronic communication must proceed quickly and seamlessly through an NWC-wide architecture. Enterprise Systems have to be in place to respond rapidly to supply chain difficulties and other material availability issues.
- Capabilities that must be developed and deployed include:
  - ▶ An infrastructure that will enable employees to communicate efficiently and participate in a collaborative work environment for both classified and unclassified information. This includes state-of-the-art network and telecommunication infrastructures, enterprise systems, computer hardware, and device-enabled point-to-point encryption.
  - ▶ Concurrent digital design tools for flexible, agile, responsive, and economical production and operations.
  - ▶ Agile, multi-use facilities.
  - ▶ Advanced diagnostic techniques, self-diagnosing weapons, NDE technologies (including radiography) and test facilities for aging experiments.
- Additionally, several infrastructure systems have been identified as approaching technical obsolescence and will require replacement. Examples of these systems include: ultraviolet flame detection, radiation detection and alarm, natural gas, electrical distribution, steam and condensate return systems. As these systems are replaced, new technologies will be implemented.
- Facilities like the HE Formulation and HE Component Fabrication and Qualification support the HE Center of Excellence. The Administration Support facility consolidates facilities, processes, and functions in support of efficient and effective plant operations. Several other facilities are still being refined and will be further defined through the Site Wide Environmental Impact Statement process.

### 1.2.6 Security and Safeguards Assumptions

- Pantex will continue to set the standard for the Complex in providing the optimal balance of personnel and technologies necessary to provide a highly effective security posture. As the only Category IA facility in the complex, Pantex has begun implementation of the FY 2005 DBT and expects to achieve full implementation by the date included in the approved plan. Pantex has

received funding for three of the four infrastructure projects identified in the approved implementation plan and the projects are underway. Pantex anticipates receiving funding for the remaining FY 2005 DBT-related infrastructure project in FY 2008. Additionally, Pantex will continue implementation of the new security orders, some of which require additional infrastructure.

### **1.2.7 Footprint Reduction and Excess Facility Assumptions**

- Facility utilization for mission support is high at Pantex. Older facilities are currently being planned for demolition after new energy efficient replacements are built.
- Equalizing the reduction of excess facilities associated with new construction will be balanced, if needed, by disposal of excess square footage at other NNSA sites as approved by NNSA. Requirements for offsetting additional square footage at another site will be presented to NNSA. It is assumed NNSA will act as broker based on priority of new square footage to meet the NNSA mission. Facilities that were designed and/or approved prior to FY 2003 are considered grandfathered and square footage is not included in the balance of square footage.

### **1.2.8 Future Conditions Assumptions**

- The operating space at Pantex is projected to expand in the future. Older facilities are being replaced with newer facilities, lowering the DM and improving the energy efficiency of the Plant. Additionally, the Component Evaluation Facility and the proposed security projects will require NNSA to allocate "banked" square footage eliminated from other sites to support mission driven growth and modernization at Pantex.
- Future facility utilization is based upon authorization and completion of planned projects as shown in Attachment A. If projects are not funded as planned, changes in the future use of some facilities will not occur as planned, and plant square footage reduction will be less than depicted in this TYSP.

### **1.2.9 General Assumptions**

- All data provided in this document is based on information accumulated as of September 30, 2006 unless noted otherwise.
- Facility and personnel resource requirements for any new federal, state, and local laws and regulations or their interpretations that may be enforced subsequent to October 2006 are not included in resource projections in this TYSP.
- Resources to support International Atomic Energy Agency (IAEA) inspections or future treaty obligations are not included.

- Existing technologies are used as the baseline in evaluating resource projections for this TYSP; however, new technologies will continue to be evaluated for future applicability at the site.
- Waste treatment, disposal, and off-site shipments will continue as currently managed in accordance with applicable laws and regulations.
- RPV for facilities as calculated by the Facilities Information Management System (FIMS) using *RS Means* estimating methods, includes costs for the building envelope and facility systems (heating, ventilation, and air conditioning (HVAC), electrical service, telephone), but excludes furnishings, equipment, and site preparation. Medium and large buildings include fire alarm and suppression, but small buildings do not. Therefore, the RPV for plant facilities will always be less than the cost of actually constructing that facility and making it ready to use. RPV is useful to develop relative costs for facilities, but understates the actual value of the asset. Pantex RPV is based on FY 2007 FIMS model costs and site-specific adjustment factors and includes leased facilities. The FY 2007 RPV is \$3.3 billion
- DM is calculated by the Condition Assessment Information System (CAIS) using *RS Means* cost estimating methods with site factors applied for security, general, and administrative overheads.
- Information provided in this TYSP pertaining to project scopes, schedules, and costs is subject to change as criteria and assumptions evolve. Baseline scopes, schedules, and costs in the plan are revised on an annual basis and should not be used to assess and track project completion. Project Execution Plans are developed and used for that purpose.

### 1.3 Current Situation

Approximately 55 percent of the Plant's square footage is more than 25 years old. Eighteen percent of the facilities were constructed during World War II; this is a 2% reduction from FY 2006. The Pantex Plant has undergone several periods of expansion and facility and infrastructure upgrades since it was originally built.

Future weapons workload requires more cell operations that use task exhaust than in prior years. Consequently, the cells in Building 12-44 require upgrades to meet production demands. The FY 2002 Line Item, Building 12-44 Production Cells Upgrade, has completed construction on three cells and is in the start-up process. The remaining two cells are being evaluated for possible construction in FY 2009. Refer to Section 4.1.9, Production Readiness/Plant Capacity.

Modernization of the Weapons Evaluation Test Laboratory (WETL) operated by Sandia National Laboratories (SNL) was accomplished through the construction of a new facility (Building 11-59) at Pantex. Funding and scope of work for the project

was included in the SNL budget; therefore, project costs are not included in the Pantex TYSP. The facility start-up completed in FY 2006.

Alternatives are being evaluated to expand Zone 4 pit staging capacity to accommodate required levels of pits to be generated in support of weapons workload requirements. This would be accomplished primarily by two projects. The first project would modify four rooms in Building 12-116. The second project would modify the remaining six Richmond magazines to Modified Richmond magazine capabilities. Several Richmond modification scenarios are under consideration; the evaluation is expected to yield the best and most cost effective solution. If the completion of the project to modify the remaining six Richmond Magazines is delayed beyond 2013, storage capacity issues are expected to directly impact the ability to conduct scheduled weapons work.

Pantex experienced a 40 percent decline over a seven-year period (FY 1994 through FY 2000) in the amount of funding directed to infrastructure issues. During the same time period, the total Plant footprint increased three percent and compliance requirements significantly increased. The gap between required and actual maintenance funding resulted in a "bow wave" of deteriorating facility and infrastructure conditions. Although FIRP has worked to eradicate the DM backlog, a sizable backlog still remains. The existing backlog as of the end of FY 2006 will not be reduced substantially over this ten-year planning period through available funding sources; i.e., FIRP, RTBF Operations of Facilities and Line Item Construction. BWXT Pantex has completed initial three-year surveillance effort to re-establish the Condition Assessment Survey (CAS) program at Pantex. All buildings have been inspected for civil, structural, electrical, and mechanical deficiencies.

- Modeling the DM backlog into the future, based on FYNSP targets, indicates a gap between required and actual maintenance of approximately \$21.8 million per year. This gap is comprised of Replacement-In-Kind (RIK) of aging systems, and minor modifications and betterments of the physical plant (e.g., fire protection lead-in piping. Even with the effective use of FIRP, maintenance management practices that are continually being improved, and dedication to reducing the DM backlog, it is projected that the DM backlog will continue to rise.
- In addition to performing classical preventive and corrective maintenance, the maintenance program accomplishes surveillance and testing to comply with nuclear facility technical safety requirements, explosive safety requirements, and industrial safety requirements. Consequently, the allocation of maintenance resources is not totally discretionary. Approximately 10 percent of the maintenance budget sustains surveillance and testing requirements, regulatory training, and AB implementation requirements in mission facilities.

## 1.4 Changes from Prior Year TYSP

Major changes from the FY 2007 TYSP include the following:

- Sections of the previous TYSP are located in new sections of this TYSP or have been eliminated.
- Pantex has identified two Line Item projects that support vacating WWII facilities and support the HE Center of Excellence. These include the HE Formulation Facility and HE Component Fabrication and Qualification Facility.
- In developing concepts for Complex 2030, Pantex is identifying several projects that support this initiative. The Administrative Support Facility (possible third party financing) supports the 2030 initiative by consolidating facilities, processes, and functions in support of efficient and effective plant operations. Other projects will be proposed as Complex 2030 is further defined through the Site Wide Environmental Impact Statement process.
- During FY 2006, facilities were recategorized from Mission Essential to Mission Critical (MC). The NNSA provided guidance, review, and approval of the facilities included in the MC category. In FY 2007, Non-Mission Essential facilities and those facilities not categorized as MC from the previous Mission Essential category will be recategorized to Mission Dependent-Not Critical (MDNC), and Not Mission Dependent (NMD). The final list of MDNC and NMD facilities has not been reviewed by NNSA but it is expected to be finalized in FY 2007. This clarification and consistency will provide NNSA with the basis for equitable comparison of facilities and their contribution to the NNSA NWC mission.
- Attachment A-1 reflects the Line Item projects as shown in the ICPP dated November 7, 2006 unless otherwise noted.
- Attachment A-6d has been changed to A-6b to help NNSA identify improvements to the assets required to support the safeguards and security posture.
- Attachment E-4, Pantex Plant Footprint Summary, projects the Plant will be approximately 75,000 square feet short of banked footage based on the current approved projects in the Integrated Construction Project Plan to offset future construction. Currently, the projection indicates the Component Evaluation Facility (CEF) project will require a waiver to offset square footage. The future footprint needs for unfunded Production and Security Infrastructure, in Attachment A, as well as other Proposed LI projects and unfunded GPP projects, are not included in the table at this time.
- Attachment G was added to identify the approved list of Mission Critical Facilities at Pantex. This list reflects the approved list by Thomas P.

D'Agostino in memorandum "Fiscal Year (FY) 2007 Mission Critical List, Revision 0" dated August 7, 2006.

- Attachment H was added to provide the summary table of Pantex future environmental liabilities and the closure criteria.
- The EM Program is scheduled to transfer to NA-50, Infrastructure and Environment, in FY 2009.
- Table 4-9 provides data on Long Term Stewardship (LTS) and future environmental liabilities that are not included in any other budget requests.

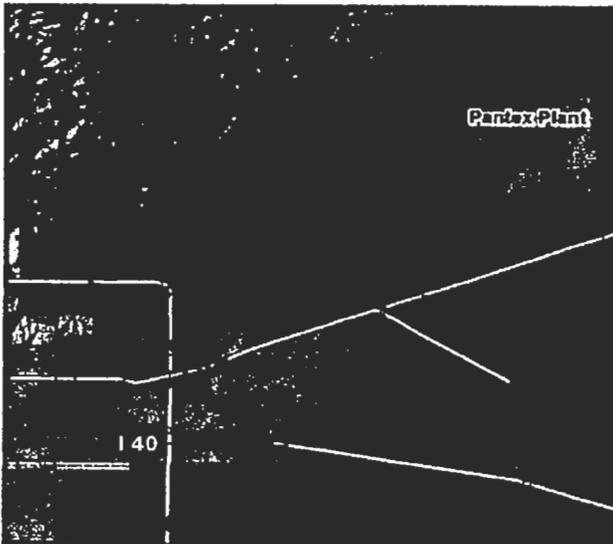
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## 2.0 SITE DESCRIPTION

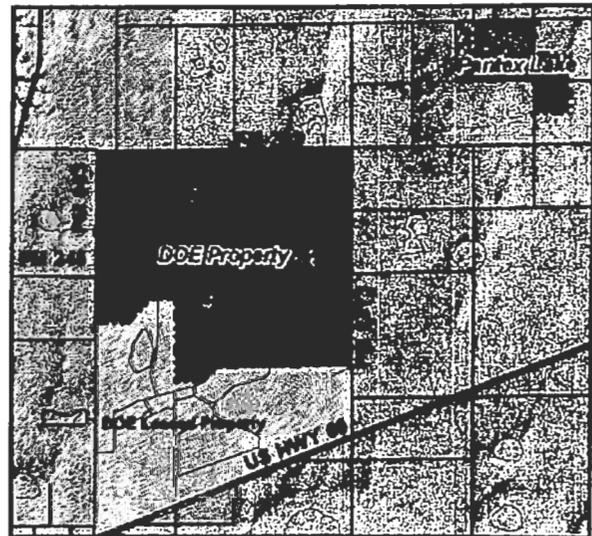
This section provides information on the general site, physical composition, Plant population, and organizational structure of the NNSA Pantex Site Office (PXSO) and BWXT Pantex and facilities and infrastructure condition. This section also includes site maps that reflect current and future facilities in accordance with Complex 2030 and NNSA strategic planning guidance.

### 2.1 General Site Description

The Pantex Plant is located in the Texas Panhandle, approximately 17 miles northeast of Amarillo, Texas Figure 2-1 in Carson County. Pantex is bound on the north by Texas Farm-to-Market Road (FM) 293, on the east by FM 2373, and on the west by FM 683. To the south, DOE-owned property extends to within one mile of U.S. Highway 60 Figure 2-2.



*Figure 2-1, Location of Pantex Plant in Texas Panhandle*



*Figure 2-2, Location of Key Areas of the Pantex Plant*

Pantex Plant maintains, builds, and retires nuclear weapons in support of our nation's nuclear deterrent mission. This mission includes:

- Safeguarding special materials and assets
- High explosives manufacturing and testing
- Nuclear explosive operations
- Analytical and scientific capabilities

The total FY 2007 RPV for Pantex is approximately \$3.3 billion excluding programmatic real property, mobile equipment, land owned by DOE, and land leased from Texas Tech University. This cost reflects the total cost associated with the replacement of all facilities and infrastructure required for the mission of the Pantex Plant. In addition, approximately \$176 million in personal property and capital equipment is used in plant operations.

### 2.1.1 Physical Description

The Pantex Plant resides on land owned and leased by the DOE. The DOE owns approximately 9,100 acres at Pantex Plant proper and 1,077 acres of detached property, called Pantex Lake, approximately 2.5 miles northeast of the main Plant site. Pantex operations near the southern boundary require DOE to lease approximately 5,800 acres of land between the Plant and U.S. Highway 60 from Texas Tech University, primarily for safety and security buffer areas. Approximately 2,500 acres of Pantex Plant proper are used for industrial operations, the burning grounds, and firing sites. Some land not actively used for Plant operations is provided to Texas Tech University for agricultural purposes through a service agreement. Refer to Figure 2-9 Agricultural Land Use at Pantex.

Pantex consists of 638 buildings containing 3,065,809 square feet. Facility square footage in the FY 2008 TYSP reflects the square footage in FIMS as of September 30, 2006. This includes 9 leased facilities representing 67,494 square feet.

Pantex has approximately 55 linear miles of paved roads and 60 miles of fencing. Pantex utility operations meet federal, state, and local permit and other regulatory requirements. Site utilities consist of the following services:

- Potable water system - on-site production wells, storage tanks, treatment facilities and underground distribution.
- Domestic wastewater (sewage) collection and treatment - on-site facilities and underground irrigation system.
- Steam plant and condensate return - generated and distributed on-site.
- Compressed air - generated and distributed on-site.
- Electrical distribution system – on-site aerial and underground distribution, switchgear, and generator loop backup power; electricity procured from a public utility.
- Natural gas distribution – off-site transmission and on-site distribution; gas procured from a public utility.

### 2.1.2 Plant Population

Approximately 4,000 people are employed at the Pantex Plant. The exact number varies weekly based on terminations and new hires. This population consists of BWXT Pantex employees as well as PXSO, OST, Sandia National Laboratory's Weapons Evaluation Testing Laboratory (WETL), and the Tri Lab Project Office. Numerous other organizations also have a presence at Pantex including the Defense Nuclear Facility Safety Board (DNFSB), the State of Texas Division of Emergency Management, and several subcontractors. In addition, construction personnel temporarily work at Pantex. Table 2-1 provides the organizations and their approximate number of employees at the site.

*Table 2-1, Plant Population*

ORGANIZATION	NUMBER OF EMPLOYEES
PXSO	84
BWXT PANTEX	3,316
OST	127
SNL	18
TRI LAB	14
OTHER (EXCLUDES CONSTRUCTION PERSONNEL)	428
<b>TOTAL</b>	<b>3,987</b>

### 2.1.3 Land Acquisition Discussion

The Department of Energy is currently under contract with the U.S. Army Corps of Engineers (USACE) to negotiate the acquisition of real property adjacent to the DOE/NNSA Pantex site for environmental restoration monitoring and potential future remediation of contaminated perched groundwater. This property is east of the Plant. Options for beneficial use of the property are planned and discussed in Section 4.1.2.3. Refer to Figure 4-10 for the perched groundwater extent to the east and acquisition area.

The goal of the land acquisition project is to acquire property that could be used for irrigation with treated perched groundwater, monitoring of perched and Ogallala groundwater, and possible in-situ treatment of perched groundwater. These alternatives are described and analyzed in the Environmental Assessment of Corrective Measures for Perched Groundwater, which was submitted to the public in FY 2007. Once environmental work is completed, DOE will disposition the property.

### 2.1.4 Historic Facilities

Buildings eligible for inclusion on the National Register of Historic Places were determined by DOE/NNSA/PXSO based on recommendations by BWXT Pantex. Through consultations between DOE/NNSA/PXSO, Texas State Historic Preservation Office (SHPO), and the Advisory Council on Historic Preservation, final eligibility determinations were made. Pantex has 173 buildings, approximately 1,013,000 square feet, eligible for inclusion on the National Register of Historic Places. This does not include eligible buildings that have been demolished (Buildings 11-36, 12-24 North, 12-24 South, and 12-78). The eligible buildings are denoted in FIMS and depicted on the map in Figure 2-8 for Zones 11 and 12. A list of all historically eligible buildings is included before the maps in [Table 2-3](#).

DOE/NNSA/PXSO completed consultations with the Texas SHPO and the President's Advisory Council on Historic Preservation in FY 2004 culminating in a final Programmatic Agreement and Cultural Resource Management Plan (PA/CRMP). This plan identifies a range of preservation activities including, as the cornerstone, preservation in-situ of 10 mission-related buildings (Buildings 11-20, 12-17, 12-17A, 12-17B, 12-17E, 12-26, 12-33, 12-44 Cell 1, 12-60, and 12-64). The most effective preservation method is continued use, which ensures a safe and operable condition is maintained. Any required modifications will be designed so that the historic characteristics of these buildings are not adversely impacted. In addition, with the completion of the new HE Pressing Facility, the Building 12-17 complex will be designated a classified museum and classified visitor center.

### 2.1.5 Organizational Structures

Pantex is operated under the direction of the Pantex Site Office (PXSO). The Management and Operating (M&O) contractor is BWXT Pantex, LLC (BWXT Pantex).

PXSO organizational structure is provided in [Figure 2-3](#). BWXT Pantex organizational structure is provided in [Figure 2-4](#).

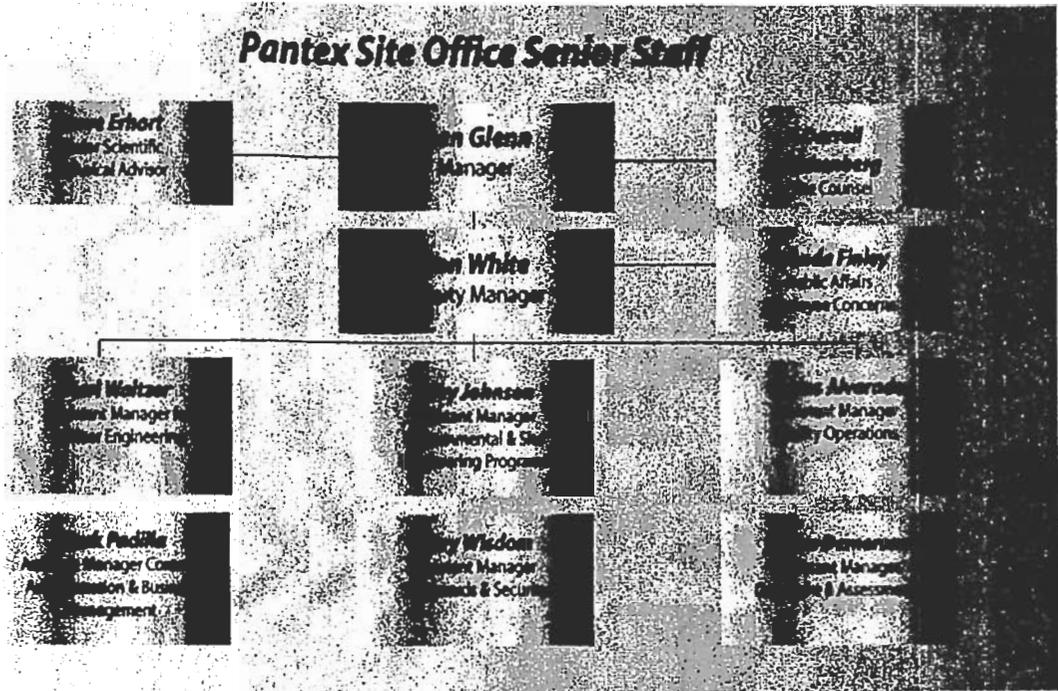


Figure 2-3, PXSO Organizational Chart

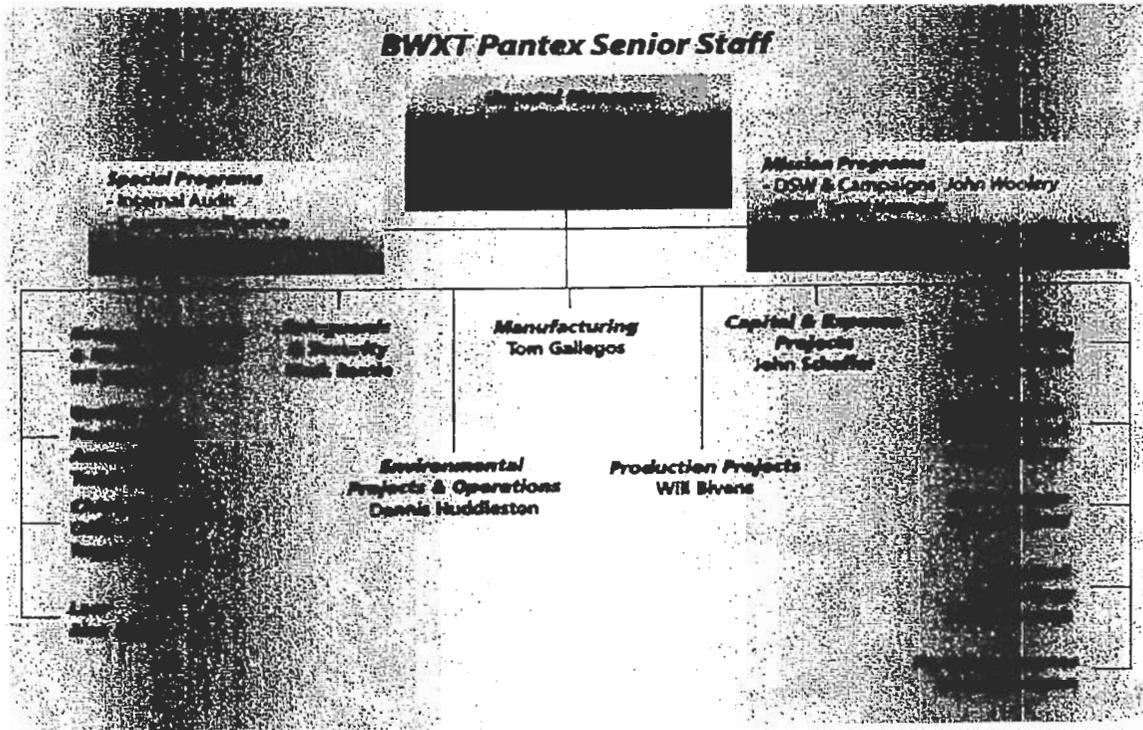


Figure 2-4, BWXT Pantex Organizational Chart

## 2.2 Site Maps

Site maps depicting planned ten-year construction and demolition are provided in Figure 2-5, Figure 2-6, and Figure 2-7. Table 2-2 is a listing of the planned new construction facilities in Zones 11 and 12. This table includes unfunded projects and those projects that are not currently supported in the ICPP. The grid coordinates assist with locating construction projects on Figure 2-7.

**Table 2-2, Zones 11 and 12 Planned Facilities Location**

BUILDING ID	BUILDING NAME	GRID LOCATION
<b>FUNDED NEW CONSTRUCTION</b>		
	SECURITY LOCKER FACILITY	Q-7
(b)(2)High	(b)(2)High SECURITY OPERATIONS FACILITY	Q-7
	HE PRESSING FACILITY	N-7
N-01	PRODUCTION STORAGE FACILITY REPLACEMENT	P-4
N-02	ESPC PUMP HOUSE	R-5
N-03	APPLIED TECHNOLOGY ADMINISTRATION FACILITY	P-5
N-04	PRODUCTION STORAGE II	P-4
N-05	2030 MAINTENANCE STRUCTURE	R-4
N-06	2030 MAINTENANCE STRUCTURE	S-4
N-07	2030 MAINTENANCE STRUCTURE	T-7
N-08	COMPONENT EVALUATION FACILITY	R-6
<b>UNFUNDED NEW CONSTRUCTION</b>		
N-09	(b)(2)High ARGUS ACCESS STATION	R-7
N-10	ELITE FORCE TRAINING FACILITY EXPANSION	Q-8
N-11	SURROGATE TACTICS AND TRAINING FACILITY (STTF)	Q-8
N-12	HIGH SECURITY BOOTH	Q-5
N-13	(b)(2)High HIGH SECURITY BOOTH	S-7
N-14	HIGH SECURITY BOOTH	S-8
N-15	NORTH HIGH SECURITY BOOTH	R-7
N-16	PHYSICAL TRAINING FACILITY ADDITION	Q-8
N-17	CONSTRUCTION GATE SS-15	O-4
N-18	HIGH EXPLOSIVE FORMULATION FACILITY	N-7
N-19	HE COMPONENT FABRICATION & QUALIFICATION FACILITY	S-6
N-20	NDE/GAS LABORATORY	S-4
N-21	ADMINISTRATIVE SUPPORT FACILITY	S-8
N-22	ZONE 12 GUARD TOWER <sup>1</sup>	Q-4
N-23	ZONE 12 GUARD TOWER <sup>1</sup>	Q-6
N-24	ZONE 12 GUARD TOWER <sup>1</sup>	T-6
N-25	(b)(2)High GUARD STATION ADDITION <sup>2</sup>	R-7
N-26	ZONE 12 MAA ALTERNATE SECURITY STATION <sup>2</sup>	R-5
N-27	GUARD STATION (b)(2)High <sup>2</sup>	Q-5
N-28	GUARD STATION (b)(2)High <sup>2</sup>	T-8
N-29	PHYSICAL FITNESS OBSTACLE COURSE BUILDING <sup>1</sup>	Q-8
N-30	ENGAGEMENT SIMULATIONS SYSTEMS FACILITY <sup>1</sup>	Q-8
N-31	VULNERABILITY ASSESSMENT LABORATORY <sup>1</sup>	R-7

<sup>1</sup>Included as part of the proposed Security Line Item Protective Force Facilities Upgrade and Enhancement Project.

<sup>2</sup>Included as part of the proposed Security Line Item Protective Force Portal Upgrade and Enhancement Project.

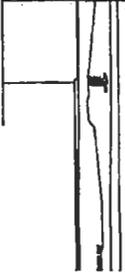


Table 2-3 is a listing of all historically significant facilities located at the Pantex Plant. Figure 2-8 shows those facilities that are located in Zones 11 and 12.

(b)(2)High

(b)(2)High

1 Preservation In-Situ, facilities cannot be demolished.  
2 Demolished Facilities



100  
Graphic scales 1" = 200'



Sheet 100 - Profile Plan  
Profile Plan, Washington  
EXISTING FACILITIES  
March 11 and 12

FIGURE 2-8 3-87

(b)(2)High

1. 100% - 100%  
 2. 100% - 100%  
 3. 100% - 100%  
 4. 100% - 100%  
 5. 100% - 100%

	100% - 100%
	100% - 100%
	100% - 100%
	100% - 100%
	100% - 100%

100  
 200  
 300  
 400  
 500  
 600  
 700  
 800  
 900  
 1000



100% - 100%  
 100% - 100%  
 100% - 100%

100% - 100%  
 100% - 100%  
 100% - 100%

100% - 100%  
 100% - 100%  
 100% - 100%

(b)(2)High

N-24

**PLANNED CONSTRUCTION PROJECTS**

□	FTSDP - FTSDR
■	FTSDO - FTSDP
■	FTSDS - FTSDJ
■	FTSDM - FTSDN
■	FTSDP - FTSDQ
■	FTSDR - FTSDS

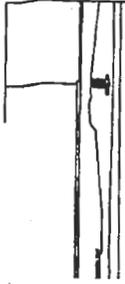


Geoff. Inc. - POWER PLANT  
POWER PLANT MODIFICATIONS

**PLANNED CONSTRUCTION PROJECTS**  
SHEETS 11 and 17

FIGURE 2-7 3-87

(b)(2)High



**NOTICE**

THIS PLAN  
IS NOT TO BE  
REPRODUCED

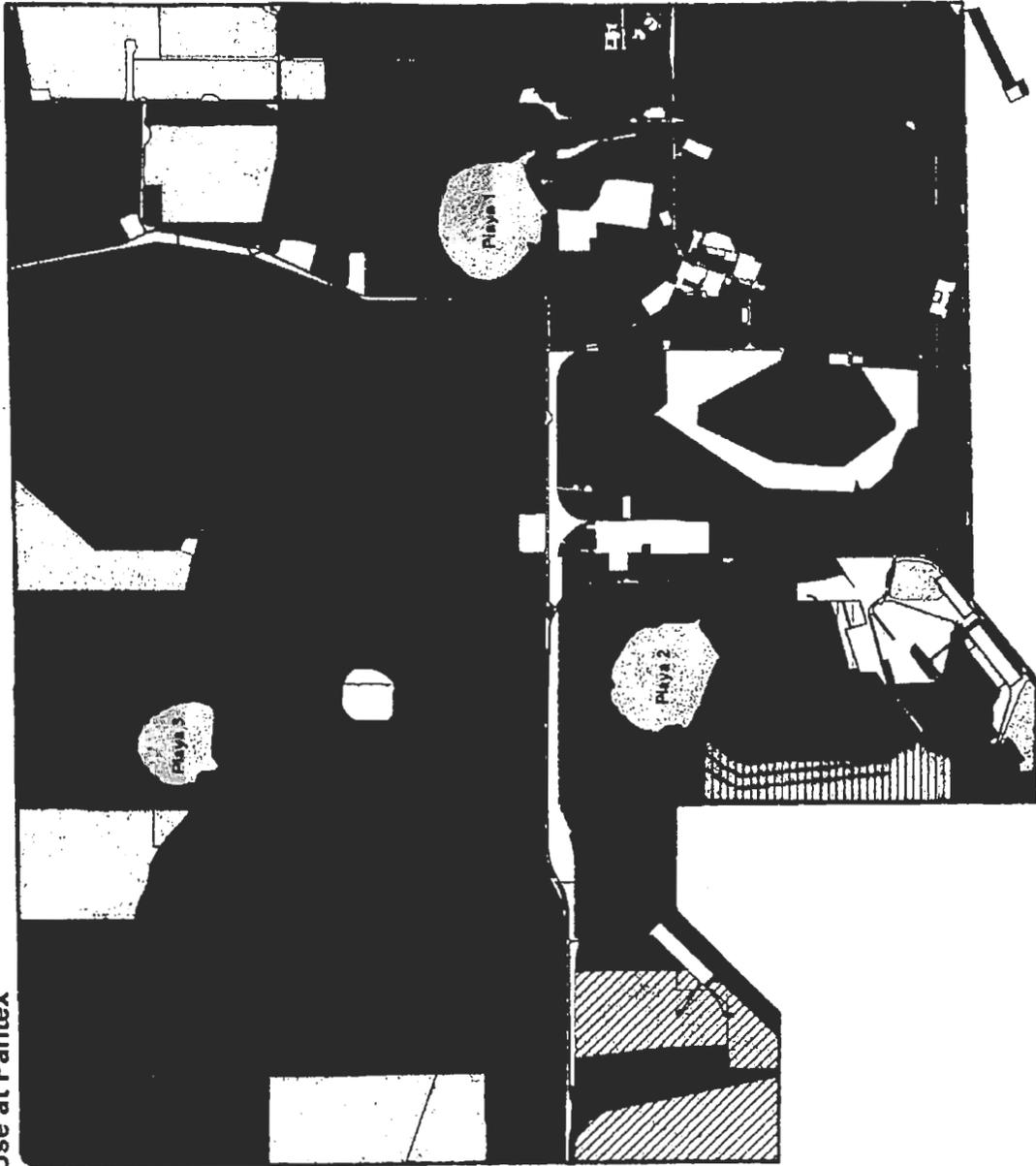


SCALE 1/8" = 1'-0"  
GRAPHIC SCALE 1" = 200'

(b)(2)High

# Agricultural Land Use at Pantex

Prett Plays



- Land Use 2006**
- Green Sorghum Stubble
  - Grass
  - Living Barrier
  - Mowed
  - Revegetated
  - Winter Wheat
  - Winter Wheat Stubble
  - Grazed
  - Minimum Tillage
  - Playa Mgmt
  - Contract Mow
  - Herbicide
  - Roads
  - DOE Property
  - Playas



PRETT, LLC - PRETTI PLAYS  
PRETTI PLAYS, COMBUSTIBLES

COMBUSTIBLES USE

FIGURE 2-4

2007



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### 3.0 MISSION NEEDS/PROGRAM DESCRIPTIONS

This section provides a detailed description of workload and expected changes including potential new missions and requirements over the ten-year planning period. The linkage of future workload to mission critical facilities and infrastructure is discussed in detail in Section 3.2.

#### 3.1 Current mission, programs, and workload

The mission of BWXT Pantex is to support nuclear weapons Stockpile Stewardship while continuously improving levels of safety and productivity. Major activities include:

- Evaluating, retrofitting, and repairing weapons in support of both life extension programs and certification of weapon safety and reliability
- Dismantling weapons surplus to the stockpile
- Sanitizing components from dismantled weapons
- Developing, testing, and fabricating chemical and explosive components
- Providing interim storage and surveillance of plutonium components.

Weapons program responsibilities and support activities are integrated into DSW, Campaigns, RTBF, S&S, and Non-NNSA activities. These program elements define the scope of the work to accomplish the workload assigned to Pantex. Figure 3-1 depicts the programs and their sub-elements.

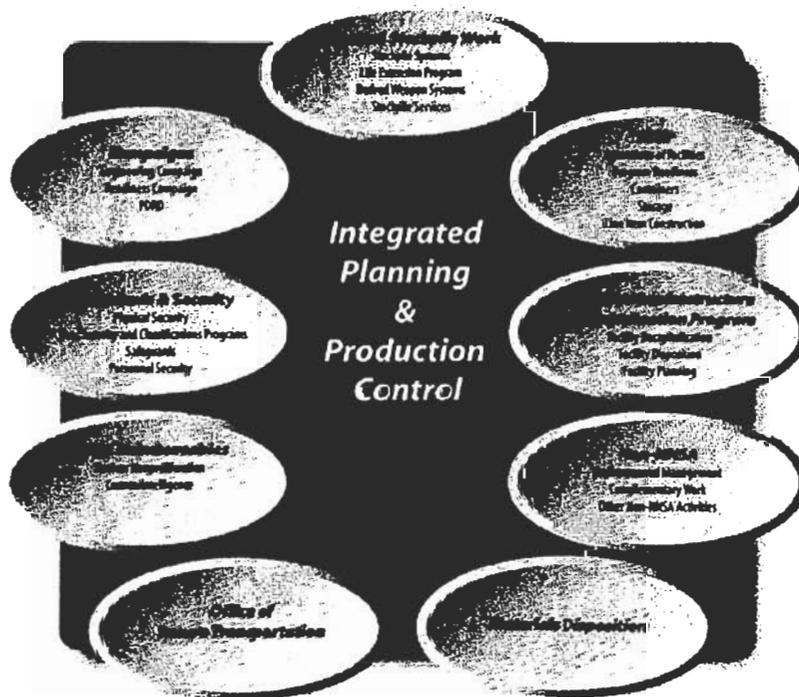


Figure 3-1, Pantex Programs



All BWXT Pantex activities ultimately support the core mission of nuclear weapons Stockpile Stewardship. To accomplish this effectively, programmatic activities and funding mechanisms must be properly aligned and coordinated as depicted in Figure 3-2. These activities begin with BWXT Pantex personnel interacting with the design agencies to obtain the necessary design and surveillance requirements while simultaneously ensuring that manufacturing constraints are understood. Long lead-time technologies and processes are then typically introduced into Pantex under the Campaigns Program. These involve multi-site design and implementation teams conducting projects with specific goals of finite length. Once the technologies and/or processes are ready for deployment, they are transitioned to the DSW Program that oversees all direct production activities. Serving as a foundation for all programmatic activities, the RTBF Program ensures the right facilities and infrastructure are in place to support the nuclear weapons stockpile and to maintain the site and facilities in a safe, secure, reliable, and compliant condition. With appropriate strategic alignment between all of the programmatic elements, design requirements are folded into all production and readiness activities. This alignment ensures a seamless transition between programmatic elements and timely implementation of new processes and technologies.

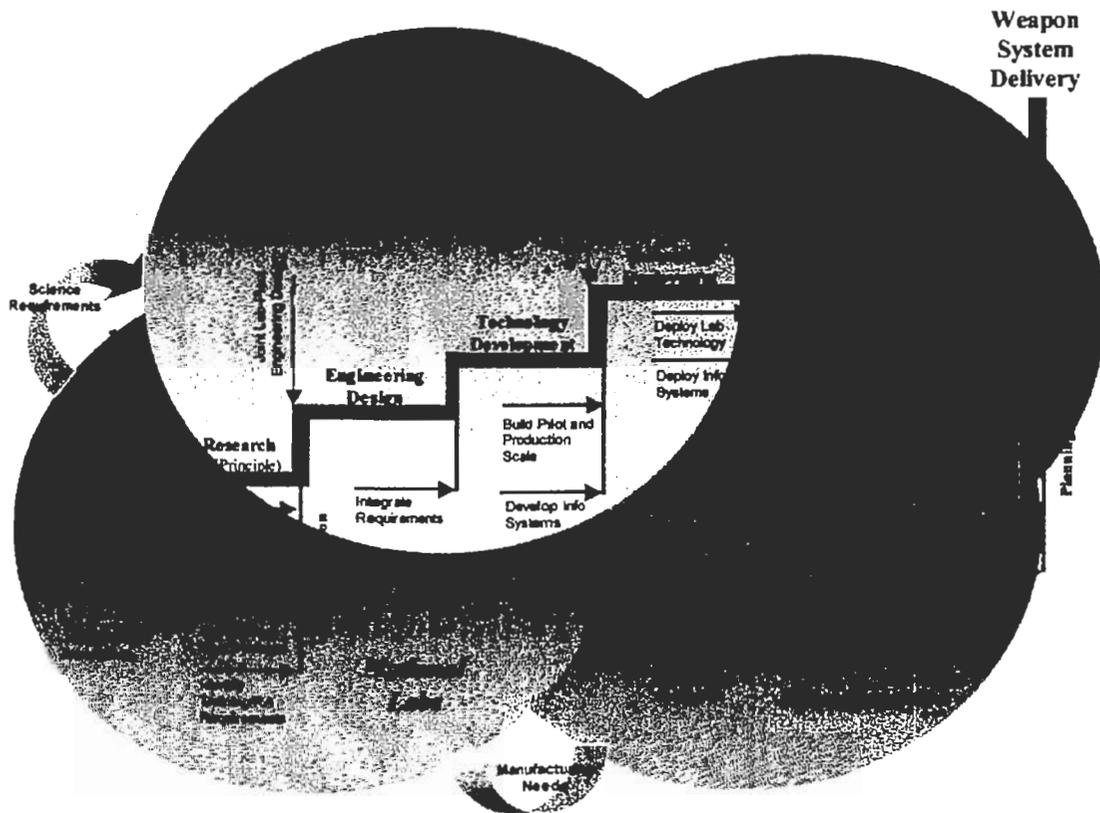


Figure 3-2, Programmatic Alignment

BWXT Pantex is committed to the principles of Integrated Safety Management (ISM), including the elements of the Voluntary Protection Program (VPP) that engage all people at the site in improving safety performance. Those elements include management leadership, employee involvement, worksite hazard analysis, hazard prevention and control, safety and health training, and process feedback. These elements are key to Security, the RTBF program, the DSW program, and the Campaigns program.

### **3.1.1 Directed Stockpile Work (DSW)**

DSW includes production and evaluation functions required to maintain and certify the current nuclear weapons stockpile and refurbishment efforts supporting life extension initiatives. DSW also supports dismantlement and component disposition of retired weapons systems. DSW encompasses program planning, production preparation, production startup, ongoing production execution, and surveillance elements. DSW is managed in the following subprograms:

- Stockpile Systems
- LEP
- Retired Weapon Systems
- Stockpile Services/Production Support

#### **3.1.1.1 Stockpile Systems**

Stockpile Systems Program activities support programmatic flight testing, laboratory testing, and component/subassembly surveillance. Activities are directed through the Production and Planning Directive (P&PD), Program Control Documents (PCDs), Technical Business Practices (TBPs), and the Development and Production (D&P) Manual. The work performed at Pantex includes:

- Disassembly and inspection of weapon evaluation cycle units.
- Assembly of Joint Test Assemblies (JTAs).
- JTA post mortem analysis.
- Assembly and disassembly of test bed units.
- Rebuild of evaluation cycle units.
- Component surveillance/evaluation and preparation of the Quality Evaluation Report (QER).
- Delivery of Quality Evaluation Test (QET) components to other NNSA sites.
- Limited Life Component Exchange (LLCE).
- Programmatic alterations (usually defined as Alts or Mods).
- Weapon repairs.
- Significant Finding Investigations (SFI).

- Non-destructive evaluation.
- Weapon and component radiography.
- Weapon atmosphere analysis.
- Laser gas sampling and analysis.
- High Explosives (HE) testing.
- Explosive component evaluation.
- Non-nuclear component evaluation.
- Pit evaluation.
- Component prescreening.
- Electrical and mechanical tests.

Recognizing that the nuclear weapons stockpile is aging beyond its original design life, the NNSA is undertaking new surveillance initiatives. This is increasing the Pantex workload, which includes augmented sampling, increased testing, and deployment of new capabilities to meet new testing requirements. More diagnostic evaluation tests are being conducted on components than previously performed. As the Enhanced Surveillance initiative establishes new technologies and a more predictive evaluation capability, new testing techniques are being incorporated.

#### **3.1.1.2 Life Extension Program (LEP)**

The LEP objective is to extend the life of a weapon system beyond its original certification. Pantex supports life extension of weapons systems in two ways: performing LEPs and supporting the Life Extension Options (LEO) Group. LEP tasks assigned to Pantex include weapon disassembly, inspection, component requalification, component fabrication, component testing, component replacement, weapon assembly, and weapon testing. BWXT Pantex supports the planning and scheduling of future LEP workload through participation in the LEO Group.

The B61-7 Alt 357 first production unit (FPU) was achieved in June 2006 and the B61-11 Alt 357 PFU was achieved in January 2007, increasing the reliability of the weapon system. The W76-1 FPU is scheduled for September 2007 and will increase the reliability and surety of this weapon system. In order to meet the FPU for the W76, several Campaigns projects are needed for component reacceptance including eddy current for pit tubes, ultrasonic inspection of physics packages, and SNMCRF for pit package reacceptance. The LEPs require facility modification to increase cell capacity. The 12-44 Production Cells Upgrade project increases cell capacity. The SNMCRF is required for pit reacceptance capability. Other projects include the modifications in the Computed Tomography (CT) bay allowing nuclear operations and the HE Pressing facility providing risk mitigation for the current aging press equipment and facility.

### 3.1.1.3 Retired Weapon Systems

Retired weapons are dismantled to meet revised national security requirements. During dismantlement, a retired weapon is disassembled into subassemblies and components. Components are dispositioned (stored, sanitized, etc.) per NNSA guidance unless they are requested by the design agencies for further evaluation. Plutonium pits are staged on-site on an interim basis. Uranium and tritium components are shipped off-site.

### 3.1.1.4 Stockpile Services

Stockpile Services focuses on activities that support multiple weapon programs. These activities include support for weapon production, evaluation, and development work. However, these activities are not directly identified with or allocated to a specific weapon program. Typical activities include:

- Production control, planning and integration.
- Transportation and movement for weapon systems and components.
- Manufacturing, Engineering, Quality, and Applied Technology Division management and administration.
- Weapon configuration management support.
- Receipt and inspection of weapon-related materials and equipment.
- Environment, safety and health support including nuclear explosive safety.
- Multi-program test equipment support.
- Multi-program evaluation and analysis.
- Metrology operations.
- Waste operations.
- Independent reviews for weapon operations.

### 3.1.1.5 Reliable Replacement Warhead

RRW will continue Phase 2 Feasibility Study activities in FY 2007. BWXT Pantex is supporting the feasibility study by providing NNSA with cost and manufacturability assessments of the New Mexico and California designs.

RRW will begin Phase 2A Design Definition and Cost Study activities in FY 2007 and continue into Phase 3 Development and Engineering in FY 2008. BWXT Pantex will be supporting these phases by working with the selected design team, developing process concepts and providing members to support Product Realization Teams.

### 3.1.1.6 DSW Ten-Year Objectives

DSW ten-year objectives focus on engineering participation to support the LEPs; current stockpile disassembly, surveillance, and assembly PCD requirements; and incorporation of new technologies to support core surveillance. Specific objectives are provided in the anticipated period of accomplishment.

#### FY 2008 - FY 2012:

- Completion of yearly weapon program LLCE, repair, dismantlement, and evaluation requirements.
- Concurrent engineering and FPU delivery supporting the W76 LEP.
- Reduction of canned subassembly (CSA) surveillance radiography backlog.
- Completion of the Seamless Safety – for the 21<sup>st</sup> Century (SS-21) implementation for all enduring stockpile and dismantlement programs.
- Establishment of pit refurbishment capabilities in support of life extension requirements.

#### FY 2013 - FY 2017:

- Completion of yearly weapon program LLCE, repair, and evaluation requirements.
- Completion of yearly program production schedules supporting the W76 life extension requirements.
- Continue concurrent engineering support of anticipated LEP workload.
- Support of weapon program dismantlement initiatives.

### 3.1.2 Campaigns

Pantex has unique Stockpile Stewardship responsibilities for U. S. nuclear weapons. Modern technologies and capabilities are essential for stockpile surveillance, weapon refurbishment, and dismantlement requirements. The Engineering Campaign, the Readiness Campaign, and the Plant Directed Research, Development, and Demonstration (PDRD) program are focused on ensuring that Pantex has the capability and capacity to meet weapon requirements associated with defined workloads.

#### 3.1.2.1 Engineering Campaign

The Engineering Campaign provides the Nuclear Weapons Complex with modern tools and capabilities in engineering sciences and technologies to ensure the safety, security, reliability, and performance of the current and future US nuclear weapon stockpile, as well as a sustained basis for stockpile certification. The Campaign is the driver for the discovery, innovation, maturation, and application of the advanced engineering required for the nuclear weapons stockpile, and it supports the NNSA Strategic Goal to *Maintain and enhance the safety, security, and reliability of nation's nuclear weapons stockpile to counter the threat of the 21st century.*

The Engineering Campaign provides a bridge between the broad spectrum of R&D investments in the laboratories and weapon system and subsystem needs. The Campaign tasks are designed to effectively usher the transition from initial or laboratory demonstration to qualified application or product. While this consideration appears to be most relevant to hardware, it applies equally well to diagnostics, experimental techniques, and even phenomenology models. Engineering Campaign's priorities and strategies are directly influenced by the LEP schedule and advanced concepts needs put forth by DSW.

Although the Engineering Campaign is organized into five interrelated sub-programs, Pantex participates only in the Enhanced Surveillance sub-program.

### **Enhanced Surveillance**

The Enhanced Surveillance sub-program contributes to weapon safety, performance and reliability by providing tools needed to predict or detect the precursors of age-related defects and to provide accurate engineering estimates of component or system lifetimes.

Enhanced Surveillance provides component and material lifetime assessments and develops predictive capabilities for early identification and assessment of stockpile aging concerns. Enhanced Surveillance identifies aging issues with sufficient lead-time to ensure that NNSA can have the refurbishment capability and capacity in place when required. The strategy emphasizes more robust stockpile surveillance for early problem identification, because any future problems would have a greater relative impact on the effectiveness of a smaller nuclear deterrent. Typically, lifetime assessments include efforts to develop understanding of the basic aging mechanisms and interactions of materials in components, sub-assemblies, and assemblies. Accelerated aging experiments are used to obtain data beyond that available from traditional stockpile surveillance. Experiments are also used to validate broader age-aware models that are developed to support lifetime assessments and predictions. These age-aware models are generally applicable in the design and assessments of replacement components and assemblies used in the Life Extension Programs (LEPs). Lifetime assessments also support planning for the NNSA facilities and infrastructure needed to replace aging components. Enhanced Surveillance also provides new or improved diagnostic techniques for detection and quantification of the aging degradation and other potential defects in the stockpile. Enhanced Surveillance works with DSW to deploy new diagnostic tests that enable surveillance to be more sensitive and precise in finding defects in weapons sampled from the stockpile.

To support the Enhanced Surveillance goals, Pantex focuses on improving diagnostic tools for weapon evaluation activities on the DSW program and providing data on the aging of materials and components to establish the technical basis for predictive models that are used in the LEP decision process.

## Pantex Plant

### *Diagnostic Tools*

Non-destructive examination tools for imaging important physics for pits and CSAs will be provided. Enhanced Surveillance (b)(2)High x-ray tomography system in FY 2007. The system ; however, this facility may be required to support workload years. The high-resolution x-ray tomography is another facility. Other diagnostic tools that have been identified in the Evaluation Program Planning Council (CEPPC) report that can be used in the future include laser gas sampling and neutron imaging and x-ray imaging for CSAs. A new Component Evaluation Facility will provide adequate facilities for these new tools.

Enhanced Surveillance will also develop new diagnostic tools for the characterization of aging of energetic material and component systems. This program consists of a new nondestructive examination technology, hardware, improvements to existing tests to provide comparison of historical performance data, and an evaluation of the performance of detonators that are still of relevance to those in service. The program charges consists of developing tools to identify age-related parameters that affect ignitability, energy, and safety (sensitivity). New tools for small-scale tests for detonators, Insensitive High Explosive (IHE) picosecond microscopy will be transferred to the core surveillance facility. For nuclear components and materials, analytical techniques for the quantification of the chemical and physical mechanisms that cause changes in materials properties to change with time will be developed. A program of (1) micro structural techniques using electron, ion, and neutron microscopy; (2) structural, chemical, and phase analysis on the nanometer scale; (3) information extraction algorithms to take advantage of hyperspectral data sets; (4) optical and mass spectrometry techniques to monitor changes as materials age; and (5) advanced weapon atmosphere sampling such as solid phase micro extraction (SPME). These new tools will be implemented in current existing facilities.

### *Material Lifetime Studies*

The material lifetime studies will determine when the full range of insensitive high explosives must be replaced. Enhanced Surveillance will study aging signatures and physical changes that may occur with time due to chemical, and mechanical, as well as safety and explosive performance changes. binder materials degrade, how plasticizer materials migrate and affect performance and safety). The work will assess the influence of material components on performance or safety and estimate the performance bounds) of material and component properties and the correlation of these studies will also identify the high-risk non-nuclear components that are subject to aging degradation and assess the impact of degradation on the performance that can be obtained from returned hardware, dismantled weapons, reformulated materials and processes, etc. Enhanced Surveillance

understand the chemical and physical mechanisms causing time-dependent changes in materials properties and use that understanding to develop predictive models of materials performance. The chemical and physical mechanisms that cause materials properties to change with time will provide the basis for quantifying future behavior of components. No new facilities are required to support the Material Lifetime Studies.

### 3.1.2.2 READINESS CAMPAIGN

The Readiness Campaign supports the DOE Strategic Plan General Goal - *Ensure that our nuclear weapons continue to serve their essential deterrence role by maintaining and enhancing the safety, security, and reliability of the U.S. nuclear weapons stockpile.*

The Readiness Campaign is an essential component of the Stockpile Stewardship Program with the responsibility for developing or reestablishing new manufacturing processes and technologies for qualifying weapon components for reuse. The mission of the Readiness Campaign Program is to identify, develop, and provide new or improved processes and technologies to meet current nuclear weapon design and production needs and to provide quick response to future national security mission requirements of the Nuclear Weapon Complex. The day-to-day maintenance of the nuclear weapons stockpile and the Life Extension Programs (LEPs) require the capability to manufacture, inspect, and requalify nuclear weapon components, and to assemble and disassemble nuclear weapons. Some of the processes and technologies required for this future work are obsolete creating an urgent need for modernization.

The Readiness Campaign is composed of five programs that are multi-year, multi-functional focused efforts involving all Nuclear Weapons Complex sites. The focus includes strategies to meet near-term, mid-term, and long-term needs, ranging from developing new solutions for current technology issues to developing a responsive infrastructure for future needs. The breadth of the technology development and deployment span a very wide range of needs and include both nuclear and non-nuclear products and processes supporting DSW customers.

Pantex is involved in the Advanced Design and Production Technologies (ADAPT) and High Explosives and Weapons Operations (HEWO) sub-programs. Requirements flow from Directed Stockpile Work (DSW). ADAPT provides the applied technology necessary to advance a conceptual product or process to the prototype stage. After the prototype stage is complete, ADAPT passes the technology to the HEWO, which further advances it until production capability is demonstrated. This capability may or may not be sufficient to provide the production capacity required by DSW delivery schedules. Additional capacity is funded by either DSW or Readiness in Technical Base and Facilities (RTBF).

#### **Advanced Design and Production Technologies (ADAPT)**

The ADAPT sub-program supplies a vital link in supporting NNSA's mission to assure a safe, reliable, and secure nuclear weapons stockpile. ADAPT supports development of manufacturing processes and products that replace sunset technologies and new alternatives processes that provide enhanced safe, reliable and secure functionality.

Most of the successful development efforts are transitioned to one of the Readiness programs for deployment into directed stockpile production or a weapons system block upgrades. Other ADAPT development goals are to support the planning and design of scheduled new operations facilities for the NWC with new or modified manufacturing processes and technologies. ADAPT also has the responsibility to conceptualize and support development of the optimum framework and key components of a united electronic network and information base for the NWC.

### **High Explosives and Weapon Operations (HEWO)**

The HEWO sub-program was established at Pantex to assure that the Nuclear Weapons Complex was fully ready to support mission and workload requirements associated with production of high explosive components and the assembly and disassembly of war reserve nuclear weapons. The Life Extension Programs (LEPs), which are a part of this work scope, require the requalification and reuse of weapon piece parts, components, and sub-assemblies. This campaign also addresses the necessary activities to ensure that the capability, capacity, infrastructure, workforce, and facilities are available at the Pantex Plant to achieve the assigned mission.

This campaign includes missions exclusive to Pantex, such as the production of high explosives and weapons assembly/disassembly and also addresses new missions to Pantex such as requalification and recertification of weapon components. Pantex uses the latest planning guidance and reviews to determine production readiness and identify gaps that exist relative to meeting future and current requirements. Applicable prototype production technologies demonstrated by the ADAPT and Enhanced Surveillance sub-programs are further developed by HEWO and delivered to either RTBF or DSW for deployment.

#### **3.1.2.3 Plant Directed Research, Development, and Demonstration (PDRD) Program**

The PDRD Program is focused on relevant manufacturing technologies to enhance and maintain the vitality of the nuclear weapons production plants. The Pantex PDRD program is guided by the NNSA Strategic Plan, NNSA Applied Technology Roadmap, and Pantex Applied Technology Roadmap. BWXT Pantex management uses these plans and roadmaps to develop strategic direction that identify and prioritize the site's most important long-lead strategic technology needs. The technology needs forecasts developed for the Pantex mission areas provide guidance for identifying focus areas that are of strategic importance to the Pantex Plant. The following focus areas are strategically important to Pantex:

- Safety
- Science-based manufacturing
- HE manufacturing
- Non-destructive evaluation
- Product requalification

PDRD projects are typically high-risk, but have potential high gains if successful. And, while they are not linked directly to DSW schedules, the technologies developed could have impacts on production schedules and facility requirements. Technologies developed by PDRD, normally require further development before being deployed into production. The further development can be accomplished by the Engineering or Readiness campaigns as well as through strategic partnerships with universities and private industry. Only after the technologies are further developed are they considered in facility and process planning.

#### 3.1.2.4 Campaigns Ten-Year Objectives

The Campaigns and the PDRD Program will result in the development of new technologies for weapon production and surveillance. Specific objectives are provided in the anticipated period of accomplishment.

##### **FY 2008 - FY 2012:**

- Establish process capability for models-based design/fabrication of special weapon tooling and high explosive main charge.
- Provide System Engineering-based solutions to improve tooling management process.
- Implement Insensitive HE performance diagnostics.
- Implement digital radiography, Computed Tomography, dimensional characterization, and ultrasonic imaging for pit characterization.
- Implement new and expanded capabilities for thermal performance, sensitivity, and mechanical properties testing of explosive materials and components.
- Establish capability to deliver specialty booster and detonator explosives.
- Establish capability to provide TATB and TATB-based explosives.
- Implement improvements to the explosive component fabrication process to reduce costs and increase component reliability.
- Implement automated business systems.
- Establish capability to non-destructively characterize the quality of primary assembly potting material in-situ.
- Establish the enterprise approach to safe, efficient, high-quality weapon operations related to SS-21 process start-ups.
- Establish advanced inventory and materials management systems.

##### **FY 2013 - FY 2017:**

- Augment capability and capacity to sustain explosive fabrication to maintain readiness.
- Implement processes for new explosive formulations.
- Establish HE manufacturing capability and capacity.



- Implement gas certification capability.
- Implement computing, engineering, collaboration, and visualization centers.
- Implement high-energy x-ray computed tomography or neutron imaging for CSAs.

**3.1.2.5 Facility Requirements**

The facilities required to support the Campaigns are provided through the RTBF Program. Some of the existing infrastructure is antiquated and new infrastructure is needed to support advances in engineering science and its associated methodologies. Integration of Campaigns and RTBF is vital to ensure that the proper investment is made in infrastructure needed to meet Campaign's milestones. These Campaign infrastructure needs are included in the remainder of this plan.

**Table 3-1, Campaigns Objectives**

CAMPAIGN OBJECTIVES	B61 LEP	W76 LEP	W80 LEP	RRW	STOCKPILE SYSTEMS	RETIRED SYSTEMS	SNM STORAGE	PLANT READINESS
				S	P			
				S	P			
		S		S	S	S		P
	S	S	S	S	S	S		P
	S	P	S	S	S			
(b)(2)High				S	S			P
				S	S			P
				S	S			P
		P		S	S			
		S	S	S	S	S		P
		S	S	S		S		P

P = Primary Driver

S = Support Driver

### 3.1.3 Readiness in Technical Base and Facilities (RTBF)

The RTBF Program objective is to provide facilities and infrastructure utilizing advanced scientific and technical tools to support the NNSA nuclear weapons stockpile operational and mission requirements. RTBF provides the physical and operational infrastructure at Pantex. This ensures facilities are operational, safe, secure, compliant, and that a defined level of readiness is sustained to perform the current and future Pantex mission. Pantex RTBF assignment consists of the following elements:

- Operations of Facilities
- Program Readiness
- Containers
- Storage
- Line Item Construction.

#### 3.1.3.1 Operations of Facilities

- This element includes NNSA's share of all costs necessary to operate the physical infrastructure and facilities in a safe, secure, reliable, and "ready for operations" manner, and that a defined state of readiness is sustained at all needed facilities. Note that Operations of Facilities will have to increase by \$2 million annually to accommodate the present recovery from EM. Sub-elements funded at Pantex are defined as follows:
  - **Facilities Management and Support:** Activities needed to manage facilities effectively, including facility management and administration, facility operations, facility engineering, facility planning and analysis, facility training, rental and lease of land and/or facilities and other facility support activities such as custodial services and pest control.
  - **Real Property Maintenance:** Activities required to maintain property, plant, and equipment in a condition suitable to fulfill the mission safely and reliably. Real Property Maintenance is management, planning, engineering, preventive, predictive, and corrective maintenance.
  - **Scientific/Process Equipment and Capabilities (SPEC):** Includes maintaining, repairing, and upgrading the scientific and/or process equipment that provides the Stockpile Stewardship Program with the capabilities it needs to accomplish its programmatic milestones and activities.
  - **Utilities and General Services (UGS):** Activities associated with purchase and/or provision of utilities (i.e. electric power, heat, steam, chilled water, potable water, process gases, and sanitary waste disposal) supplied to facilities. Utilities may also include activities and costs associated with the operation of chilled water facilities, water supply and sanitary waste disposal, and electrical power supply. UGS includes management and planning, purchased utilities, site utilities and general site services.

- **Environment, Safety, Health and Quality (ESH&Q):** Activities associated with maintaining compliance with federal, state, and local regulations, as well as applicable DOE Orders and Directives. Activities include: the development and implementation of effluent controls, environmental monitoring and surveillance, permitting, evaluation to assure environmental compliance, pollution prevention and quality assurance. Includes management, planning, environmental protection and compliance, pollution prevention, nuclear safety, industrial safety and health, quality assurance, document control and records management, and waste management. Because the ER program completion is scheduled for the end of FY 2008, beginning in FY 2009, LTS responsibilities will rest with the site landlord and will not be EM funded.
- **Excess Facilities Management and Disposition:** Activities include management and disposition of excess DOE weapons production facilities, equipment and land. Also includes activities associated with the development of technology for the reclamation of buildings, equipment and land, so that they may be used for other purposes.
- **Capital Equipment:** This includes items of plant and equipment, including both real and personal property, that are owned by DOE, are recorded in the completed plant accounts, and meet the monetary and service life criteria for capitalization (i.e. a service life of two years or more and a cost equal to or greater than \$50,000) regardless of the appropriations or funds charged.
- **Other Project Costs (OPC) by Line Item:** Activities included are all other costs related to a project that are not included in the Total Estimated Cost (TEC), such as Conceptual Design Plans and Reports, Project Execution Plans, NEPA compliance documentation, Construction Project Data Sheets (CPDS), maintenance and operating procedures to support facility startup, initial operator training, commissioning costs, and operational readiness reviews and documentation.
- **General Plant Projects (GPP):** Includes miscellaneous minor new construction projects of a general nature, the total estimated cost of which may not exceed the statutory limit of \$5 million and with a service life in excess of two years. GPPs are necessary to adapt new facilities or improve production techniques, to effect economies of operations, and to reduce or eliminate health, fire, and security problems. These projects provide for design and/or construction, additions, improvements to land, buildings, and utility systems, and may include the construction of small new buildings, replacements, or additions to roads, and general area improvements.
- **Expense Funded Projects:** Project activities funded with operating dollars. Examples of these projects include normal maintenance and repair such as painting, cleaning, and small repair jobs not resulting in an addition, replacement of a retirement unit, or betterment.
- **Institutional Site Support:** This includes items listed in the Congressional Budget such that the entire scope equals the budget. Current Congressional

Budget examples include Defense Nuclear Facilities Safety Board (DNFSB) related activities, corporate initiatives, independent and internal technical reviews, and security-related activities

### 3.1.3.2 Program Readiness

This element supports selected activities common to more than one facility, DSW, or Campaign activity and are essential to achieving the objectives of the Stockpile Stewardship Program. Sub-elements funded at Pantex are defined as follows:

- **Manufacturing Process Capabilities:** Maintains competence in key manufacturing technologies and implements production capability for improved weapon components that are developed as part of a Campaign.
- **Critical Skills Needs:** Includes development and implementation of programs that are directly related to sustaining a nuclear weapons work force capable of meeting upcoming mission requirements related to design, engineering, production, and testing or preserving critical product knowledge and lessons learned that enhance continuing stockpile stewardship.
- **Science and Technology Development:** Includes development of science and technology within RTBF.
- **Program Support:** Activities related to RTBF program operations and management, support to and for the Nuclear Weapons Laboratory, other Federal Agencies supporting NNSA, environmental management, and other program support.
- **Nuclear Criticality Safety Program:** Activities associated with currently active programs not listed above and include Program Capital Equipment Revitalization and the Chronic Beryllium Disease Prevention Program.

### 3.1.3.3 Containers

This element provides for the specialized containers used for weapon and weapon component movement and their certification. Sub-elements funded at Pantex are defined as follows:

- **Containers:** Includes container procurement to support the pit, CSA, RTG, and reservoir programs. Activities include container procurement, container upgrades, and procurement of consumable items such as bolts, washers, and gaskets.
- **Off-site Transport:** Includes providing adequate quantities of containers to support SNM shipments off-site. Activities include packaging of material in the appropriate containers, off-site transportation, and storage, off-site transportation certification of component containers, off-site transportation documentation for all contents, and the associated production, packaging, and maintenance.

- **Recertification and Maintenance:** Includes the off-site transportation of nuclear material components and special assemblies supporting the NNSA mission that are certified in accordance with the Nuclear Regulatory Commission and Department of Transportation regulations. Activities also include the cost of an on-site container surveillance program.

#### 3.1.3.4 Storage

This element provides for receipt, storage, and inventory of nuclear and non-nuclear material and weapon components from dismantled weapons and disposition of legacy components. Sub-elements funded at Pantex are defined as follows:

- **Storage of SNM:** Includes the long-term storage of SNM. Activities include planning, engineering, design, and start-up activities; processing and packaging materials for safe storage; storage activities for Strategic Reserve (SR), National Security inventory thermal monitoring, and characterization; and nuclear materials management including planning, assessment, and forecasting nuclear material requirements.
- **Pit Disassembly and Inspection Surveillance:** Includes the disassembly and inspection activities associated with National Security pits in storage. Activities include weight and leak testing, visual inspections, and radiography.
- **Disposition of Legacy Material:** Identification of legacy material, identification of currently available disposition processes, development of new disposition processes, and off-site shipment of material to ultimate disposition sites.

#### 3.1.3.5 Line Item Construction

The Line Item Construction program provides for the erection, installation, or assembly of a new plant facility and the addition, expansion, improvement, upgrade, or replacement of an existing facility. The TEC of a Line Item Project exceeds \$5 million. Construction includes facility design (PE&D); installation of equipment made part of the facility, and related site preparation including excavation, filling, landscaping, or other land improvement.

#### 3.1.3.6 RTBF Ten-Year Objectives

The RTBF Program ten-year objectives are to maintain base programs to support DSW and Campaigns, work cooperatively with FIRP to reduce DM and improve the condition of facilities and infrastructure. Specific objectives are provided in the anticipated period of accomplishment.

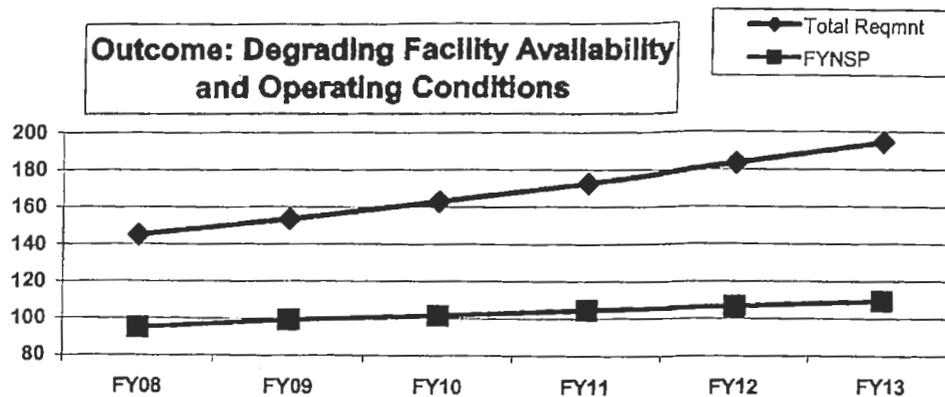
**FY 2008 – FY 2012:**

- **Operations of Facilities**

- ▶ Sustain maintenance and arrest/stabilize the DM backlog with adequate funding (Reference table and figure below).
- ▶ Operations of Facilities will have to increase by \$2 million annually to accommodate the present recovery from EM.
- ▶ Implement non-weapons specific AB upgrades to facilities.
- ▶ Achieve an annual percentage of scheduled days that mission critical and mission dependent not critical facilities are available greater than 90%.
- ▶ Annually, receive no significant violations/adverse actions from environmental regulators and comply with LTSM requirements as required by the Compliance Plan.
- ▶ Annually, achieve full compliance with applicable nuclear safety rules and no significant nuclear safety non-compliances.
- ▶ Annually, prepare and execute an integrated, comprehensive RTBF/FIRP plan consistent with the NWC Enterprise Strategy to ensure flexible, responsive, robust infrastructure.
- ▶ Continue to achieve site-wide results that are better than the national average for the number of reportable accidents/200,000 hours of work, using National Bureau of Labor Standards data.

***Pantex Ops of Facilities Budget FY 2008-2013***

<b>FY 2008 - 2013 Operations of Facilities Budget</b>						
\$ In Millions						
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Base Requirement	123.4	131.5	140.5	150.0	160.2	171.2
Projects Requirement	21.8	22.1	22.4	22.8	23.1	23.4
Total Requirement	145.2	153.6	162.9	172.8	183.3	194.6
FYNRP	95.0	99.2	101.5	104.6	106.7	109.3
Difference	(50.2)	(54.4)	(61.4)	(68.2)	(76.7)	(85.2)



### *Ops of Facilities Funding*

- **Program Readiness**
  - ▶ Annually, achieve 90% of planned critical hires; maintain 90% of planned staffing in critical positions; complete 90% of required training and qualifications of critical personnel.
- **Storage**
  - ▶ Develop procedures utilizing a DPP-2 container to place a breached pit in an environment that is ready for shipment.
  - ▶ Maintain pit pre-screening capabilities within the routine surveillance operation.
  - ▶ Provide environmental and physical security for the National Security Asset (NSA) pits as well as those identified as being surplus to National Security needs.
  - ▶ Increase the storage capacity for SR pits in Zone 12 South.
  - ▶ Accomplish disposition of legacy components.
  - ▶ Ensure pit storage samples meet safety and reliability requirements as specified in 2Y 59408 and RM257445.
- **Containers**
  - ▶ Maintain a usable inventory of pit containers to support offsite shipments.
  - ▶ Execute a container surveillance program.
  - ▶ Develop a disposition path for Radioisotopic Thermoelectric Generators (RTG).
  - ▶ Implement use of newly developed RTG containers for shipment off-site for surveillance and disposition.
  - ▶ Procure authorized containers for shipment of RTGs.

- **Line Item Construction**

- ▶ Complete ongoing construction projects to support maintaining and attaining readiness for the LEP workload.
- ▶ Develop HE mission projects and convert from an expert based knowledge system to a technology based system and infrastructure to support HE Center of Excellence and Complex 2030 initiative.
- ▶ Upgrade Plant infrastructure to support Plant mission and operations.

**FY 2013 – FY 2017:**

- **Operations of Facilities**

- ▶ Sustain maintenance and arrest/stabilize the DM backlog with adequate funding.
- ▶ Operations of Facilities will have to increase by \$2 million annually to accommodate the present recovery from EM.
- ▶ Maintain the appropriate AB status.
- ▶ Achieve an annual percentage of scheduled days that mission critical and mission dependent not critical facilities are available greater than 90%.
- ▶ Annually, receive no significant violations/adverse actions from environmental regulators.
- ▶ Annually, achieve full compliance with applicable nuclear safety rules and no significant nuclear safety non-compliances.
- ▶ Annually, prepare and execute an integrated, comprehensive RTBF/FIRP plan consistent with the NWC Enterprise Strategy to ensure flexible, responsive, robust infrastructure.
- ▶ Achieve site-wide results that are better than the national average for the number of reportable accidents/200,000 hours of work, using National Bureau of Labor Standards data.
- ▶ Develop and execute infrastructure recapitalization projects that maximize DM reduction within approved baselines.

- **Program Readiness**

- ▶ Annually, achieve 90% of planned critical hires; maintain 90% of planned staffing in critical positions; complete 90% of required training and qualifications of critical personnel.

- **Storage**

- ▶ Maintain pit pre-screening capabilities within the routine surveillance operations.
- ▶ Provide environmental and physical security for the NSA pits as well as those identified as being surplus to National Security needs.

- ▶ Ensure pit storage samples meet safety and reliability requirements as specified in 2Y 59408 and RM257445.
- **Containers**
  - ▶ Procure authorized containers for shipment of RTGs.
  - ▶ Maintain usable inventory of pit containers to support offsite shipments.
  - ▶ Execute container surveillance program.
- **Line Item Construction**
  - ▶ Complete construction projects in support of maintaining and attaining readiness for the LEP workload.
  - ▶ Upgrade Plant infrastructure to support Plant mission and operations.
  - ▶ Develop HE mission projects and convert from an expert based knowledge system to a technology based system and infrastructure to support HE Center of Excellence and Complex 2030 initiative.

Table 3-2 lists funded and unfunded Line Item construction objectives, including RTBF, FIRP, and other Program projects, to the driving program, differentiating between primary and support drivers.



### 3.1.4 Facilities and Infrastructure Recapitalization Program (FIRP)

The FIRP mission is to restore, rebuild, and revitalize the physical infrastructure of the NWC to ensure the safety, security, and reliability of the U.S. nuclear weapons stockpile and the vitality and readiness of the NNSA's nuclear security enterprise. FIRP is comprised of three subprograms:

- Infrastructure Recapitalization of operational facilities (capital renewal and sustainability) focusing on DM, including Utility Line Item Projects
- Infrastructure Planning for next year Infrastructure Recapitalization projects
- Facility Disposition of excess facilities to reduce long-term costs and risks, reduce plant footprint, and lower surveillance and maintenance costs

FIRP focuses on capital renewal projects and expenditures separate from the daily facility operations and maintenance expenditures provided by the RTBF Program.

#### 3.1.4.1 FIRP Ten-Year Objectives

FIRP works cooperatively with the RTBF Program to reduce DM for facilities and infrastructure through selection, prioritization, and execution of planning, recapitalization, and disposition projects.

The FIRP corporate goals are as follows:

- Infrastructure Recapitalization – Allocate funding of the site Recapitalization budget to facilities and infrastructure specific DM activities, as recorded in CAIS and supported by NA-52.
- Infrastructure Planning – Execute planning and design at least one fiscal year in advance of construction start.
- Facility Disposition – Demolish 114,000 square feet of excess space from FY 2007 to FY 2013. Note that Pantex is proposing demolition of four facilities utilizing FIRP funding in FY 2013.

Specific objectives are provided in the anticipated period of accomplishment.

#### FY 2008 – FY 2013:

- Develop and execute Infrastructure Recapitalization projects that maximize DM reduction in mission essential facilities within approved baselines.
- Execute Infrastructure Planning projects to support subsequent year Infrastructure Recapitalization projects.
- Execute Facility Disposition projects within approved baselines.

### 3.1.5 Materials Disposition (MD)

MD provides for the safe, secure, and environmentally sound storage of all fissile materials and the ultimate disposition of non-weapons grade unusable fissile materials declared surplus to national security needs. The MD Program includes support of special pit shipments, storage of pits in Zone 4, pit thermal monitoring in Zone 4, and pit storage sampling surveillance.

#### 3.1.5.1 MD Ten-Year Objectives

MD objectives are focused on maintaining the infrastructure and capability required for Zone 4 West storage and inter-zone transportation of excess pits. It includes all the activities associated with facility management of nuclear facilities and transportation including pit surveillance, thermal monitoring, corrective and preventive maintenance coordination, AB documentation formulation, review and implementation, and order compliance. Activities also include personnel training and qualification required to store pits, the capability to move pits between zones, and the effort required to reconfigure magazines to start and maintain pit storage. Specific objectives are provided in the anticipated period of accomplishment:

##### FY 2008 - FY 2012:

- Provide support and coordination activities, as needed, by design agency development of a new off-site shipping (Type B) container.
- Perform pit-repackaging activities for off-site shipment to the design agencies to support current programs.
- Advanced Recovery and Integrated Extraction System (ARIES) demonstrations (up to five Campaigns), as directed per DOE authorization letters.
- Maintain the infrastructure and capability required for Zone 4 West storage and inter-zone transportation of excess pits.
- Monitor the thermal environments of pits in Zone 4 magazines and trailers and thermally characterize additional magazines for pits stored in the sealed insert (SI) containers. The project includes retrieval and reporting of thermal data, instrumentation of storage areas containing pits, and monitoring and characterization of storage facilities.
- Inspect storage samples, selected by the design agencies, to ensure they meet safety and reliability requirements as specified in design agency requirements.
- Conduct the multi-year funded construction activities authorized to upgrade the Modified Richmond magazines.

##### FY 2013 - FY 2017:

- Continue storage capability, thermal environmental monitoring, and surveillance activities as defined above.

- Coordinate with the DOE sponsored Inactive Actinides Working Group to develop a RTG disposition path to the designated facility.

### 3.1.6 Safeguards and Security (S&S)

The Safeguards & Security mission at Pantex includes the protection of NNSA interests from theft, diversion, sabotage, unauthorized access, loss or compromise and other hostile or negligent acts that may cause unacceptable adverse impacts to national security, the environment, or the health and safety of employees and the public. As a result of the terrorist attacks on 9/11/01, Pantex will continue to operate at a heightened security level as directed by NNSA and meet requirements identified in the approved Site Safeguards & Security Plan (SSSP). The 03 DBT has been implemented and validated, and implementation of the 05 DBT has begun and is on schedule with the approved implementation plan. S&S has four core mission areas that are:

- Physical security
- Cyber Security and Classification Programs
- Safeguards
- Personnel Security

### 3.1.7 NNSA Reimbursable Work

NNSA Reimbursable work includes:

- Nuclear Nonproliferation
- Counterintelligence
- HE Services
- Weapons Incident Response group

#### 3.1.7.1 Nuclear Nonproliferation

Pantex has several programs involved in arms control and the nonproliferation of nuclear warheads, materials, and technologies in the former Soviet Union. These are Work For Others and complementary work programs funded by DOE, DOE/NNSA, the Defense Threat Reduction Agency, and other government agencies. These programs look at diverse issues such as the impact of future arms control treaties on Pantex and the prevention of the proliferation of nuclear warhead technologies.

On June 1, 2003, the Strategic Offensive Reduction Treaty (SORT, Treaty of Moscow) between the United States and the Russian Federation entered into force. The Treaty states that by December 31, 2012, the two countries will reduce strategic nuclear weapons to between 1,700 and 2,200 warheads. The treaty does not include a verification requirement. Because of the lack of a verification requirement, there is not a direct impact to Pantex of having foreign inspectors on-site to ensure dismantlement of warheads is taking place. A future presidential administration could reopen negotiations

through the Bilateral Implementation Commission of the SORT for a verification regime. If a warhead elimination regime were to be negotiated and ratified, there exists the possibility that sometime in the future a Russian delegation could visit Pantex as part of verification regime.

At present, there are no treaties or agreements that would potentially impact the Pantex Plant that have implementation dates after December 31, 2012.

### **3.1.7.2 Counterintelligence**

#### **Requirements**

The Pantex Counterintelligence (CI) Program follows the guidelines of Presidential Decision Directive 61, "Department of Energy Counterintelligence Program," the DOE Counterintelligence Implementation Plan, DOE Order 475.1, "Counterintelligence Program," 12-10-04, PDD/NSC 12 – "Security Awareness and Reporting Foreign Contacts," Executive Order 12333, "United States Intelligence Activities" of 12-4-81, PDD-63, Critical Infrastructure Protection and such Executive orders and policy as may supersede it, whose purposes are to deter and neutralize foreign industrial or intelligence activities directed at or involving DOE programs, facilities, technology, personnel, unclassified sensitive and classified information. These guidelines provide for an active CI program to assist in the protection of classified and sensitive unclassified activities related to National Security falling within the purview of facilities and organizations assigned to the Pantex Plant.

#### **CI Program**

The Pantex CI Program is structured to be consistent with the above policies and directives and uses the latest edition of the CI Procedural Guide and OCI/ODNCI Strategic Plan to assist in accomplishing tasks within the program. As requirements and world events evolve, so will the priority of the Pantex CI Program. CI has six core mission areas, which are:

- Support protection of critical U.S. persons, information, and assets (force protection)
- Detect and neutralize espionage
- Support protection of research, development and technology
- Support protection of critical infrastructure
- Support protection of economic security
- Support protection of U.S. interests against covert foreign influence and manipulation.

## CI Prioritization

The proper identification and prioritizing of available resources to those programs identified, as most at risk of targeting by our adversaries is required. The following list of priorities, while not all inclusive, addresses our key issues:

- Critical and time-sensitive CI support for the protection of nuclear weapon capabilities and other aspects of weapons of mass destruction from an immediate threat
- Critical and time-sensitive CI support to the protection of personnel and assets from an immediate threat, i.e. terrorist or sabotage action
- Detection and neutralization of espionage
- Integrated CI support to the protection of nuclear weapons, other weapons of mass destruction and related programs
- Integrated CI support to the protection of national security information, including classified technologies/applications
- Integrated CI support to the protection of the DOE/NNSA information infrastructure.

Integrated CI support to the other sensitive programs, within and outside DOE, such as: Special Access Programs (SAP), Work for Others (WFO), Highly Enriched Uranium Transparency Program, etc.

### 3.1.7.3 HE Services

BWXT Pantex Applied Technology R&D Division provides high explosive support to the NNSA National Laboratories on a reimbursable basis. This includes activities that will establish and maintain the capability and capacity for synthesis, formulation, pressing, machining, and analytical and performance testing of all NNSA explosives to meet surveillance, rebuild, JTA and LEP requirements. These explosive materials also support activities such as development work, component work, component replacement, and component aging studies.

### 3.1.7.4 Weapons Incident Response Group

BWXT Pantex provides qualified technical and professional personnel and equipment for Accident Response Group (ARG), ARG disposition, Joint Technical Team (JTOT), and Radiological Assistance Program (RAP). These enhance DOE capability to respond to accidents and significant incidents involving nuclear weapons or components.

## NNSA Reimbursable Ten-Year Objectives

### FY 2008 - FY 2012:

- Reimbursable systems and processes will continue to be developed and/or upgraded to ensure increased efficiencies and lower costs associated with the Pantex reimbursable work program. Examples include:
  - ▶ Upgrade the Pantex tactical market action plans to ensure they are readily and electronically accessible and that the plans support NNSA mission priorities.
  - ▶ Implement a site-wide integrated project baseline management system to ensure project managers can properly monitor project costs against schedule, while enabling Pantex sponsors to access the same unclassified data.
  - ▶ Conduct initial Business Development/Customer Focus Training for all Plant employees engaged in reimbursable activity. Such training will be revised and updated as improvements to the overall reimbursable program are made.
  - ▶ Implement an intellectual property function in which ideas from plant-specific activities can be patented and actively marketed for licensing potential with the commercial sector.
  - ▶ Provide continued support required by DOE/HQ with respect to Epidemiological services.
  - ▶ Provide continued support for DOE/HQ taskings for training/training aids for other governmental agencies with respect to Weapons Incident Response.

### FY 2013 - FY 2017:

- Develop an external E-Business capability enabling potential Pantex reimbursable sponsors to identify the plant capabilities and services desired, communicate with the responsible plant management, and enter into appropriate contractual instruments electronically. The capability would also enable the sponsor to update project status and receive unclassified summary reports.

### 3.1.8 Office of Secure Transportation (OST)

BWXT Pantex Maintenance Division provides services to the OST through the RTBF Program. The scope of these services is secure transportation of nuclear weapons, nuclear components, and other cargoes related to the maintenance of stockpiled weapons. This program includes scheduling and performance of inspections, maintenance, and modifications of OST trucks/tractors, escort vehicles, Safe Secure Trailers (SSTs), Safeguard Transporters (SGTs), and associated electronics and communications equipment provided to the Vehicle Maintenance Facility by the DOE. A quality assurance program plan is maintained and describes the management systems that control and direct personnel in support of OST maintenance activities.

The requirement to maintain OST facilities is captured in this TYSP. OST facilities are included in the CAS program, and their condition is captured in CAIS. Known proposed

new facilities (location and square footage) for OST use are captured as to location and proposed square footage in this TYSP, including an increase or decrease to Pantex Plant gross square footage. BWXT Pantex does not approve new facilities funded and constructed by other NNSA organizations at Pantex, and any future square footage increase needs to be offset by square footage at another site.

### 3.1.9 Non-NNSA Programs

Non-NNSA activities are a very small portion of the Plant's overall budget. Activities include reimbursable work in areas such as OST, Nuclear Nonproliferation, and Counterintelligence. The Non-NNSA workload includes EM, Complementary Work, and Other Non-NNSA activities.

#### Environmental Management (EM)

The DOE Office of EM funds the Environmental Restoration (ER) Program at Pantex. The ER Program at Pantex includes environmental restoration activities for soil and groundwater as well as deactivation and decommissioning of process contaminated facilities accepted by EM (documented in the October 2000 Memorandum of Agreement between NNSA/Defense programs and DOE EM, Transition of Excess Facilities at Pantex).

The ER Program investigates potential release and contamination sites and performs corrective actions to mitigate 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 technical approach of the program encompasses the determination of appropriate corrective actions and preferred remediation alternatives. In addition, risk reduction standards are employed to ensure that cost effective and environmental protective courses of action are taken to restore contaminated environmental media to beneficial use. Completion of the program elements is dependent upon obtaining sufficient funds. No impacts to facilities and infrastructure activities are anticipated. Cooperation between EM, PXSO, and NA-56 will ensure smooth facility disposition activities between the two programs. The EM Program has eliminated approximately 1 million square feet of legacy operation facilities with the elimination of the 12-24 North and South facilities and various other facilities. Facility disposition is discussed further in Section 4.1.3.

Specific elements of the Pantex ER Program are:

- Soils Program:
  - ▶ Support the assessment of impacts to groundwater.
  - ▶ Perform hot spot removal of contaminants in soil to mitigate risk.
  - ▶ Implement Interim Stabilization Measures in higher risk areas.
  - ▶ Utilize Soil Vapor Extraction systems to remove vadose zone contamination and provide source reduction to minimize impacts at the Burning Ground and in Zone 11.

- ▶ Closeout/transition to Long-Term Environmental Stewardship.
- Groundwater Program:
  - ▶ Perched Aquifer:
    - Implement corrective measures design and construction for the perched aquifer.
    - Utilize the Pump and Treat System to remove contaminants as an Interim Stabilization Measure.
    - The final CMS/FS will support options for final remedy, leading to final implementation of remedy and closeout.
    - Predictive groundwater modeling will be used to support remedy selection and to provide guidance for compliance monitoring plan to continue into the Long-Term Environmental Stewardship phase.
    - Maintain an active investigative well monitoring program to evaluate potential perched groundwater impacts.
    - Provide conceptual perched groundwater modeling to aid in determining amounts and flow pattern of potential contaminants.
    - Closeout/transition to Long-Term Environmental Stewardship.
    - Continue monitoring as specified in the Compliance Plan.
  - ▶ Ogallala Aquifer:
    - Perform monitoring activities to ensure continued protection of the groundwater.
    - Provide conceptual groundwater modeling to aid in determining amounts and flow patterns.
    - Continue monitoring as specified in the Compliance Plan.
    - Closeout/transition to long-term monitoring.
  - ▶ Deactivation and Decommissioning (D&D):
    - Perform characterization and stabilization activities on excess facilities prior to dismantlement.
    - Decontaminate and decommission the facilities safely, environmentally friendly, and cost effectively.
    - Implement a project to transfer process-contaminated facilities from the National Nuclear Security Administration to Environmental Management.
    - Dismantle facilities in a manner that creates a low potential for future environmental contamination.

Pantex has identified and investigated 252 Solid Waste Management Units (SWMUs). Each SWMU is noted in [Figure 3-3](#) and Attachment H with the Risk Reduction Standard (RRS) that is being used to close them. The Risk Reduction Rule (RRR) offers a means

of placing sites into three basic categories to determine what, if any cleanup actions are required. The RRS criteria are provided in Attachment H.

Pantex is effectively utilizing the Core Team process to make great strides in the Accelerated Cleanup Program. The DOE, BWXT Pantex, Texas Commission on Environmental Quality (TCEQ), and the Environmental Protection Agency (EPA) have developed a shared vision for accelerating cleanup at Pantex. The vision is to accomplish cleanup and risk reduction at the Pantex Plant by the end of FY 2008. There are six priorities that are noted in this vision:

- Accelerate the remediation and closure of soil and perched groundwater contamination. This will be accomplished through a risk-based evaluation of existing data for release sites
- Define regulatory endpoints
- Continue established partnerships among DOE, its contractors and the regulators to ensure continued management support of the accelerated cleanup approach, and support a Core Team (DOE, BWXT Pantex, TCEQ, and EPA)
- Streamline decision-making on key technical, administrative and legal issues to assure that all statutory and regulatory requirements are met
- Establish a prioritized time line to conduct technical and regulatory reviews of critical decision-making documents as defined by regulatory resources
- Support public participation consistent with current initiatives and the requirements of law and regulation

Encouragement of input from the public continues to be an important part of the ER program at Pantex. Public participation is a critical element of an effective decision making process. During the corrective measures phase, BWXT Pantex will actively solicit stakeholder input. By providing sufficient opportunities and comment periods, interested stakeholders can communicate their views, opinions, and concerns. BWXT Pantex recognizes that stakeholders should be provided with participation opportunities and information regarding Pantex ER program. Quarterly public meetings are in place to keep stakeholders up-to-date on environmental activities at Pantex. An Internet site at [www.pantex.com](http://www.pantex.com) is also updated on a regular basis to keep the most current and relevant environmental information available to the public.

Beginning in FY 2009, LTS responsibilities will rest with the site landlord and will not be EM funded. LTS was originally included in the EM Baseline at approximately \$5 million annually for FY 2009 and beyond. DOE EM removed LTS from the baseline in FY 2005 because LTS funding will be provided through NNSA. The \$5 million was an estimated budget, which was developed prior to submittal of the CMS/FS. The CMS/FS identified additional remedial actions that increase annual funding requirements to approximately \$8 million. Operations of Facilities will have to increase by \$2 million annually to accommodate the present recovery from EM. A NNSA LTS baseline will be submitted for approval in FY 2007.

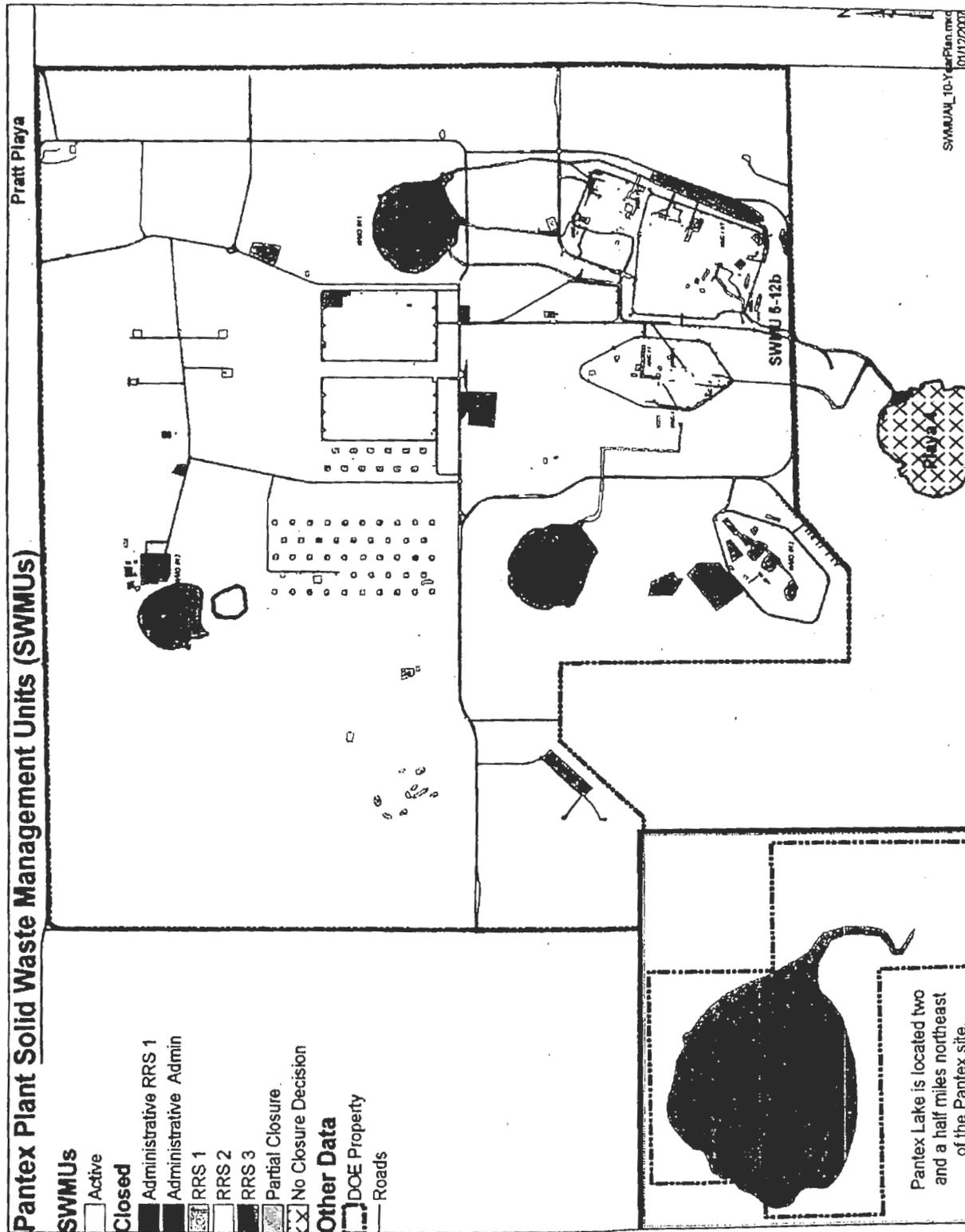


Figure 3-3, Pantex Solid Waste Management Units (SWMUs)

### 3.1.10 Workload

The majority of work performed at Pantex supports NNSA. The following sections describe NNSA and non-NNSA workload. Funding targets are shown in Appendix 1.

#### 3.1.10.1 NNSA Programs

The NNSA workload includes weapons and other NNSA activities. The predominant workload at Pantex is direct or indirect support of weapons assembly and disassembly.

#### Weapons Workload Forecast

Operational planning is based on the NNSA weapons workload provided by PCDs and the P&PD. Forecasts and plans are developed based on the best estimate of weapons workload for FY 2007 to FY 2016 provided by NNSA. The workload projected for Pantex is changing in significant ways that impact planning for funding, personnel, and facilities. Figure 3-4 shows the weapons workload based on Draft P&PD 2007-0. This figure shows that the workload increases rapidly beginning in FY 2007 through FY 2008, with another rise in FY 2013 until it reaches peak demand in FY 2014. The increase in 2017 represents the start of the W80-1 neutron generator and W87 neutron generator. Accommodating variations in production quantities requires extensive planning and lead-time to prepare facilities, workers, and engineering support.

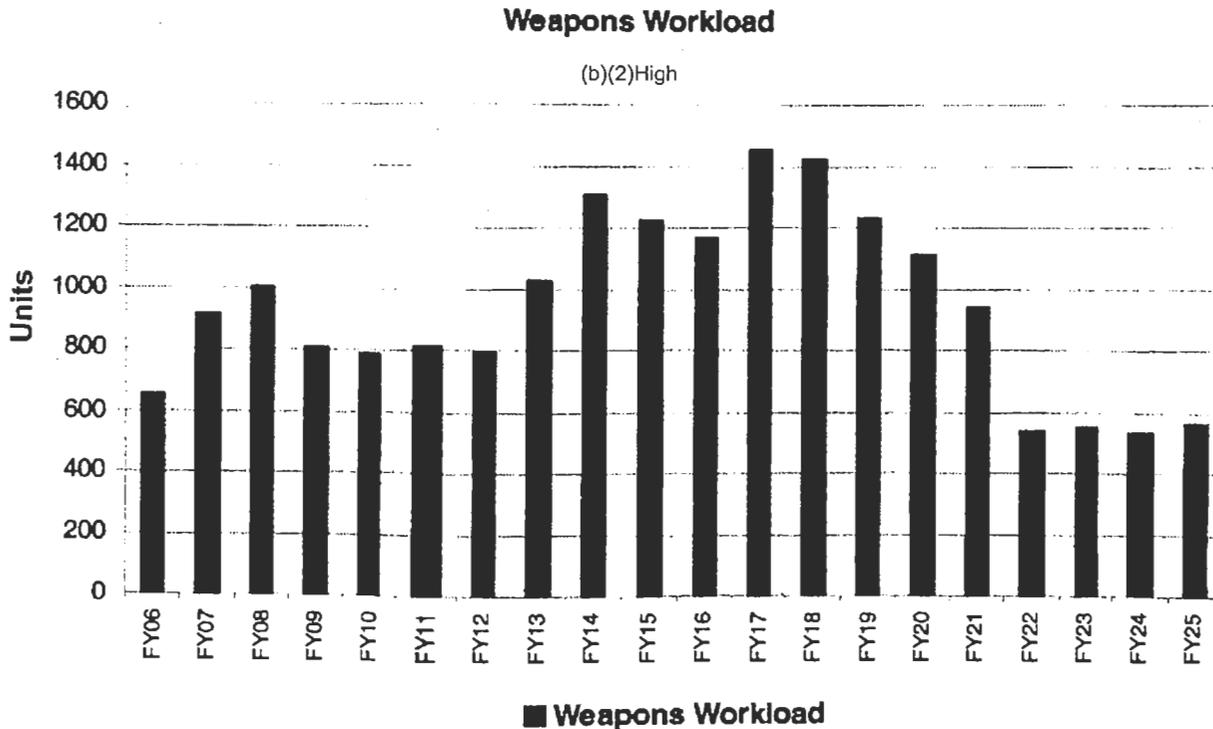


Figure 3-4, Weapons Workload Draft P&PD 2007-0



Workload projections for weapons are provided to Pantex as numbers of stockpile weapons, or units by type. BWXT Pantex uses this information to develop labor and facility projections required to process the weapons. The weapons workload is not always linearly proportional to the number of units processed. Production workload is more accurately defined by the amount of direct and supporting labor required to perform work on units of varying complexity that are being processed through the production plant. Figure 3-5 shows the relationship between labor and the projected weapons workload. It depicts the future workload demands for resources compared to FY 2006 to facilitate resource planning. An analysis of the workload indicates that beginning in FY 2007, both the labor per unit and the number of units are increasing rapidly to an initial peak in FY 2010 and a final peak in FY 2014.

Staffing levels at Pantex are driven by workload assigned by NNSA, and security and safety requirements. A variety of measures will be used to execute the workload, including hiring personnel, outsourcing, subcontracting, and increasing the efficiency of the incumbent workforce.

Reductions to the P&PD workload are being negotiated based on the lower funding targets provided by NNSA. Revised workload charts will be provided after the Draft P&PD is finalized.

### Level of Effort Draft P&PD 2007-0

(b)(2)High

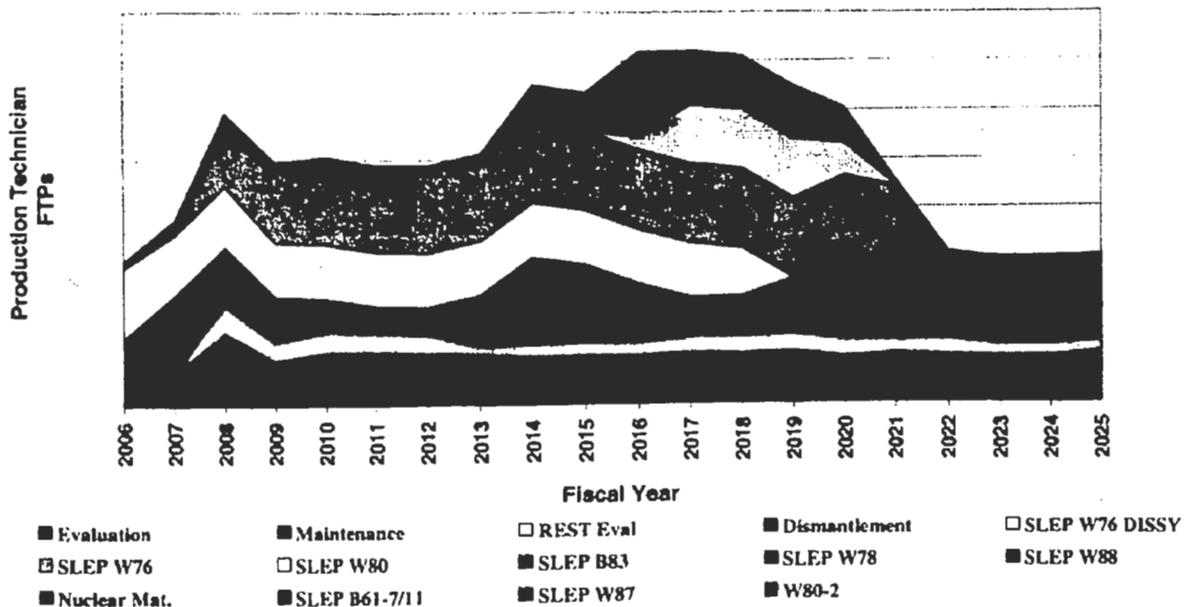


Figure 3-5, Weapons Workload by Labor Level of Effort Draft P&PD 2007-0

The weapons workload for FY 2007 through 2016 is provided in Table 3-3.

**Table 3-3, Ten-Year Weapons Work**  
(In Number of Units Unless Otherwise Indicated)

WORK CATEGORY	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
<b>WEAPONS ASSEMBLY/ DISASSEMBLY</b> <sup>1</sup>	1000	1005	809	787	813	791	991	1167	1188	1113
<b>SNM OPERATIONS</b>										
- SNM CONTAINERS AND PACKAGING <sup>2</sup>	1158	1228	1030	1010	1030	1010	1100	1380	1400	1350
- SNM SURVEILLANCE AND MONITORING <sup>3</sup>	132	152	152	152	152	152	152	152	152	152
<b>HE OPERATIONS</b>										
- HE FABRICATION (SETS)	300	350	350	400	400	400	400	400	400	400
- HE TESTING	2,800	2,900	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
<b>COMPONENT DISPOSITION</b>										
- INERT (PARTS)	77,000	72,300	72,300	72,300	65,500	42,200	42,200	42,200	42,200	42,200
- EXPLOSIVES (LBS.)	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
- ENERGETIC (PARTS)	2,700	7,400	7,400	7,400	2,000	1,300	1,300	1,300	1,300	1,300

<sup>1</sup> Includes dismantlement, evaluation, maintenance, and repair units.

<sup>2</sup> Includes Pits, CSAs, Reservoirs, and RTGs.

<sup>3</sup> Includes container and component surveillances.

### 3.2 Mission Critical Facilities and Infrastructure/Linkages

During FY 2006, all facilities and infrastructure at Pantex were reviewed based on criteria provided by NNSA, facilities and infrastructure and were categorized as Mission Critical (MC), Mission Dependent Not Critical (MDNC), or Not Mission Dependent (NMD). PXSO and NNSA HQ reviewed the proposed list of Mission Critical facilities. On August 7, 2006, the Deputy Administrator for Defense Programs approved the consolidated set of Mission Critical facilities and placed the list under change control. The facilities categorized as Mission Critical are provided in Attachment G. The NNSA definition, derived from the Federal Real Property Council (FRPC) Mission Critical definition, is shown here:

FRPC NNSA Mission Critical - Those facilities and infrastructure that are necessary to perform the primary NNSA missions assigned to the Site. This would encompass any facility or infrastructure where the majority of the structure or utility, or its predominant use (>60%), is to support scientific research, production, or testing to conduct the Stockpile Stewardship Program and without which, operations would be disrupted or placed at risk for a time period that would jeopardize major deliverables (Level 1 milestones).

Additional RTBF Criteria for Mission Critical facilities and infrastructure was provided. RTBF requires a direct link to a program sponsor such as Directed Stockpile Work (DSW) or Campaigns. A direct link includes the following: performing activities to meet a Level 1 or Level 2 DSW/Campaign milestone (ex. producing an item for a stockpile system, storing programmatic material, performing R&D activities for a stockpile system), specifically identified as a key facility within a DSW or Campaign Implementation Plan, and/or directly linked to external commitments made on behalf of NNSA to DOE or other federal agencies. It is expected that all security category I facilities are in this category.

During FY 2007, all remaining facilities and infrastructure at Pantex will be reviewed based on criteria provided on January 16, 2007 by NNSA and categorized as Mission Dependent, Not Critical (MDNC) or Not Mission Dependent (NMD) and submitted to NNSA for approval.

The primary mission of Pantex is performed in facilities categorized as Mission Critical. However, there are several MDNC facilities and infrastructure that are essential support for Mission Critical facilities. Examples of facilities and infrastructure essential to the mission include the steam plant, electrical distribution, generators, fire protection, and weapon and component staging and storage facilities. These facilities are maintained to ensure that the mission is performed in the facilities with the best condition, the highest level of service, and the most scrutiny within the facilities management program.

Mission Critical and facilities essential to the mission receive preferential treatment when prioritizing project and equipment requests. Since the mission critical facilities house the primary mission operations, it is necessary to keep these facilities and essential supporting infrastructure operable and reliable.

All sources of funding are considered to fund project and equipment requests. In addition to RTBF and FIRP funding, Pantex has received supplemental funding from Congressional appropriations that have been used to reduce DM, update equipment, and provide capacity or capability upgrades. The ESPC project will also reduce DM by replacing equipment and systems. BWXT Pantex will continue to focus planning and funding allocation on projects and equipment replacement that will reduce DM and maintain all facilities, but especially facilities essential to the mission, in a safe, secure, compliant, and reliable condition.

The list of Mission Critical facilities is shown in Attachment G.

### **3.3 Future NNSA Mission, Programs and Workload, and Impacts**

BWXT Pantex is developing and managing program elements and processes associated with the pursuit, acquisition, conduct, and completion of all new mission work for the Plant. All relevant planning documents are used to develop and support strategies for future mission work and to analyze impacts to the ongoing mission from potential alternative use of the site's facilities.

Pantex will perform all WR assembly, surveillance, dismantlement, and High Explosive production for RRW. The RRW will meet the same military requirements as current legacy warheads however it will be able to ensure greater long-term confidence in safety and reliability while decreasing the likelihood that underground nuclear testing would ever be needed. Information provided is based on the planning guidance provided by NNSA during the feasibility study. Facility and infrastructure needs are based on this guidance and current inspection and diagnostic requirements for similar weapon systems.

The RRW WR FPU is scheduled for FY 2012. Activities are scheduled to occur from FY 2008 thru FY 2024. These activities include: SS-21 process development (procedures, tooling, testers, training, and facility preparation), WR assembly, new material disassembly/testing/assembly, Joint Test Assembly (JTA) production, and High Explosive production (formulation, synthesis, pressing, and machining). RRW WR assembly activities will require four operations bays, Vacuum Chamber, PAL/CAP, Radiography, and Mass Properties facilities.

Surveillance activities are scheduled to occur from FY 2014 thru FY 2050, they include: WR Disassembly & Inspection (D&I), Testbed Assembly and Disassembly, and High Explosive testing. RRW surveillance activities will require one operation bay, PAL/CAP, Radiography, and Mass Properties facilities. Additional diagnostic capabilities may be required once specific surveillance requirements are developed by the design agencies.

Dismantlement activities are scheduled to occur from FY 2042 thru FY 2052, they include: WR disassembly and component disposition. RRW dismantlement activities will require three operations bays, PAL/CAP and Radiography.

### **3.3.1 Complex 2030**

Alternative use of facilities, beyond the known missions to which they are committed, continues to be a long-range option for the Pantex Plant. Depending upon mission assignment, weapons workload, and current reconfiguration plans, alternate facility use in support of emerging NNSA missions and/or in support of any need the NNSA may have in response to world events will be considered by BWXT Pantex and PXSO. Alternate use of facilities ensures that Pantex continues its strong role to support the needs of the NNSA and the nation while supplementing the DSW and enhancing its ability to attract and retain employees having critical skills.

Potential new missions at the Pantex Plant include the following:

- High Explosives Center of Excellence
- Center of Excellence for Weapons Training
- Consolidated Nuclear Production Center
- Consolidated Plutonium Center
- SNM Consolidation

Pantex has adequate land area available to meet the infrastructure requirements for these potential new missions. Table 3-4 provides information on possible locations and projected personnel resources needed for these potential new missions.

**Table 3-4, Pantex 2030 Initiatives**

ASSIGNMENT	PROBABILITY TO RETAIN/ATTAIN	POSSIBLE LOCATION	POTENTIAL FTP <sup>1</sup>	EXPECTED YEAR OF IMPLEMENTATION
HIGH EXPLOSIVE CENTER OF EXCELLENCE	HIGH		20	2015
CENTER OF EXCELLENCE FOR WEAPONS TRAINING	HIGH		3	2011
CONSOLIDATED NUCLEAR PRODUCTION CENTER	MEDIUM	(b)(2)High	2,000	2030
CONSOLIDATED PLUTONIUM CENTER	MEDIUM		1,355	2022
SNM CONSOLIDATION	MEDIUM		998	2022

<sup>1</sup> Projections include direct and support FTP.

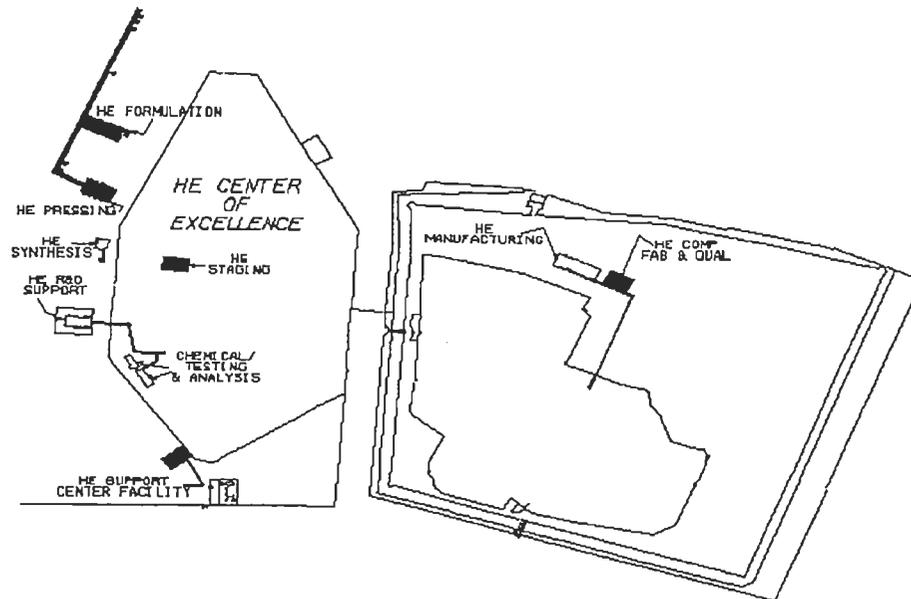
### 3.3.1.1 HE Center of Excellence

The 2030 vision for the nuclear weapon complex mandates that the complex be reconfigured such that the overall footprint is reduced as well as consolidating functions that will reduce the overall operating cost of the complex. In keeping with this important vision and initiative, Pantex has positioned itself to lead the nation in the manufacturing, research, development, testing and the evaluation of high explosives.

Pantex not only has the capability to support the future nuclear weapon stockpile but the infrastructure to meet the various capacity demands that are currently being considered for the complex. The major operational facilities have been upgraded while other upgrades/replacement facilities have been authorized and funded. These future projects will provide improved consolidation of explosive operations and efficiencies. Figure 3-6 is provided to show the Pantex vision of the proposed HE Center of Excellence. By 2030, Pantex will have significantly reduced our footprint while increasing capability and capacity.

Our experience of manufacturing HE coupled with our established relationship with the Labs makes Pantex the logical choice for being the nuclear weapon complex's HE Center of Excellence. In addition, we have carved out a substantial commercial market by being the sole source (only one in the world) provider for high explosives such as Hexanitrostibene (HNS). This high explosive is used extensively by NASA, the Oil Industry, and other commercial entities.

Pantex has laid the foundation to support the Complex's 2030 vision by aligning the three critical elements i.e. experienced people, right sized infrastructure, and established working relationships with both the National labs as well as the commercial sector to make the 2030 vision a reality and Pantex the HE Center of Excellence.



**Figure 3-6 Proposed HE Center of Excellence**

### 3.3.1.2 Center of Excellence for Weapons Training

The Pantex Plant is the only location that offers hands-on nuclear weapons training using actual tooling and processes required for weapons operations. Other locations have cutaways and select components, but none have all the elements available in one location. Based on this fact, Pantex is working to become a center of excellence for weapons training. This distinction provides the opportunity to train engineers and scientists throughout the NWC.

Many benefits can be realized through this initiative. First and foremost is the insight that can be provided to the design agency engineers. Many engineers have not had the opportunity to see, touch and manipulate weapon components and learn how the components integrate into the entire system. Training at Pantex in the manufacturing environment gives an engineer a firsthand view of many of the obstacles at a production facility. Interaction between site and design agency engineers fosters good working relationships needed to resolve issues related to extending the life of the current nuclear weapon systems. In addition, engineers and scientists in the intelligence community and other areas also have a need to learn about nuclear weapon systems. This effort supports the mission work of the facility and the cross-training efforts of the weapon training personnel. The NWC will benefit from the creation of a Center of Excellence for Weapons Training.

The Center of Excellence for Weapons Training would be housed in the weapons training organization and does not conflict with any ongoing activities.



### 3.4 Future Non-NNSA Mission, Programs, Workload, and Impacts

This section identifies anticipated future non-NNSA missions, programs, and workload by timeframe and indicates potential facilities and infrastructure requirements over the next ten years.

#### 3.4.1 Facilities and Infrastructure Impacts from Non-NNSA Programs

Non-NNSA activities do not directly support the NNSA mission. Non-NNSA activities at Pantex include:

- Environmental Management
- Complementary Work.

##### 3.4.1.1 Environmental Management (EM)

The ER Project investigates historical release sites, as well as potential contamination sites, and performs voluntary corrective actions to mitigate future releases, risks to human health and the environment.

The objective of the ER Project is to clean up the Pantex site in a safe, cost-effective, and timely manner that is protective of human health and the environment, in accordance with all regulatory requirements and with input and consideration of the public and stakeholders.

Refer to Section 3.1.9, Non-NNSA Programs for a discussion of the Pantex ER Program, funded by the DOE Office of EM. ER Program activities that could impact Pantex' current and/or future NNSA facilities and infrastructure activities include:

- Soils Program:
  - ▶ Perform hot spot removal of contaminants in soil to mitigate risk.
  - ▶ Implement Interim Stabilization Measures in higher risk areas.
  - ▶ Implement corrective measures construction for the perched aquifer.
- Groundwater Program:
  - ▶ Perched Aquifer:
    - Maintain the Pump and Treat System to remove contaminants as an Interim Stabilization Measure.
    - Implement interim stabilization measures to reduce risk.
    - Maintain an active investigative well monitoring program to evaluate potential perched groundwater impacts.
  - ▶ Ogallala Aquifer:
    - Continue monitoring as specified in the Compliance Plan.

▶ Deactivation and Decommissioning (D&D):

- Perform characterization and stabilization activities on excess facilities prior to dismantlement.
- Dismantle facilities in a manner that creates a low potential for future environmental contamination.

The ER Program activities noted above are coordinated with other Pantex NNSA program activities to assure that there is no impact on the Pantex facilities and infrastructure activities.

The Pantex Environmental Restoration Project Close-Out and Transition Plan will be submitted in FY 2007. ER program completion is scheduled for the end of FY 2008. Beginning in FY 2009, LTS responsibilities will rest with the site landlord and will not be EM funded. Beginning in FY 2009, LTS responsibilities will rest with the site landlord and will not be EM funded. LTS was originally included in the EM Baseline at approximately \$5 million annually for FY 2009 and beyond. DOE EM removed LTS from the baseline in FY 2005 because LTS funding will be provided through NNSA. The \$5 million was an estimated budget, which was developed prior to submittal of the CMS/FS. The CMS/FS identified additional remedial actions that increase annual funding requirements to approximately \$8 million. Operations of Facilities will have to increase by \$2 million annually to accommodate the present recovery from EM. A NNSA LTS baseline will be submitted for approval in FY 2007.

As noted in Appendix 1, Pantex Funding Targets, EM Program funding is proposed to transfer from EM to NNSA in FY 2009. EM baseline and funding will need to be included in future RTBF budget projections.

#### **3.4.1.2 Complementary Work**

Non-NNSA reimbursable activities include United Kingdom projects, DoD sponsored projects, laboratory/plant support and services, and services and products provided to other federal agencies and commercial sponsors. This work does not impact facilities and infrastructure and has minimal impact on operations.

### **3.5 Impacts of Non-NNSA Program on Weapons Activities Mission**

Non-NNSA work at Pantex is not significant. Both the ER and Complementary work are consistent with and complementary to the work performed at Pantex. The ER Project is complementary to the primary mission of DOE/NNSA at Pantex because it incorporates the principles of DOE Integrated Safety Management and facilitates the reduction of risk while maintaining a high regard for the protection of the public and environment. The Complementary work is complementary because the work supports the nuclear weapons industry in the United Kingdom and high explosives work for military and commercial applications. All applicable overhead rates are applied to costs associated with Non-NNSA work.

### 3.6 Facilities & Infrastructure Impact In Support of IT

For customers and stakeholders at Pantex, the timely and cost-effective delivery of accurate information is just as important as the timely delivery of quality materials or products. The information technology (IT) infrastructure is critical for the delivery of information to meet current and future mission and business requirements at Pantex. Information availability, delivery, and accuracy are vital to plant operations such as:

- Safety
- Security
- Assembly/Disassembly
- Product Re-qualification
- HE Manufacturing
- Surveillance
- Nuclear Materials

In some cases, new facilities and infrastructure are required to adequately support the plant mission today, provide state-of-the-art capabilities to fulfill the Complex 2030 vision, and ensure that NNSA's strategic goal to maintain and enhance the safety, security, and reliability of the nation's nuclear weapons stockpile is realized. These projects are identified in Attachments A and K, with descriptions provided in Attachments I and J.

## 4.0 THE PLAN

This section discusses detailed planning, processes, facility utilization and condition, meeting the NNSA weapons production, responsive infrastructure, production readiness, and the resources required to support production requirements within FYNSP targets.

### 4.1 Planning Process

#### **BWXT Pantex Strategic Plan**

The BWXT Pantex Strategic Plan provides the vision and strategies for accomplishing the NNSA weapons production mission in a challenging work environment. The plan illustrates current actions supporting a long-term view for Pantex and positioning the site to be a key element of national defense in 2030 and beyond.

BWXT Pantex will achieve this level of performance through three enabling strategies to support employees, line management and the NNSA. Those strategies are:

- Superior leadership and teamwork
- Superior work planning, execution and control
- Superior sustained, reliable production

Implementation of these strategies will strengthen the technical competence of our workforce and improve our processes to produce more responsive management systems. Completion of scheduled milestones will demonstrate progress toward meeting our strategic initiatives, and our corporate assurance program will evaluate effectiveness as goals are achieved.

This strategic plan provides BWXT Pantex an opportunity to proactively address issues that may impact our mission during coming years. By aligning programs and resources with NNSA goals, we will produce results that meet quality requirements, ensure the safety of our people, enhance the security of our assets and enable future missions at Pantex.

**Mission**

BWXT Pantex maintains, builds and retires nuclear weapons in support of our nation's nuclear deterrent. This mission includes:

- Safeguarding special materials and assets
- High explosives manufacturing and testing
- Nuclear explosives operations
- Analytic and scientific capabilities

**Vision**

BWXT Pantex will provide sustained and superior nuclear weapon stockpile services and position Pantex to meet NNSA needs through 2025 and beyond.

**Core Values**

- Client Value
- Safety, Quality and Security
- Employee Value
- Teamwork and Collaboration
- Honesty and Integrity
- Continuous Improvement
- Corporate Citizenship

1. Sustained and superior performance
2. Sustained and optimized nuclear weapons production
3. Safe, secure and efficient management of Special Nuclear Materials
4. Enhanced project management
5. Establishment of a Center of Excellence for high explosives development, manufacturing and testing
6. Long-term site stewardship
7. Excellence in environmental and energy management

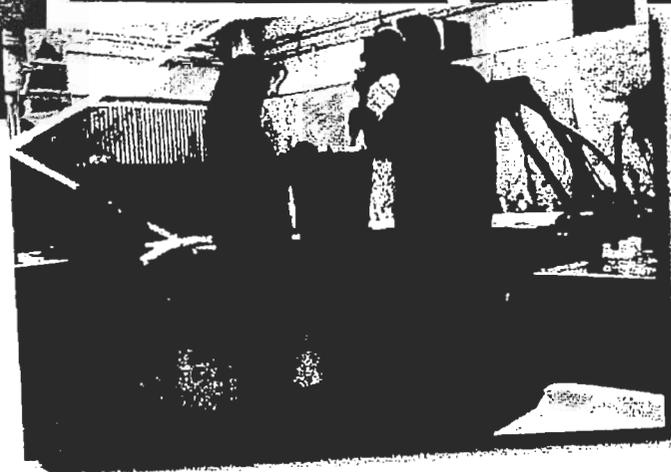
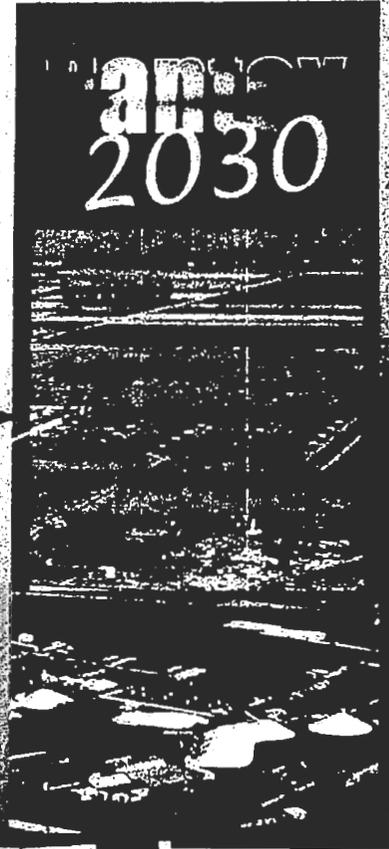
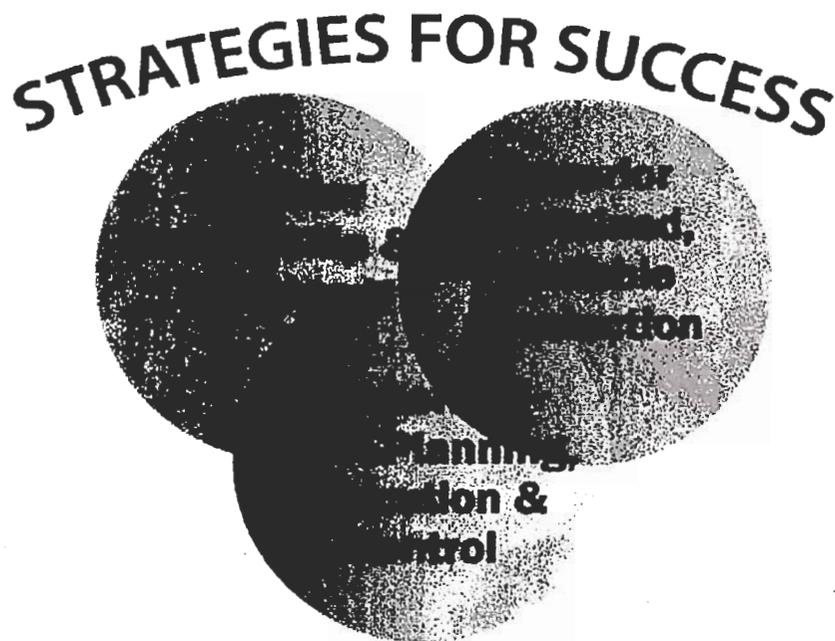


Figure 4-1, Commitment to Pantex



*Figure 4-2, BWXT Pantex Strategies for Success*

BWXT Pantex will achieve superior levels of performance using three enabling strategies:

**Strategy #1: Superior Leadership and Teamwork**

An agile and resourceful management team provides exceptional performance and customer focus. This strategy will ensure the long-term continuity of operations and breadth of experience through the continuous development of skilled managers. This will further BWXT Pantex' role as an unmatched, high-value contractor for national defense activities.

**Strategy #2: Superior Work Planning, Execution and Control**

Processes, policies, plans and materials will be integrated to support execution of work in every area of the plant. Successful execution of this strategy will establish the credibility within NNSA to rely on BWXT Pantex' ability to effectively deploy resources, control scope and deliver what has been promised in aggressive, defensible and achievable plans. Rigorous controls will allow BWXT Pantex to manage with reliable data and clearly communicate capacity and capabilities. The Contractor Assurance System, Business Systems Oversight Program and Internal Audit activities will provide high quality assessment and control systems to assure that business and production operations are conducted within appropriate guidelines.

### **Strategy #3: Superior Sustained, Reliable Production**

Pantex' unique facilities and resources will effectively and efficiently meet the nation's production needs for nuclear deterrence. Execution of this strategy will ensure that Pantex' capabilities and capacity meet and exceed the requirements of all stakeholders.

The focus of the strategic plan is twofold: (1) to produce continued improvement in current mission performance at Pantex and (2) to provide the long-term site stewardship essential for an enduring national asset. BWXT Pantex' three enabling strategies have been developed to achieve the following key initiatives:

- Best-in-class safety performance
- Increased and sustained nuclear weapons production
- Safe, secure and efficient management of Special Nuclear Materials
- Enhanced project management
- Establishment of a Center of Excellence for high explosives development, manufacturing and testing
- Long-term site stewardship
- Excellence in environmental and energy management

### **Initiative #1: Best-in-Class Safety Performance**

BWXT Pantex will provide a safety program that is "Best-in-Class." To do this we must foster the view of safety as a value for all employees, making Target Zero achievable and sustainable.

#### **Objectives**

##### *Worker Engagement*

Providing work sites where workers believe their personal safety is a priority, and where there is the knowledge that the company truly cares about their safety and health, is a major component of the BWXT Pantex Safety Program. Involving all employees in the safety process, work planning, and issues related to change demonstrates care for their ideas and input.

##### *Target Zero Safety Performance*

Target Zero reflects BWXT Pantex' commitment to the overall safety of each employee – a process that emphasizes a vision of zero accidents. BWXT is dedicated to avoiding accidents and their associated human and financial costs by preventing, eliminating or mitigating unsafe acts. The BWXT objective is to be proactive and prevent accidents from occurring. Aggressive safety management techniques such as improved hazard recognition, hazard correction and employee involvement will help reduce occupational injuries and illnesses. Target Zero helps ensure a safe work environment for each employee.

### *Voluntary Protection Program*

BWXT Pantex is committed to the principles of Integrated Safety Management, including the elements of the Voluntary Protection Program (VPP) that engage all people at the site in improving safety performance. Those elements include management leadership, employee involvement, worksite hazard analysis, hazard prevention and control, and safety and health training. BWXT Pantex will use the DOE VPP "Star" process as our guide to validate implementation of these elements.

### **Measures of Success**

- Demonstrate continuous improvement in reducing accidents and injuries
- Submit Voluntary Protection Program Star application by December 2007
- Establish and maintain a Target Zero safety workplace by December 2008

### **Initiative #2: Increased and Sustained Nuclear Weapons Production**

In order to meet national security needs, BWXT Pantex will increase and sustain its ability to meet the weapons production requirements of its customers.

### **Objectives**

#### *Credible Baselines*

Establishing credible baselines will allow BWXT Pantex to aggressively and reliably execute and deliver results that meet NNSA requirement targets. This will involve production control, planning and integration work as well as the involvement of the program offices. The Long-Term Operating Plan and the Master Production Plan will support this initiative.

#### *Integrated Progress Tracking*

Integrated multi-year visibility of Pantex requirements and milestones will be essential for meeting production commitments. The establishment of a clear, definable, and achievable Work Authorization will be coordinated with the customer. Success in this area will be closely related to appropriate funding of DSW mission objectives, and sufficient facilities and infrastructure being available to support operations.

#### *Conduct of Operations*

Continuous improvement in Conduct of Operations will enhance safety and quality and will help avoid unplanned, long-duration shutdowns. High Reliability Organization concepts and Human Performance Improvement will also contribute to sustained, error-free operations.

### *Metrics*

BWXT Pantex will utilize comprehensive metrics to provide management the ability to readily identify potential issues and objectively evaluate the results of operations. Production metrics will be tracked quarterly.

### **Measures of Success**

- Increase the total number of weapons deliverables in FY07 to 1,000, and establish a production capacity of 1,200 units per year thereafter
- Deliver the B61-11 First Production Unit on schedule in FY07, and sustain ongoing production
- Deliver the W76-1 First Production Unit on schedule in FY07, and sustain ongoing production
- Increase the dismantlement of retired weapons by 50% in FY07, and sustain ongoing quantities
- Eliminate the backlog of surveillance units by September 2007
- Implement the Master Production Plan to integrate projects and production goals in FY07
- Semiannually update and maintain the Long- Term Operating Plan

### **Initiative #3: Safe, Secure and Efficient Management of Special Nuclear Materials**

BWXT Pantex will provide an integrated Safeguards and Security Program that protects Pantex personnel and assets in an efficient manner.

### **Objectives**

#### *Systems Effectiveness*

BWXT Pantex will operate an effective and efficient Safeguards and Security Program through the proper balance of risk management, personnel, technology and training. Using risk management tools, we will identify the most efficient technologies that can offset personnel costs and still achieve high systems effectiveness.

#### *Design Basis Threat*

We will implement the approved Design Basis Threat (DBT) implementation plan as funded by NNSA.

#### *Annual Operating Plan*

The company develops and maintains an Annual Operating Plan (AOP). Based on program execution guidance and the Performance Evaluation Plan, an AOP will be developed that ties performance tasks to budget targets.



*Information & Cyber Security*

Protection of information continues to be an important aspect of the Pantex security program. BWXT will provide an effective Information and Cyber Security program that protects all classified and sensitive information. BWXT will proactively enhance the program to meet new information protection challenges and obtain funding to support the improvements.

*Elite Force*

To continue to enhance Pantex' security posture, the company will develop and implement plans to achieve DOE security order implementation, including the fielding of Elite Force.

**Measures of Success**

Maintain uninterrupted operations provided by a trained and qualified Protective Force

Complete DBT milestones

**Objective #4: Enhanced Project Management**

BWXT Pantex will establish the tenets of project management skills as key requirements for all managers. Superior performance will be recognized by providing NNSA with accurate estimates, technically sound designs and projects completed on schedule. Risks will be controlled through a stringent control system.

**Objectives**

*Project Manager Qualifications*

BWXT Project management procedures will be rebaselined to ensure that all the requirements of the revised DOE Order 413.3 are met or exceeded. Project managers will be trained to the procedure requirements. For larger projects, certified Project Management Professionals will be assigned as project managers.

*Project Scope Definitions*

Projects will be based on detailed scope definitions and validated baseline assumptions that are agreed upon by all stakeholders.

*Project Budgets*

BWXT will prepare budgets based on current cost information, predicted escalation, and realistic labor hour estimates and risk-based contingencies.

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### *Aggressive, Realistic Project Schedules*

Pantex will establish project schedules that are realistic yet challenging to the project teams.

### *Rigorous Change Management*

Formal Change Management Boards will be established to control changes to project scope. All changes will be processed through a rigorous change control system with formal change control board approval.

### *Performance Monitoring*

Project schedules will be reviewed with the project teams by senior management on a routine basis. All project reviews will utilize Earned Value Management System tools and performance metrics on a graded basis as senior managers monitor key performance parameters.

### *Customer Confidence*

Pantex will regain customer confidence in project management execution.

### **Assurances of Success**

Complete current Cell Upgrade and Special Nuclear Material Component Requalification Facility projects to meet the W76 First Production Unit schedule

Achieve Critical Decision-2 approval for the High Explosive Pressing Facility by December 2006

Commence Facilities and Infrastructure Recapitalization Program (FIRP) Line Item construction on the Gas Main Distribution System Upgrade Project and Electrical Distribution System Upgrade Project consistent with NNSA funding and direction.

### **Objective #5: Establishment of a Center of Excellence for High Explosives Development, Manufacturing and Testing**

Pantex will capitalize on its high explosives (HE) core competency and reputation by NNSA as the center of HE work for the Nuclear Weapons Complex (NWC) to expand and improve HE mission work for the NNSA and other government and commercial customers. Increasing workload in this area will increase productivity and ensure the safety of HE operations.

## Objectives

### *Facility and Equipment Upgrades*

Providing excellent HE products to the NNSA and other existing or potential customers will require BWXT Pantex to aggressively build, upgrade and consolidate HE facilities and test sites. This will ensure Pantex is positioned to support ongoing and projected nuclear weapons work as well as other HE mission work transferred to Pantex due to NWC consolidation.

### *Process Improvements and Output Increases*

Continuous improvement in HE manufacturing and testing output will ensure the long-term viability of Pantex as the Center of Excellence for HE.

### *Work for Others Expansion*

The Pantex Plant has unique HE capabilities. BWXT Pantex will utilize these capabilities to expand its services to other U.S. government agencies, the U.K. Atomic Weapons Establishment (AWE) and commercial customers. Expanded work for others will benefit the base workload financially as well as maintain technical proficiency.

### *Measures of Success*

- Increase HE manufacturing testing and production support by 10% annually
- Re-authorize CHE operations in the Pressing & Fluid Jet Machining Building by June 2007
- Complete consolidation and upgrades to firing sites by September 2007
- Complete upgrades and relocation of HE pressing operations to the Pressing & Fluid Jet Machining Building by June 2008
- Assume all NNSA surveillance and programmatic HE testing by September 2009

## **Initiative #6: Long-Term Site Stewardship**

BWXT Pantex will assure that processes, policies, plans, materials and decisions are integrated to provide responsive infrastructure and capabilities that support mission needs for the long-term viability of the Pantex Plant.

## Objectives

### *Management Team Excellence*

BWXT Pantex is building a resourceful management team to provide exceptional performance and customer focus. This strategy ensures the long-term continuity of operations and breadth of experience through continual development of skilled

managers. Tools include management development, mentoring, improved new manager selection, enhanced manager assessment, and succession planning.

#### *Highly Trained, Agile Workforce*

To meet present day requirements and prepare for future missions, the Pantex workforce needs to be highly trained, confident and flexible. Through training initiatives, we will increase workers' technical competence and enhance their level of knowledge for effective operational decision-making. We will also identify the appropriate employee skill mix needed to accomplish weapons work and establish a variety of methods to attract, recruit, develop and retain those skills.

#### *Upgraded Infrastructure Capability*

Targeted facility upgrades of weapons production facilities and component storage areas will increase capacity and reliability. Improvements in cells, bays, firing sites, storage facilities and general infrastructure/utility systems are a part of this initiative. The installation of new capabilities to increase the breadth of operations will enhance the site's ability to meet current and future customer requirements. New operational capabilities in radiography, component characterization, mass properties, and other areas are a part of this initiative. We will continue footprint reduction projects that result in a site that is more efficient, safer for workers, and more agile in responding to mission requirements. This effort will also lead to lower operating, maintenance and surveillance costs. In addition, accelerated replacement of aging and obsolete equipment will reduce maintenance costs and help streamline operations.

#### *Upgraded Infrastructure Capability*

We will provide Information Technology services that support the Plant's mission and business requirements. These solutions will be a transparent enabler of productivity, delivering the information and computing resources required by Pantex personnel to effectively perform their jobs.

#### **Measures of Success**

- Maintain sustained mission-essential facility availability of greater than 95% annually
- Upgrade existing facilities:
  - ▶ Manufacturing Cells by FY07
  - ▶ Electrical and Gas Main Distribution Systems by 1st Quarter of FY09
  - ▶ Energy Savings Performance Contract (Phase 2) by FY08
  - ▶ Computing Facility – Uninterruptible Power & HVAC by FY08
- Complete design and start construction on new operations facilities:
  - ▶ High Explosive Pressing Facility (CD-3 by March 2008)

- ▶ Component Evaluation Facility (CD- 1 by September 2006, CD-2/3 by FY08)
- ▶ Complete major demolitions (Rail System by 1st Quarter of FY07, 12-97 by FY07, 12-9 by FY08)
- Begin procurement and implementation of Operational Software Development & Implementation Project by FY08
- Recruit/retain 90% or more of the 1,246 critical skills needed at Pantex by FY09

### **Initiative #7: Excellence in Environmental and Energy Management**

BWXT Pantex will utilize its Environmental Management System (EMS) to administer sound stewardship practices that protect natural and cultural resources while cost-effectively meeting and exceeding compliance with environmental, public health and resource protection laws, regulations and DOE requirements. The EMS encourages environmental excellence and efficient energy management. It promotes environmental sustainability for the long-term Pantex mission, and objectives.

#### *Controls and Actions*

BWXT Pantex actively works to analyze environmental hazards and minimize environmental impacts resulting from its activities, products, and services. BWXT Pantex will continue to build environmental controls into site projects and activities during planning.

#### *Regulatory Compliance*

We will proactively address new environmental regulations and requirements to ensure strict regulatory compliance.

#### *Continuous Improvement*

The company will seek out improved management practices for protection of the environment in Plant processes, including energy conservation, pollution prevention and environmentally preferable purchasing. BWXT Pantex will establish and achieve annual environmental objectives to reduce the impact of Plant activities.

#### *Regulator/Stakeholder Confidence*

We will maintain open communications with regulators and other stakeholders on environmental issues and will strive for recognition of accomplishments beyond strict environmental compliance standards.

#### *Conservation Management*

We will increase the use of energy efficient equipment and processes to reduce the consumption of energy necessary to accomplish the Plant mission. Personnel in all areas of the Plant will participate in initiatives to reduce energy consumption. BWXT Pantex will ensure effective use and reuse of environmental resources through

recycling, implementation of beneficial reuse, waste minimization, and process improvements.

#### *Environmental Remediation*

We will continue to proactively remediate sites impacted by legacy activities to meet the DOE's goals for accelerated clean-up by the end of 2008 and implement the requirements for long-term environmental stewardship by the start of 2009.

#### **Measures of Success**

- Receive no significant violations or adverse regulatory actions from environmental regulators and ensure superior levels of environmental protection and pollution prevention
- Achieve annual energy conservation targets each fiscal year
- Receive customer recognition for Pollution Prevention initiatives through the annual NNSA Pollution Prevention Awards process
- Achieve recognition as an environmental and energy management leader by the customer by the end of FY 2007
- Achieve recognition for environmental management in the Clean Texas program from the TCEQ in FY 2007
- Meet all objectives and commitments from the current approved baseline Environmental remediation schedule
- Meet or exceed environmental management goals specified by DOE through the Integrated Planning and Budgeting Database
- Continue receiving closure letters from both the Environmental Protection Agency and the Texas Commission on Environmental Quality on remaining Solid Waste Managements Units



### Master Site Planning

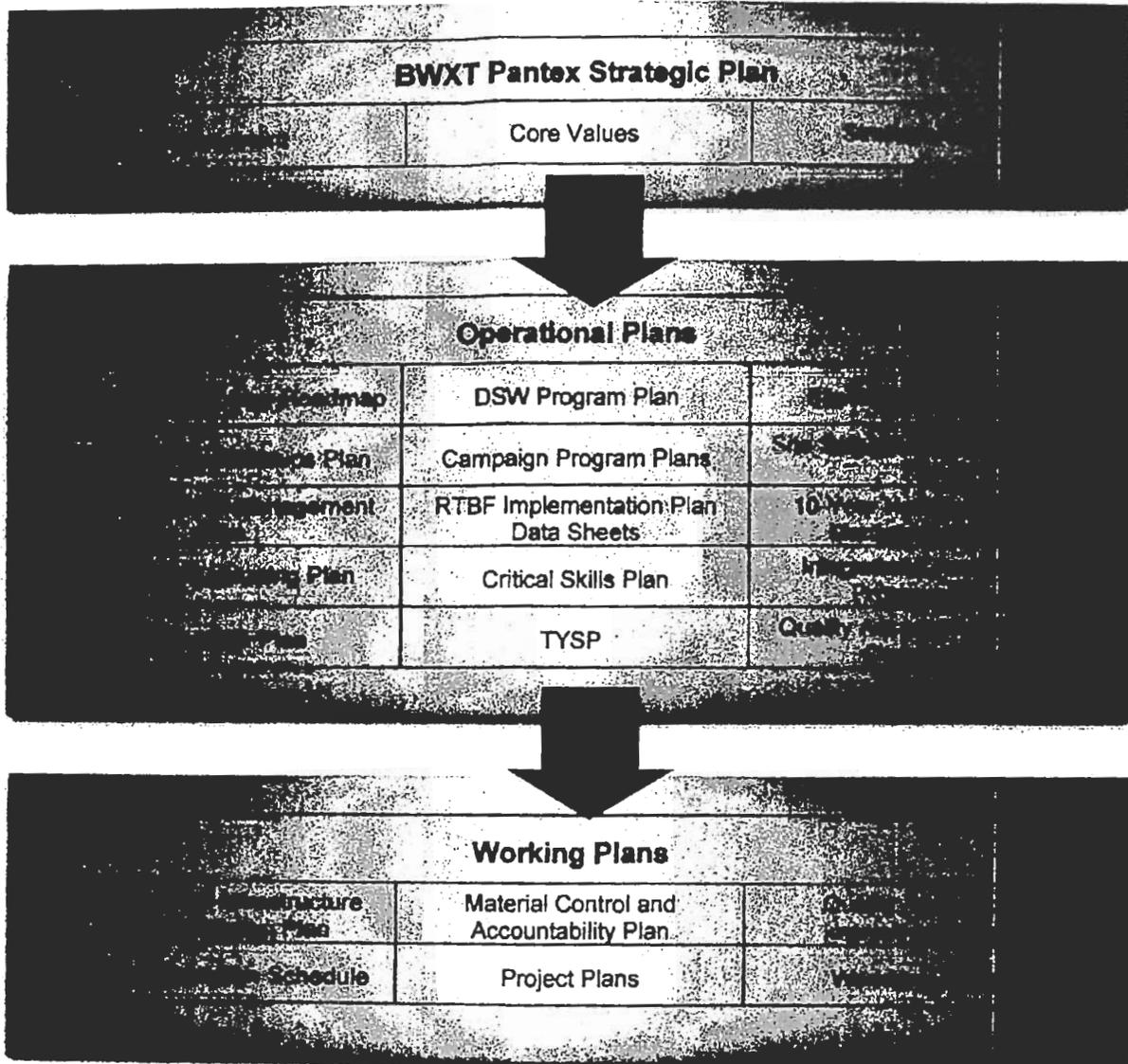
The RTBF Program Director is responsible for the development of the TYSP; however, all senior managers have responsibility for the development and execution of the strategies and plans. As shown in Figure 4-3, the site planning process relies on the integration of workload, facilities, technology, and people through the utilization of effective business processes and performance metrics.

The master site planning process uses the Strategic Plan as a starting point for developing long-range planning alternatives, prioritizing proposed projects, and determining the direction for future infrastructure and technology investment.



**Figure 4-3, TYSP Relationship to Site Activities**

Figure 4-4 diagrams the relationship of the TYSP to other plans. The Strategic Plan is the Plant's highest level planning document. The mission, core values, strategic vision, and balanced scorecard drive the operational plans at the site, including the TYSP. Operational plans are site-wide and interrelated in that each plan relies on information from, and provides information to, the other plans.



**Figure 4-4, TYSP Relationship to Other Plans**

Working plans further define and assist implementation. They generally provide development and implementation recommendations from site-wide to site-specific areas. All of these plans are synchronized with the NNSA's PPBES process and are fiscally constrained within FYNSP targets. The planning horizon for all of the plans varies to suit the requirements of the program, but all focus on at least a five-year planning horizon with specific scope, cost, and schedules to support the PPBES process. Most plans are updated annually, although some are updated bi-annually.

BWXT Pantex integrates current and projected workload, technology, and human resource requirements with facilities and infrastructure needs through the TYSP process. The core team responsible for workload and resource analysis and development of the TYSP consists of personnel from RTBF, DSW, and Campaign

Programs; Maintenance; Program Planning and Scheduling; Applied Technology/ R&D; Manufacturing; Security; and Finance organizations. Other organizations from across the site provide information relative to their respective areas of expertise that is necessary to assemble a comprehensive assessment of the mission requirements. A gap analysis is performed to develop the strategies and plans to address shortfalls.

### Project Planning

The site's project and capital equipment request process is managed by the Master Site Planning organization within the RTBF Program. [Figure 4-5](#) shows the process flow. A prioritization process was adopted in FY 2003 and enhanced in FY 2004 and FY 2005. The process allows organizations to identify facility and infrastructure requirements or deficiencies that require project development consideration. Through the project request process, organizations provide description, justification, and mission consequence information that is collectively used to determine project candidates, planning estimates, and eventual site project prioritization. This process also includes requests for capital equipment.



**Figure 4-5, Facility and Infrastructure Project and Equipment Request Process**

Each functional division has a coordinator who ensures the project request forms are complete and signed, reviews and updates project lists, and serves as the division point of contact for project requests. The division coordinator is also responsible for notification of changes to project categories and justification for the change. The rating system is designed to require two independent assessments of any request. The project requester assesses the request based on mission consequence using the criteria outlined in [Table 4-1](#), and the responsible program manager with input from facility engineering staff assesses the request based on plant wide impact and project risk using the criteria outlined in [Table 4-2](#). By using independent reviews of each request, each reviewer objectively analyzes the importance of the requested work based on their knowledge of the operation.

**Table 4-1, Mission Consequence Level**

1	MISSION SHUTDOWN – FAILURE TO PERFORM WORK WILL SHUTDOWN MISSION FUNCTION, HAVE MAJOR ES&H OR SECURITY ISSUES, IS A PEP DELIVERABLE, OR IS REQUIRED TO MEET PERMIT, CODE, DIRECTIVE, LEGAL, OR ORDER COMPLIANCE. IMPACT IN LESS THAN ONE YEAR.
2	SIGNIFICANT MISSION DELAY – FAILURE TO PERFORM WORK WILL SIGNIFICANTLY REDUCE ABILITY TO PERFORM MISSION, MAY RESULT IN SERIOUS ES&H OR SECURITY ISSUES, OR IS REQUIRED TO MEET PERMIT, CODE, DIRECTIVE, LEGAL, OR ORDER COMPLIANCE. IMPACT WITHIN ONE TO TWO YEARS.
3	MODERATE MISSION DELAY – FAILURE TO PERFORM WORK WILL REDUCE EFFICIENCY IN MISSION PERFORMANCE OR INCREASE OPERATING COSTS.
4	MINOR MISSION DELAY – FAILURE TO PERFORM WORK WILL HAVE MINOR IMPACT ON MISSION PERFORMANCE.
5	NO MISSION DELAY - NO PERCEIVABLE IMPACT IF WORK IS NOT PERFORMED.

**Table 4-2, Probability of Failure**

<b>HIGH</b>	FAILURE IMMINENT. IMMEDIATE ACTION/SOLUTION REQUIRED. IMPACT IN LESS THAN ONE YEAR.
<b>MEDIUM</b>	FAILURE NEAR TERM. NEGATIVE IMPACTS ARE BEGINNING NOW. ACTION REQUIRED IN THE NEAR TERM. IMPACT IN ONE TO TWO YEARS.
<b>LOW</b>	FAILURE UNCERTAIN, LONG TERM IF AT ALL. IMPACT IN THREE OR MORE YEARS.

Table 4-3 shows the Categorization Score based on input of the Mission Consequence Level and the Probability of Failure.

**Table 4-3, Project and Equipment Categorization Score**

1	E	B	A
2	D	C	B
3	E	D	C
4	E-F	E	D
5	F	F	F
	Low	MEDIUM	High

PROBABILITY OF FAILURE

Projects categorized as “A” are grouped as the highest priority contenders for funding, then projects in the “B” group, and so on. A project request based on a system failure is immediately addressed. This reduces the tendency to rate a request higher than the criteria indicates based on an anticipated failure.

The process is being further refined in FY 2007 with the development and implementation of a Construction Project and Facilities Governance Board. The Board is made up of Program Directors and key support staff, which review new and emerging construction, maintenance, and environmental projects requiring resources for proper prioritization in support of the Pantex mission. This process will further enhance and strengthen decisions that the right projects are being prioritized and worked.

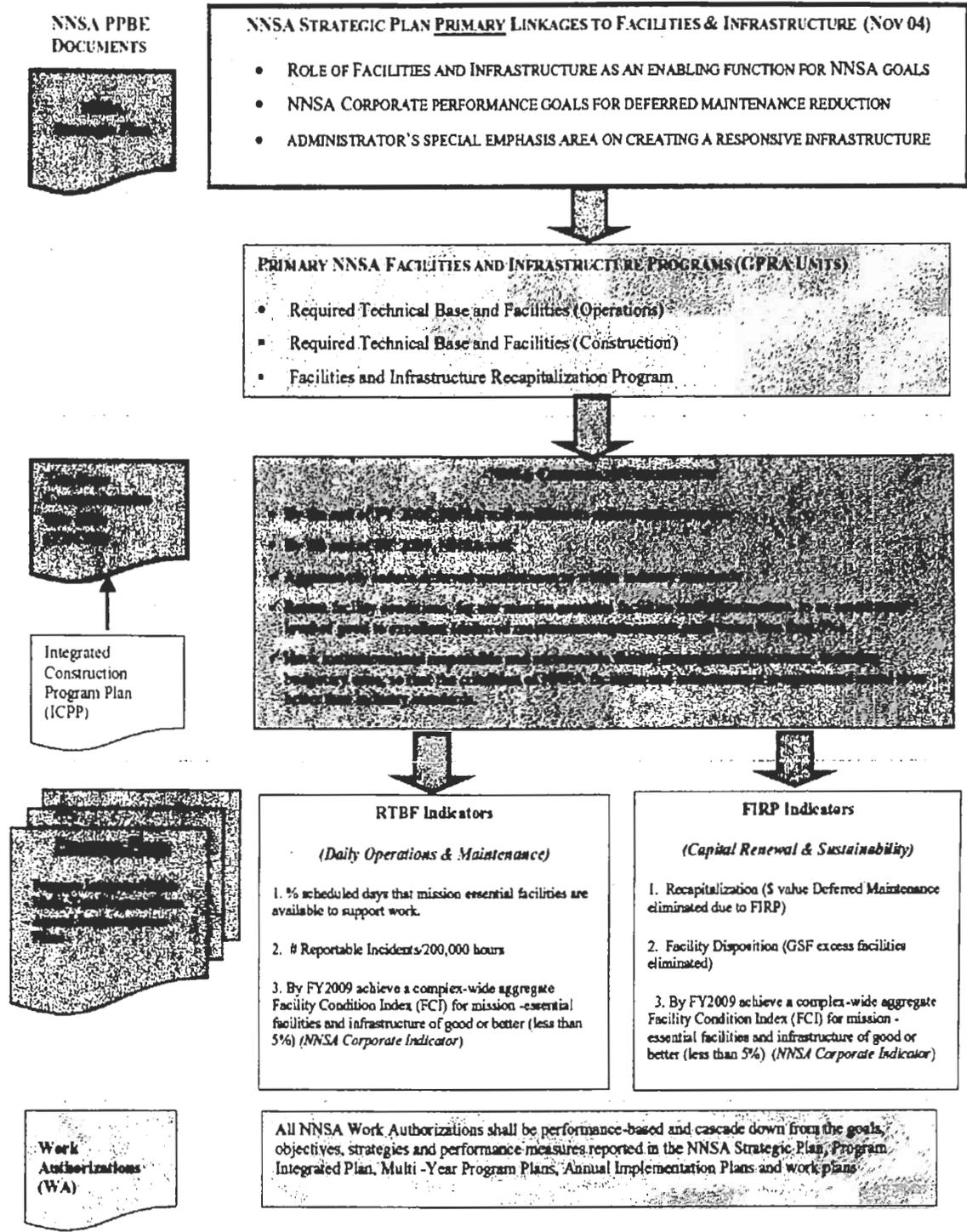
### **Facilities and Infrastructure Integration**

Facilities and infrastructure requirements are derived from a variety of sources. The primary documents are the NNSA Strategic Plan with its cascade to RTBF and FIRP performance indicators, and the Pantex Plant Strategic Plan. Figure 4-6 shows this cascade. In addition, requirements are derived from weapons workload planning documents, and the Responsive Infrastructure initiative.

Master Site Planning engineers interface with all functional areas on a routine basis to determine changes in requirements, future needs, and strategic initiatives. Master Site Planning supports all areas with project planning, Life Cycle Cost analysis, alternatives identification and evaluation, and preliminary scope definition for identified facility and infrastructure needs. This helps the planners remain objective, and also retain a broad working knowledge of all workload requirements, plant capacity and operating capability, fostering effective integration of facilities and infrastructure needs for the good of Pantex Plant.

Facilities and infrastructure requirements are integrated at the site level through planning and coordinating maintenance and construction projects by a team of planners, engineers, and maintenance managers. This team is led by the Master Site Planning organization and meets routinely throughout the year to discuss planned corrective maintenance work, planned and ongoing construction projects, DM reduction initiatives, and equipment requests. The purpose of the meeting is to coordinate planning and optimize all resources to execute work and meet the plant's mission and programmatic needs.

BWXT Pantex functional areas also develop strategic plans, which are the basis to ensure the flow down from the NNSA and Pantex strategic plans follow a logical path to measurable execution strategies. Progress is monitored by functional and program managers in monthly meetings, and issues are identified promptly. Impacts to other functional or programmatic deliverables are identified, and corrective actions are taken in a timely manner.



**Figure 4-6, NNSA Facilities and Infrastructure Performance Cascade**

To ensure progress toward meeting performance objectives, the RTBF Director holds reviews to determine progress toward meeting the objectives, and local objectives and performance goals. The RTBF performance indicator status for FY 2006, through January 2007, is shown in Table 4-4.

Table 4-4, FY 2007 RTBF Performance Indicators

Milestones	STATUS	TREND
Achieve 90% of planned staffing in critical positions; complete 90% of required training and qualifications of critical personnel.	98.8% of Critical Skill positions for FY06 "Maintenance of Nuclear Weapons Expertise Data for NNSA Performance Metrics" are filled and maintained.	GREEN
Annual percentage of scheduled days that mission-critical and mission dependent not critical facilities are available is greater than 90%	YTD Mission Critical / Mission Dependent-Not Critical facility availability is 99.7%.	GREEN
Number of reportable accidents per 200,000 hours of work is less than 5.0 (vs. BLS national standard)	Number of reportable accidents per 200,000 hours of work is 1.09 compared to the NNSA goal of 5.0.	GREEN
Annual NNSA complex-wide aggregate Facility Condition Index (FCI), deferred maintenance costs per replacement plant value, for all mission-critical and mission-dependent, not critical facilities and infrastructure is less than 6.8%.	Based on current FIRP and Operations of Facilities funding, maintaining an FCI for MC/MDNC facilities below 6.8% may not be achievable.	YELLOW
Annually, receive no Notices of Violation (NOV)/Preliminary NOV from environmental regulators.	No significant violations. Pantex received 1 Best In Class award and 3 NNSA Environmental Stewardship awards. All 4 are evaluated for the Whitehouse Closing the Circle award.	GREEN
Annually, achieve Compliance with Applicable Nuclear Safety Rules.	No enforcement actions or significant non-compliances for FY07 YTD. PAAA fine was received for FY05 incident.	GREEN
Develop Written Worker Safety and Health Program by February 2007.	On schedule.	GREEN
For RTBF mission-essential facilities and infrastructure, allocate adequate baseline funding (direct/indirect) to support planned maintenance as defined in site FY 2007 Annual Maintenance Plans.	Current funding is, at a minimum, \$7.2 million short of the required amount to support planned maintenance.	RED
Complete CD-1 for the Component Evaluation Facility Project at Pantex, Due date 09/2007.	CDR transmitted to PXSO in Oct. 2006	GREEN
Complete CD-4 for the Special Nuclear Material Re-qualification Facility at Pantex, Due date 03/2007.	Presently the baseline CD-4 date is April 2006. BCP developed and submitted but not approved to rebaseline the CD-4 date. Facility construction is complete, and BWXT declared readiness for 10 of the 11 workstations. The DOE ORR, started January 16, 2007, is complete. Authorization for start up received from NA-10. The 11th workstation will be started up separately to support surveillance requirements. CD-4 has been delayed due to issues with finalizing the workstation.	RED
Complete Phase I of the Building 12-44 Production Cells Upgrade Project at Pantex, Due date 12/2006	Complete. Use and Possession of Phase I was taken Nov. 17, 2006. Project is red in PARS because of baseline. The Contractor Readiness Assessment is in progress.	RED
Complete CD-2 for the High Pressure Fire Loop for Zone 12 Project at Pantex, Due date 12/2007.	Complete. CD-2 was approved Dec. 1, 2006	BLUE
Complete CD-3 for the High Pressure Fire Loop for Zone 12 Project at Pantex, Due date 09/2007.	On schedule.	GREEN

Four performance indicators are currently issues as seen above. The facility condition index and the maintenance funding milestones are being impacted by the current FIRP funding level and the less than adequate authorized funding for RTBF Operations of Facilities. As a result the goals may not be achievable at Pantex. The third performance indicator, CD-4 for the Special Nuclear Material Re-qualification Facility, has been impacted by technical challenges associated with the deployment of the individual workstations involving new technologies and their startup. The fourth performance indicator, Building 12-44 Production Cells Upgrade Phase I, Use and Possession was taken Nov. 17, 2006, but project is red in PARS because of baseline.

#### 4.1.1 Facilities and Infrastructure Overview

Current facilities and infrastructure activities at Pantex include maintenance (as defined by the TYSP guidance), plus vehicle maintenance, custodial work, construction, and disposal of excess facilities and equipment. As of the end of FY 2006, NNSA owns 624 facilities at Pantex, including two facilities for OST and SNL (WETL). In addition, NNSA leases two facilities from Texas Tech University, seven portable offices, and EM has five facilities for a total of 638 facilities on site. The ten-year planning horizon shows the plant to be fairly stable; i.e., facilities eliminated through facility disposition will be replaced with modern facilities required to support mission work with an increase in gross square footage. Table 4-5 shows the amount of mission critical, mission dependent, and not mission dependent square footage for NNSA and non-NNSA facilities. As a result of DOE Audit Finding number 05-NSQ-AF-01, Pantex has completed a corrective action plan validating facility square footage of all buildings. Facility square footage in this FY 2008 TYSP reflects the square footage in FIMS as of September 30, 2006.

**Table 4-5, Gross Square Footage for NNSA and Non-NNSA Facilities**

	MISSION CRITICAL	MISSION DEPENDENT	NOT MISSION DEPENDENT	TOTAL
NNSA Owned	995,135	1,681,399	311,149	2,987,683
NNSA LEASED	0	51,327	16,167	67,494
NON-NNSA OWNED	0	5,936	4,696	10,632
NON-NNSA LEASED	0	0	0	0

The FY2006 end of year Facility Condition Index (FCI) for all facilities and infrastructure reflected in the FIMS is 7.4%. Refer to Section 4.1.2.1.

#### 4.1.2 Real Property and Asset Management

Several processes are used to manage the assets at Pantex. The Asset Stewardship Program includes the Condition Assessment Survey (CAS) program, the Deferred

Maintenance program, the Facility and Infrastructure Project and Equipment Request process, and the Integrated Safety Management (ISM) program.

In FY 2003, the CAS program was institutionalized to capture and improve the data integrity and accuracy of asset conditions at Pantex. The CAS program is integrated with the DM program and assists in logically assembling deficiencies into DM work packages/projects for execution.

BWXT Pantex established a Deferred Maintenance (DM) Program in October 2005 to manage the selection and prioritization of all DM projects. This single-point of accountability for the plant ensures DM projects are centrally and strategically prioritized within available resources to meet the Plant's mission. The DM Program Manager is responsible for planning, management, and reporting of DM. The selection, prioritization, and authorization of DM work/projects, for all funding sources (e.g. RTBF, FIRP), is determined by the DM Program Manager. All DM projects are coordinated through the DM Program Manager for concurrence.

The Facility Modification and Construction identification program, described in Section 4.1, is used to plan for longer-term asset management and work that cannot be performed in house. Close coordination between the Maintenance Work Order System and the Facility and Infrastructure Project and Equipment Request process ensure work is reviewed and the appropriate amount of resources are allocated.

As discussed throughout this document, ISM is paramount to ensure all work is performed safely. However another aspect of ISM is the early identification of hazards, including real assets that need to be addressed. BWXT managers at Pantex have been trained on Human Performance Improvement and are applying key aspects of that training to ensure work is analyzed and reviewed prior to being performed and the hazards addressed. Key aspects of Human Performance Improvement are currently being disseminated to all employees. Identified hazards are addressed and if warranted, placed into the Work Order or Facility and Infrastructure Project and Equipment Request process.

#### **4.1.2.1 Condition**

The FY 2006 end of year Facility Condition Index (FCI) for all facilities and infrastructure reflected in the Facilities Information Management System (FIMS) is 7.4%. FCI for Mission Critical (MC) facilities is 2.8%, Mission Dependent Not Critical (MDNC) facilities is 11.46%, and Not Mission Dependent (NMD) facilities is 9.88%. The high priority given to providing operationally ready facilities to support mission requirements is evidenced by the low FCI for MC facilities and an average facility availability of 99.7%. The total Deferred Maintenance (DM) backlog reported in FIMS is \$238 million. DM for MC facilities is \$40 million, \$172 million for MDNC, and \$25 million for NMD.

As documented in the approved Defense Programs FY2007 Mission Critical List, there are 52 MC facilities at Pantex, of which only 18 are in "less than adequate" condition. There are 3 facilities in poor condition and no facilities in "fail" condition. The DM associated with the 18 facilities is approximately \$17.4 million.

Approximately \$8 million of the \$17.4 total deferred in MC facilities will be addressed within the next 3 to 5 years with projects currently authorized or scheduled for execution. The DM reduction achieved through completion of these projects will improve these facilities to a better than adequate condition. The projects encompass RTBF line items, on-going FIRP projects and proposed initiatives associated with the transformation of the complex and Complex 2030. Site modernization initiatives will create additional facility disposition opportunities for non-enduring facilities resulting in reduction of DM. It should be noted that \$4 million of the \$17.4 million is associated with deficiencies not impacting the operational mode of the facility.

Pantex is dependent upon FIRP as a funding source to address legacy DM. RTBF Operations of Facilities Plus-Up was utilized to offset shortfalls in FIRP in FY 2006. Given the current trend with reduced funding for the FIRP Program as demonstrated in FY 2006 and current projections within the FY 2007 Continuing Resolution (CR), the site will be required to further scrutinize all deficiencies. The Pantex strategy will continue to focus on providing operationally ready facilities to execute the mission of the Plant, including the MDNC infrastructure required for the operations of mission critical facilities. Continual evaluation and update to the DM backlog will ensure funding allocations are addressing high priority deficiencies versus aesthetic improvements.

As illustrated in Attachment F, projected FCI for MC facilities will increase over the next ten years while the FCI for MDNC facilities will decrease. This is because the only contribution to MC DM is the RTBF funding allocated to maintenance. The FIRP program will mostly be addressing DM in MDNC because that is where the remaining legacy (FY03 baseline) DM is. If the FIRP criteria were broadened to include the total deferred maintenance backlog regardless of the year it was identified, this would allow the site to eliminate deficiencies that limit physical and operational infrastructure required to support the Stockpile Stewardship Program. This would also resolve the imbalance in the FCI projections reflected in Attachment F.

BWXT Pantex reinstated a formal CAS Program in FY 2003 and established a 3-year program to inspect 100% of the facilities. BWXT Pantex completed the third year of the initial 3-year cycle in FY 2006. All data is entered into the DOE Condition Assessment Information System (CAIS).

#### **4.1.2.2 Utilization**

Space management encompasses all real property owned or leased by DOE. The RTBF Program is responsible for the overall management of space. Consistency in application of space management policy and cost effective utilization are primary considerations in determining space allocation.

To support the site mission, individual facilities are assigned to functional organizations based on space requirements and specialized construction. The functional organizations are responsible for the day-to-day utilization of their assigned buildings. For example, assembly/disassembly and associated direct support facilities are assigned to the Manufacturing Division, and HE and associated direct support facilities

are assigned to the Applied Technology Division. Due to the dynamic environment and multi-organizational use of office areas, the RTBF Program manages administrative areas. Requests for additional space or modifications to existing space as well as issues that cannot be resolved within the functional organizations' managed space are submitted to the RTBF Program for evaluation and resolution.

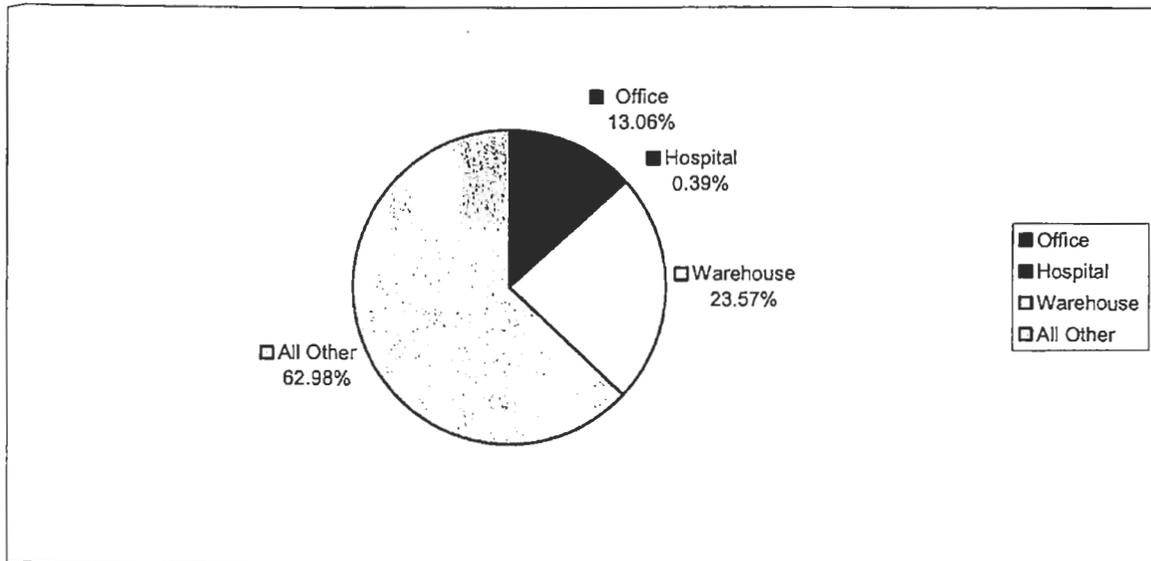
Because of an active D&D program at Pantex, space utilization has steadily improved through recent years. In FY 2003, space was 97.77% utilized, improving to 98.13% utilization in FY 2004 and 98.43% utilization in FY 2005. This positive trend eliminates excess space, thus eliminating surveillance and maintenance costs for those facilities and eliminating potential safety hazards associated with abandoned facilities. Since there is very little excess capacity, site planning efforts are closely coordinated with plant mission and support needs so that operations are in facilities appropriate for their use, and changes in facility requirements are coordinated and implemented in advance. All excess facilities at Pantex have been demolished; any future excess facilities and demolition will result from construction of new facilities.

Attachment B shows the current space utilization of Pantex buildings as depicted in the Facilities Information Management System (FIMS). This FIMS report categorizes buildings by the Federal Real Property Council (FPRC) categories. Note that laboratories at Pantex are categorized as "Manufacturing/Production Related Laboratories," which is designated in FIMS to be captured in the FPRC "All Other" category. The EM Asset utilization is 100% for the two facilities they own. Table 4-6 and Figure 4-7 reflect the information in Attachment B for NNSA facilities.

**Table 4-6, Current Facilities Utilization – FY 2006**

USE CATEGORY	TOTAL			
	NNSA ASSET UTILIZATION INDEX	GROSS SQUARE FEET	NUMBER OF BUILDINGS	PERCENT TOTAL SQUARE FEET
OFFICE	96.80	387,119	57	13.06
HOSPITAL	100.00	11,516	1	0.39
HOUSING	N/A	0	0	0
Warehouse	99.11	698,530	188	23.57
LABORATORY	*	0	0	0
ALL OTHER	98.65	1,866,232	293	62.98
<b>TOTAL</b>	<b>98.52</b>	<b>2,963,397</b>	<b>539</b>	<b>100</b>

\*Note that laboratories at Pantex are categorized as "Manufacturing / Production Related Laboratories," which is designated in FIMS to be captured in the FPRC "All Other" category.



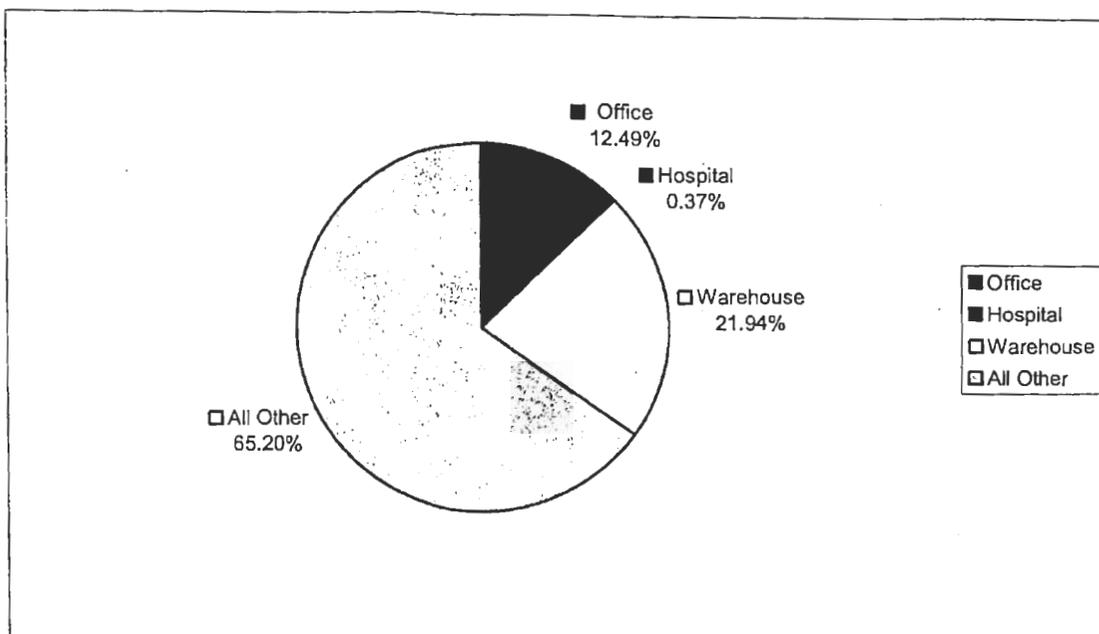
**Figure 4-7, Current Facilities Utilization – FY 2006**

Table 4-7 and Figure 4-8 shows projected space utilization by use category for FY 2017. Future space requirements will be met through a variety of mechanisms. Existing production space will be improved and new space will be provided through Line Item projects that are ongoing or planned, whereas storage space will be improved through GPP projects. Although the total number of facilities will be reduced, the total square footage for operations will increase. This is due to the CEF and security buildings that are required to accommodate mission needs for production and increasing security requirements. Ultimately, it is expected that 100% of space for each category will be utilized and there will be no excess facilities at the Pantex Plant.

**Table 4-7, Future Facilities Utilization – FY 2017**

USE CATEGORY	TOTAL		
	GROSS SQUARE FEET	NUMBER OF BUILDINGS	PERCENT TOTAL SQUARE FEET
OFFICE	392,598	51	12.49
HOSPITAL	11,516	1	0.37
HOUSING	0	0	0
Warehouse	689,755	185	21.94
LABORATORY	0	0	0
ALL OTHER	2,049,246	299	65.20
<b>TOTAL</b>	<b>3,143,115</b>	<b>536</b>	<b>100</b>

\*Note that laboratories at Pantex are categorized as "Manufacturing/Production Related Laboratories," which is designated in FIMS to be captured in the FPRC "All Other" category.



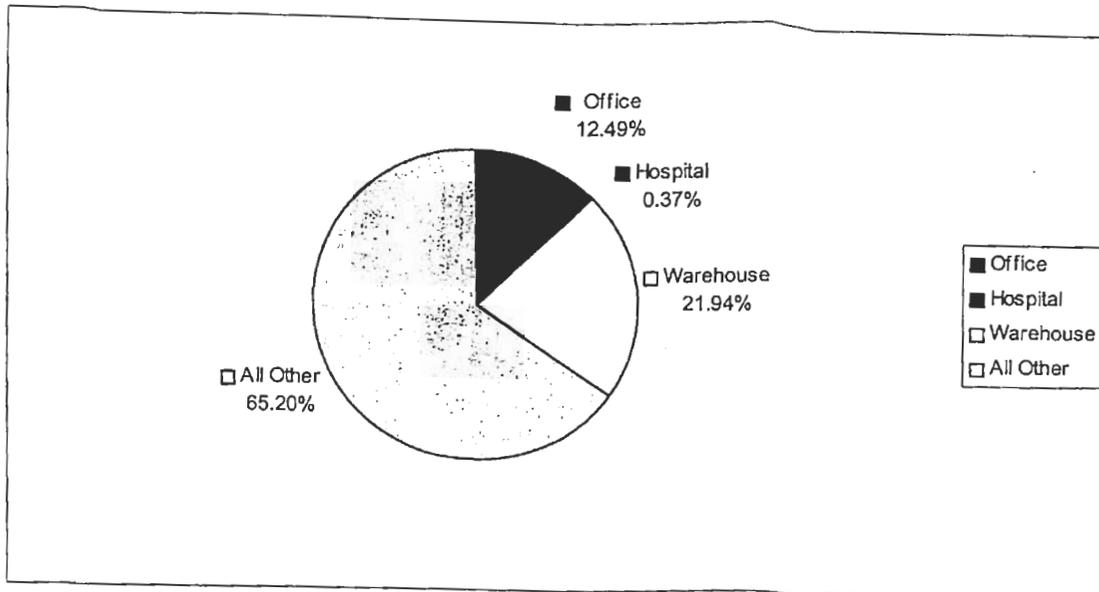
**Figure 4-8, Future Facilities Utilization – FY 2017**

Table 4-8 and Figure 4-9 shows projected space utilization by use category for FY 2030. These preliminary projections are based on Pantex assumptions for facility related weapons production, support, warehouse, and personnel requirements. Expected utilization for each category will be 100%.

**Table 4-8, Future Facilities Utilization – FY 2030**

USE CATEGORY	TOTAL		
	GROSS SQUARE FEET	NUMBER OF BUILDINGS	PERCENT TOTAL SQUARE FEET
OFFICE	402,449	17	14.45
HOSPITAL	0	0	0
HOUSING	0	0	0
Warehouse	330,346	121	11.85
LABORATORY	0	0	0
ALL OTHER	2,053,246	162	73.70
<b>TOTAL</b>	<b>2,786,041</b>	<b>300</b>	<b>100</b>

\*Note that laboratories at Pantex are categorized as "Manufacturing/Production Related Laboratories," which is designated in FIMS to be captured in the FPRC "All Other" category.



**Figure 4-9, Projected Facilities Utilization – FY 2030**

#### 4.1.2.3 Land-Use Planning

The TYSP serves to capture the comprehensive land use planning. The comprehensive land use planning process identifies the current condition of existing land and facility assets and the scope of constraints across the site and in the surrounding area. Long-term sustainable development goals are used to focus efforts to steward these assets. The process uses these goals to identify the possible land and facilities use options. The options considered would take advantage of opportunities and mitigate constraints in support of the site or programmatic strategic plan's mission needs and scenarios. When carried out, it will remain a current and living process by using adaptive management techniques that adjust management practices and direction to changes in environmental, mission, economic, cultural and social factors.

The comprehensive land use planning process relies on stakeholder involvement to provide diverse ideas and values in all its phases. The involvement of the public, Local, State, and Tribal governments, and other Federal Agencies in its development and application enables the Department to improve decisions while building trust with the public it serves. Land and facility use planning complements, utilizes, links, supports, and integrates with NEPA and the many other separate processes required by law and regulation.

To achieve its full potential, sites are given, under the life cycle asset management approach, the responsibility of tailoring the process to local conditions and many existing activities which impact on the planning for the DOE's land and facility assets. These include, but are not limited to the NEPA process, site planning and asset management, public participation, economic development under community re-use organizations, privatization of assets, site strategic planning, Environmental Justice, cultural asset management, historic preservation, and natural resource management.

Pantex land use planning utilizes the Pantex Site Wide Environmental Impact Statement, Long-term Stewardship planning under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Resource Conservation Recovery Act (RCRA) and administrative procedures to ensure compliance.

The Texas Commission on Environmental Quality (TCEQ) and the Environmental Protection Agency (EPA) jointly regulate ER activities at Pantex, under a memorandum of agreement for activities at federal facilities. Under this memorandum of agreement, EPA is the lead agency for radiological legacy release issues under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and TCEQ is the lead agency for non-radiological legacy release issues under Resource Conservation Recovery Act (RCRA).

The Pantex Plant resides on land owned and leased by the DOE. The DOE owns approximately 9,100 acres at Pantex Plant proper and 1,077 acres of detached property, called Pantex Lake, approximately 2.5 miles northeast of the main Plant site. Pantex operations near the southern boundary require DOE to lease approximately 5,800 acres of land between the Plant and U.S. Highway 60 from Texas Tech University, primarily for safety and security buffer areas. Approximately 2,500 acres of Pantex Plant proper are used for industrial operations, the burning grounds, and the firing sites.

Some land not actively used for Plant operations is provided to Texas Tech University for agricultural purposes through a service agreement. Approximately 8,070 acres of agricultural land within the combined main plant area and the Pantex Lake property are managed by Texas Tech University through a service agreement with DOE for farming and ranching use. A large portion of the Pantex Plant is used for grazing cattle and dry land crop production. Actual acreages of farmed land at Pantex are variable and dependant upon available crop rotational cycles, season, cattle population, soil moisture, and seasonal rainfall. Cattle grazing is allowed on the uplands, playas, and Pantex Lake. Managed grazing is used to maintain biodiversity in the playas. In some areas, grazing is also used to reduce biomass, and thus fire hazard. The Texas Tech Research Farm and their operators follow cultural and conservation farming practices at the Pantex Plant.

In general, land use is expected to remain constant, with continued cooperation with Texas Tech University through the Service Agreement and leasing of Texas Tech University land for security and safety reasons. The impact of continued Plant operations on land resources has been determined to be limited due to little change in expected site land use. Based on the projected plant mission, Pantex will remain in use as an active industrial site under NNSA after completion of environmental cleanup activities. Refer to Figure 2-9 Agricultural Land Use at Pantex.

The DOE is currently under contract with the U.S. Army Corps of Engineers (USACE) to negotiate the acquisition of real property adjacent to the DOE/NNSA Pantex site for environmental restoration monitoring and potential future remediation of contaminated perched groundwater east of the Plant. Refer to Figure 4-10. Only Environmental Restoration activities are planned. There are several options that will be considered for

beneficial use of the property. This may include negotiations with neighboring private landowners, including leasing this land back to them for farming purposes. It is also proposed, that upon completion of this acquisition, Pantex will request Texas Tech Land Management to extend their boundaries of administration of the site to also include this acreage through an existing service agreement.

### **National Environmental Policy Act (NEPA) Statement**

Pantex has a mature NEPA Program that includes all facets of Plant operations. The Final Environmental Impact Statement (EIS) for the Continued Operations of the Pantex Plant and Associated Storage of Nuclear Weapon Components was approved in November 1996. Secretary O'Leary approved the Record of Decision (ROD), based on the SWEIS, in January 1997. The Pantex Site Office Manager approved a Supplement Analysis (SA) that provided a five-year review of the EIS in March 2003. The SA determined that the EIS is still adequate for the continued operations of the Pantex Plant. A second 5-year Supplemental Analysis update is currently being performed and is anticipated to be completed in FY 2008.

Some projects identified in this TYSP do not have NEPA documentation completed. Proposed projects must be at a sufficient stage of planning to allow for detailed NEPA analysis, which could alter planning decisions. As planned projects become proposed actions and are ready for environmental analysis, appropriate NEPA documentation will be prepared according to the planning schedule of the projects. Construction projects, whether new construction, modifications, or demolition, that have not been described in the EIS or SA, will be analyzed in accordance with established NEPA requirements. A NEPA Review Form will be prepared for each project for DOE/NNSA to determine if an EIS or Environmental Assessment (EA) is required. If an EA needs to be prepared, it will be funded by the individual project. Construction contracts must have the proper analysis, NEPA documentation, and approval prior to award.

### **Current Land Use**

BWXT Pantex has a diverse land use as is shown in Figure 2-9, to complement the environmental management of the site.

### **Environmental Management Long Term Stewardship**

The Environmental Management Long Term Stewardship is made up of four core pieces: risk based assessment and end state vision, land acquisition; closeout and transition plan, and long term stewardship.

### **Pantex Risk-Based End State Vision Document**

The Pantex Risk-Based End State (RBES) Vision Document Draft Final – March 2004 provides a basic portrayal of site conditions in relation to current regulatory and other values that can be defined, described, and evaluated. Based on the projected plant mission, Pantex will remain in use as an active industrial site under the National Nuclear Security Administration after completion of environmental cleanup activities. Potential

release sites will be closed and deed recorded as appropriate, except for 15 active sites necessary for continued plant operations.

Some environmental hazards from active Pantex industrial operations will remain after achieving the end state. These hazards are known and controlled per existing regulations. Pantex is currently subject to Compliance Plan 50284, October 2003 (CP) issued by the Texas Commission on Environmental Quality. The CP requires Pantex to conduct corrective measures and groundwater monitoring programs, with specific environmental sampling and reporting requirements. The CP also requires that approved Pantex Baseline Risk Assessments (site-wide or for specific areas) be evaluated every five years to determine if assumptions and exposure scenarios remain valid. The CP process assures that RBES environmental goals will continue to be met during long-term environmental stewardship.

The RBES Vision document describes the end state that is based on the appropriate planned future land use and is protective of human health and environment for that land use.

Pantex has identified and investigated 252 Solid Waste Management Units (SWMUs). Each SWMU is noted in [Figure 3-3](#) and listed in Attachment H with the Risk Reduction Standard that is being used to close them. Pantex manages 25 SWMUs closed to RRS 2. These 25 sites have been closed and the contaminant levels are recorded on the deed for the property.

Most of the SWMUs at Pantex are closing to RRS 3. This level of closure also requires that restrictions be recorded on the deed for the property. The action of recording these restrictions will occur following TCEQ and EPA approval of the recommended final corrective measures and implementation. The deed restrictions will recognize the types and concentrations of contaminants present in the soils, and future use of the land for industrial purposes.

A process has been implemented to evaluate proposed work that would disturb or interfere with any of the SWMUs at Pantex, as described in [Section 3.1.9](#). This process controls and mitigates: (1) the potential for worker exposure to contaminants in the soils, (2) the potential for redistribution of the contaminants, and (3) the effects of handling, packaging, storing and disposing soils that need to be removed from a SWMU.

Impacted perched groundwater will also be recognized in the deed restrictions. Use of perched groundwater without treatment will be prohibited and drilling into and through the perched groundwater will be prohibited without prior authorization by PXSO or its assignees.

### **Pantex Environmental Restoration Project Close-Out and Transition Plan**

The Pantex Environmental Restoration Project Close-Out and Transition Plan will be delivered to DOE EM later in FY 2007. It will provide the framework for closeout of EM projects at Pantex.

### Land Acquisition Project

The Department of Energy is currently under contract with the U.S. Army Corps of Engineers (USACE) to negotiate the acquisition of real property adjacent to the DOE/NNSA Pantex site for environmental restoration monitoring and potential future remediation of contaminated perched groundwater east of the Plant. Refer to Figure 4-10 for the perched extent and acquisition area. Pantex will maintain this land in its current condition and does not plan to use this land for future administrative buildings or operational purposes. Only Environmental Restoration activities are planned. There are several options that will be considered for beneficial use of the property. This may include negotiations with neighboring private landowners, including leasing this land back to them for farming purposes. It is also proposed, that upon completion of this acquisition, Pantex will request Texas Tech Land Management to extend their boundaries of administration of the site to also include this acreage through an existing service agreement.

As part of the acquisition of this property, Phase I and Phase II Environmental Site Assessments (ESA), would be conducted, as applicable, prior to the purchase of the property. These ESAs would determine any potential environmental liabilities associated with the properties that are not related to Pantex legacy operations. Projected environmental impacts on the property, once purchased, are expected to be minimal and related to installation of equipment necessary to remediate and monitor perched and Ogallala groundwater.

There are several structures with utilities located on the property in this proposed acquisition. At this point, there is no plan for any changes with respect to these utilities and water wells.



Figure 4-10 Proposed Land Acquisition at Pantex

### Long Term Stewardship and Future Environmental Liabilities

Previously NNSA (NA-50) requested an assessment of long term stewardship and future environmental liabilities that are not included in current EM baselines. BWXT Pantex provided this data in the document, Pantex Response, NNSA FY 2006-2010 Environmental Budget and Future Environmental Liabilities Resource Data Request, May 2004. Table 4-9 is an updated table presented in that document, and summarizes Pantex Future Environmental Liabilities that are not included in any other budget requests.

**Table 4-9, Summary of Pantex Future Environmental Liabilities (\$K)**

CATEGORY	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2007- FY 2012 TOTAL	FY 2013-FY 2027 TOTAL	POST FY 2027 TOTAL
KNOWN FUTURE LIABILITIES NOT ACCOUNTED FOR IN EM BUDGET, EM BASELINES, OR ANY OTHER BUDGET REQUEST									
D&D OF EXCESS FACILITIES <sup>1</sup>	1,686	9,654	23,197				34,537	48,588	201,014
LONG-TERM STEWARDSHIP <sup>2</sup>			7,760	7,828	8,098	8,357	32,043	97,900	100,429
CONTAMINATED MEDIA <sup>3</sup>								10,000	4,300
EXCESS NUCLEAR AND NON-NUCLEAR MATERIALS <sup>4</sup>	13,080	13,280	15,100	15,664	13,997	5,693	76,814	30,000	
EXTERNAL ENVIRONMENTAL REQUIREMENTS <sup>5</sup>	500	500	500	500			2,000		
OTHER LIABILITIES <sup>6</sup>									
<b>TOTAL KNOWN FUTURE LIABILITIES</b>	<b>\$15,266</b>	<b>\$23,434</b>	<b>\$46,557</b>	<b>\$23,992</b>	<b>\$22,095</b>	<b>\$14,050</b>	<b>\$145,394</b>	<b>\$186,488</b>	<b>\$305,743</b>

#### Notes to Table 4-9

<sup>1</sup> D&D of Excess Facilities - Includes process-contaminated facilities that are excess or scheduled to become excess to the NNSA mission based on future workload projections. Process-contaminated facilities that have already been accepted by EM are not included. Excess facilities are based on this FY 2008 TYSP, including all demolition related to new construction (funded and unfunded), and preliminary projections based on Pantex assumptions for facility requirements in 2030. Dollars are based on the FY 2006 Active Facilities Environmental Liability Estimate, in FY 2006 dollars.

<sup>2</sup> Long-Term Stewardship (LTS) - In accordance with DOE Order 430.1B, LTS includes the physical controls, institutions, information, and other mechanisms needed to ensure protection of people and the environment where DOE (including NNSA) has completed or plans to complete disposition. Specific activities that are associated with LTS include surveillance, maintenance, monitoring, and records management. Funding targets in DOE EM's Integrated Planning Accountability and Budgeting System (IPABS) for FY 2009 - FY 2013 are approximately \$5 million; however, recent CERCLA and RCRA requirements identified in the CMS/FS will result in requests to NA-56 for approximately \$8 million annually.

<sup>3</sup> Contaminated Media - Disposition of contaminated media may include soil, sediment, surface water, and groundwater and includes any contaminated media that is not currently in the EM baseline that will require treatment or remediation (active firing ranges, active release sites).



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FY 2008 TYSP

account for the square footage associated with this facility.

OST facility is to be completed in FY 2008 and is over 25,000 square feet. SA has directed PXSO to account for the square footage associated with this facility in the Pantex account.

CEF, to be completed in FY 2016, is required based on increased workload capacity and capability. Square footage will not be reduced by the construction of this facility.

### Facility Elimination and Disposition

The Demolition and Decommissioning (D&D) Plan is a summary of all D&D activities at the Pantex Plant between FY 2007 and FY 2017. It is divided into short and long-range plans. The short-range plan considers prior year projects, those in progress, and projects planned for FY 2007 through FY 2009. The long-range plan considers projects scheduled for FY 2010 through FY 2017.

Objectives of the BWXT Pantex Excess Elimination and Disposition Program

Reduce Surveillance and Maintenance (S&M) costs. These are the annual costs of operating, securing, maintaining, and inspecting buildings.

Reduce the footprint of the plant. Footprint is measured in terms of the square footage of buildings recorded in FIMS.

Reduce hazards to workers, the environment, and the public.

Reduce DM.

The Pantex Excess Facilities Program has effectively reduced the number of buildings and structures at Pantex Plant. The backlog of excess buildings has been eliminated. Future demolition will be coordinated with new construction. Buildings scheduled to be demolished usually within one year after they are replaced by new construction.

Table 4-10 provides a summary of the Short-Range Demolition Plan and Table 4-11 provides a summary of the Long-Range Demolition Plan. Demolition associated with new construction is not included in the Table 4-10 and Table 4-11. A significant amount of DM will be eliminated through demolition, as well as a nominal annual surveillance and maintenance cost. Since many buildings will be demolished in the near term, only a minimal amount of maintenance is performed in order to maintain the buildings. Therefore, the savings to the annual operating budget is not large even though a significant amount of square footage will be reduced.

**Table 4-10, Summary of the Short-Range Demolition Plan**

FISCAL YEAR	BUILDINGS TO BE (OR WERE) DEMOLISHED	FIMS REDUCTION (Sq Ft)	S&M COST REDUCTION (\$/YR)	DM REDUCTION (\$)	PROJECTED FUNDING (\$)
2002*	1	128	1,000	NA	0
2003*	35	44,373	55,000	250,000	4,825,000
2004	21	59,572	41,000	650,000	5,348,000
2005	8	26,462	23,000	1,443,000	5,383,000
2006	16	49,681	33,000	10,781,000	5,550,000
2007	5	16,796	23,000	473,000	3,200,000
2008	1	18,382	33,000	444,000	5,000,000
2009	12	66,882	94,000	5,451,000	10,700,000
<b>TOTAL</b>	<b>99</b>	<b>282,276</b>	<b>303,000</b>	<b>19,492,000</b>	<b>40,006,000</b>

\*Ongoing Prior Year Projects Only. DM is based on DM value in CAIS as of September 30, 2006 and is in FY 2006 dollars. Facilities demolished prior to establishment of the DM baseline in FY 2003 are not included.

**Table 4-11, Summary of the Long-Range Demolition Plan**

FISCAL YEAR	BUILDINGS TO BE DEMOLISHED	FIMS REDUCTION (Sq Ft)	S&M COST REDUCTION (\$/YR)	DM REDUCTION (\$)	PROJECTED FUNDING (\$)
2010	0	0	0	0	0
2011	0	0	0	0	0
2012	0	0	0	0	0
2013	4	12,483	20,000	168,000	5,000,000
2014	0	0	0	0	0
2015	0	0	0	0	0
<b>TOTAL</b>	<b>4</b>	<b>12,483</b>	<b>20,000</b>	<b>168,000</b>	<b>5,000,000</b>

Funds for D&D are provided primarily from three sources: FIRP, EM, and the RTBF program. FIRP funding is the primary source for the short-range demolition. Attachment E-1 does not take credit for future elimination of facilities where a potential funding source has not been identified. If planned projects are approved, an increase in the level of RTBF funding for D&D projects will be required. Future Line Item project requests include funding to perform D&D of facilities that will become excess after construction is complete.

#### 4.1.3.1 Future Space Needs

##### New Construction – Line Item Projects

Line Item projects are underway to establish and modernize capabilities and infrastructure systems and enhance the overall safety and operational posture of the

site. NNSA's ICPP evaluates and selects Line Item construction projects to satisfy the program requirements and funding targets identified in the FYNSP. Line Item projects for the Pantex Plant included in the ICPP dated November 7, 2006 are included in Table 4-12 and Attachment A. The tables provide information for supported projects, including the initial fiscal year of capital funding, the Total Project Cost (TPC), and planned completion date.

**Table 4-12, Line Item Projects Supported /Integrated Construction Program Plan**

PROJECT NAME	INITIAL FY OF CAPITAL FUNDING	TPC (\$M)	PLANNED COMPLETION DATE
SNM COMPONENT REQUALIFICATION	2002	20.4	FY 2007, QTR. 4
BUILDING 12-44 PRODUCTION CELLS UPGRADE <sup>1</sup>	2002	45.2	FY 2010, QTR. 4
HE PRESSING FACILITY <sup>1</sup>	2004	80.6	FY 2014, QTR. 1
HIGH PRESSURE FIRE LOOP – ZONE 12 SOUTH MAA <sup>1,2</sup>	2006	35.0	FY 2011, QTR. 2
COMPONENT EVALUATION FACILITY <sup>1</sup>	2005	172.6	FY 2016, QTR. 1
ELECTRICAL DISTRIBUTION SYSTEM UPGRADE <sup>1</sup>	2005	19.6	FY 2009, QTR. 4
GAS MAIN AND DISTRIBUTION LINES UPGRADE <sup>1</sup>	2005	10.8	FY 2009, QTR. 3
SECURITY PIDAS UPGRADE <sup>1</sup>	2009	150.0	FY 2017, QTR. 4

<sup>1</sup> PROJECTS ARE CURRENTLY SHOWN IN THE ICPP BELOW THE FYNSP FUNDING TARGETS FOR PANTEX.  
<sup>2</sup> FUNDED BY FIRP THROUGH DESIGN, RTBF FUNDED CONSTRUCTION

In addition to the Line Item projects approved in the ICPP, BWXT Pantex proposes additional Line Item Projects that will support modernization and operational improvements for the weapons disassembly and modification mission, the HE manufacturing mission, refurbishment and upgrade of the utility infrastructure, and modernization of administrative and security infrastructure. The security alarm system was modernized in the mid-1990s and is kept current with periodic software upgrades; however, the hardware is reaching the end of its service life both technically and physically and requires modernization in the near future. In addition, increased staffing and capability to support the DBT drives the need for facility improvements. Proposed Line Item projects are included in Table 4-13 and Attachment A-2.

A brief description of the proposed Line Item projects is included in Attachment I.

**Table 4-13 Proposed Line Item Projects for Inclusion in the ICPP**

PROJECT NAME	INITIAL FY OF CAPITAL FUNDING	TPC (\$M)	RTBF	S&S	FIRP	OTHER
BUILDING 12-44 PRODUCTION CELLS 1&8 UPGRADE	2009	54.2	X			
ULTRAVIOLET (UV) TO INFRARED (IR) DETECTOR UPGRADE	2009	126.8	X			
FICAM EQUIPMENT REPLACEMENT	2009	74.0	X			
(b)(2)High	2010	31.7	X			
HE FORMULATION FACILITY	2010	97.0	X			
ADMINISTRATIVE SUPPORT FACILITY	N/A	98.0				POTENTIAL THIRD PARTY FINANCING
SEWER COLLECTION SYSTEM MANHOLE REFURBISHMENT	2010	11.7	X			
SEWER EQUIPMENT REFURBISHMENT	2010	10.6	X			
CCTV ENHANCEMENTS	2010	59.6		X		
ZONE 4 RICHMOND MAGAZINE UPGRADE	2010	70.3				MD
PROTECTIVE FORCE FACILITIES UPGRADES AND ENHANCEMENTS	2011	114.2		X		
PROTECTIVE FORCE PORTAL UPGRADES AND ENHANCEMENTS	2011	88.2		X		
HE COMPONENT FABRICATION & QUALIFICATION FACILITY	2011	128.7	X			
HIGH PRESSURE FIRE LOOP – ZONE 11	2011	72.8	X			
WATER SECONDARY DISTRIBUTION UPGRADE	2011	73.1	X			
STEAM PRODUCTION FACILITY UPGRADE	2011	19.3	X			
PROTECTIVE FORCE LIVE FIRE RANGES UPGRADES AND ENHANCEMENTS	2011	36.5		X		
STEAM DISTRIBUTION SYSTEM UPGRADE	2012	53.8	X			
COMPRESSED AIR REFURBISHMENT	2012	11.6	X			
NDE/GAS LABORATORY	2012	104.1				DSW
HPFL STORAGE TANKS AND PUMPS	2013	32.4	X			



Complex 2030 initiatives. Pantex utilizes the Program to increase operational efficiency and effectiveness of facilities and systems in support of Stockpile Stewardship mission. New construction combined with footprint reduction provides for an overall reduction in NNSA's total ownership cost.

- **Infrastructure Planning** - Funds the preparation of preliminary and final design documents that are used for procurement, installation, and construction of Recapitalization projects. Infrastructure Planning also funds Other Project Costs (OPC) for the FIRP Utility Line Items. Pantex will develop four projects for Recapitalization/construction in FY 2007:
  - ▶ Electrical Upgrades in Electrical Task #2,
  - ▶ Roof Replacement for Building 12-64,
  - ▶ Building 11-7 Production Storage Facility Replacement, and
  - ▶ Applied Technology Facility.
  
- **Recapitalization** – Funds projects that restore the site infrastructure. The objective is to buy-down the legacy deferred maintenance at the site. The Program will provide funding for site support of two ongoing activities the NWC Roof Asset Management Program and Energy Saving Performance Contract. The NWC Roofing funding provided to Pantex is shown in Table 4-14.

**Table 4-14 NWC Roofing Funding**

Site	Prior Years	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total
Complex Total	26,400	10,000	10,000	10,000	10,000	10,000	10,000	10,000	\$38,569
Pantex	4,379	1,441	*	*	*	*	*	*	\$6,052

\* NWC RAMP Program is performing a roof assessment in FY 2007. Site splits for FY 2008 and beyond will be determined after assessment.

- **Facility Disposition** – In FY 2007, FIRP will demolish 12-97, 9-3, 12-9A, 12-R-9A, and 12-14. This will reduce the plant footprint by approximately 16,796 square feet. An additional 13 buildings totaling 85,264 square feet are candidates for FIRP funded demolition in FY 2008 and FY 2009. With the anticipated receipt of additional funding, Building 12-9 is planned to start demolition in FY 2007 and complete in FY 2008. This is reflected in Attachment E. FIRP Facilities Disposition is currently scheduled to end in FY 2009. Pantex is proposing FIRP funding for demolition of 4 additional buildings in 2013.
  
- **FIRP Utility Line Items (ULI)** – Funds projects for utilities that have been the specific responsibility of an individual program. The ULI is managed within DOE Order 413.3. The Pantex FIRP Utility Line Item projects address the utility assets that support multi-program or site-wide activities. Currently, there are three LI projects in various stages of project execution: Electrical Distribution System Upgrade, Gas Main and Distribution System Upgrade, and High Pressure Fire

The costs (both RTBF and DSW) associated with AB Hazards Analysis and AB Controls implementation have more than doubled since FY 2001.

- ▶ **Fire Protection Program Improvements:** Since FY 2002, BWXT has implemented the following improvements to the Pantex Fire Department and associated fire programs as a result of a Baseline Needs Assessment (BNA) BWXT Pantex commissioned in January 2002. In FY 2005, the BNA was updated by PXSO and BWXT Pantex to identify resources needed to adequately protect Pantex. The updated BNA took into account engineered systems and the type of facilities being protected.
  - Increased staffing from 48 Full-Time Personnel (FTP) to 61 in the Fire Department in FY 2003, added 8 full time fire system technicians in FY 2004, and added 11 full time dispatch personnel in the Operations Center in FY 2006 in conjunction with a new fire alarm receiving system. The net effect of the changes since the FY 2002 BNA findings are: 13 new fire department personnel, 10 new dispatchers, and 8 new fire system technicians for a total of 31 new positions. This is an increase of 65% in this area of fire protection providing improved response capability, improved dispatching reliability, and improved system maintenance.
  - Increased Fire Department Support Team (volunteer) membership from 12 to 25 people.
  - New fire alarm receiving station was procured and installed in a remodeled Operations Center. This allowing consolidation of fire alarm monitoring with other Operations Center functions.
  - Converted 20 fire alarm accounts in high explosive facilities to the new alarm receiving station. Test procedures for an additional 35 nuclear facility accounts are complete and the accounts are anticipated to be transferred in FY 2007 in conjunction with annual fire protection surveillance maintenance.
  - Improved equipment including expanded high pressure fire loop, two new fire engines, one used aerial platform, one used heavy rescue vehicle, two new grass fire trucks (two more scheduled for delivery in FY 2007), one used compressed air foam tanker, two new ambulances, one new hose tender and 5000 feet of five inch fire hose, one used hazardous-material response vehicle, all new bunker gear, all new chemical/biological self-contained breathing apparatus (SCBA) conversion kits, one new portable compressed air system, and quick hose connections at all HPFL and domestic fire hydrants

Loop (design only). RTBF funding for the High Pressure Fire Loop construction is included in the ICPP. However, additional funding as shown in Attachment A-1 is required.

#### 4.1.4.2 Readiness in Technical Base and Facilities (RTBF)

Demands on RTBF funding have never been higher. In addition to ensuring facility availability to support the mission, Authorization Basis requirements, fire protection requirements, increased maintenance surveillance, and utilities costs have impacted RTBF funding.

#### RTBF Increases in FY 2007

In addition to the requirement to stabilize DM growth at Pantex, other demands have been made on Operations of Facilities funding in the past few years. The following program areas have experienced growth in requirements with no growth in funding levels:

- **Safety and Health**

- ▶ **Authorization Basis (AB):** The objective of the AB Upgrade Program has been to identify those activities required to achieve compliance with 10 CFR 830, subpart B. This has been accomplished by AB documentation for the site, facilities, and weapon programs. The NNSA approved Pantex Technical Safety Requirement Integrated Implementation Project (TSRIIP) has implemented TSR controls from 10 different Safety Analysis Report (SAR) documents across 10 different weapons programs in over 70 nuclear facilities. Implementation includes facility and equipment modification, procedure revisions, and operator training. TSR controls implementation and emerging requirements combined have significantly increased program cost.

At the time BWXT Pantex assumed the Pantex Plant M&O contract, much of the work scope associated with AB processes had yet to be fully defined. Since that time improvements have been made in both quality and quantity of personnel as well as deliverables across the entire AB program. Site-wide and facility level SARs were successfully completed against a very aggressive schedule. Timely development and implementation of a comprehensive safety basis was made more difficult by emerging issues such as increased lightning protection requirements, enhanced electrostatic discharge protection, changes to combustible loading scenarios, and increased conservatism in hazard analysis and weapons response areas. The required level of detail associated with hazard analysis has increased many times. BWXT Pantex has continued to work the emerging issues as efficiently as possible to mitigate or eliminate negative impact to scheduled completion targets.

The costs (both RTBF and DSW) associated with AB Hazards Analysis and AB Controls implementation have more than doubled since FY 2001.

- ▶ **Fire Protection Program Improvements:** Since FY 2002, BWXT has implemented the following improvements to the Pantex Fire Department and associated fire programs as a result of a Baseline Needs Assessment (BNA) BWXT Pantex commissioned in January 2002. In FY 2005, the BNA was updated by PXSO and BWXT Pantex to identify resources needed to adequately protect Pantex. The updated BNA took into account engineered systems and the type of facilities being protected.
  - Increased staffing from 48 Full-Time Personnel (FTP) to 61 in the Fire Department in FY 2003, added 8 full time fire system technicians in FY 2004, and added 11 full time dispatch personnel in the Operations Center in FY 2006 in conjunction with a new fire alarm receiving system. The net effect of the changes since the FY 2002 BNA findings are: 13 new fire department personnel, 10 new dispatchers, and 8 new fire system technicians for a total of 31 new positions. This is an increase of 65% in this area of fire protection providing improved response capability, improved dispatching reliability, and improved system maintenance.
  - Increased Fire Department Support Team (volunteer) membership from 12 to 25 people.
  - New fire alarm receiving station was procured and installed in a remodeled Operations Center. This allowing consolidation of fire alarm monitoring with other Operations Center functions.
  - Converted 20 fire alarm accounts in high explosive facilities to the new alarm receiving station. Test procedures for an additional 35 nuclear facility accounts are complete and the accounts are anticipated to be transferred in FY 2007 in conjunction with annual fire protection surveillance maintenance.
  - Improved equipment including expanded high pressure fire loop, two new fire engines, one used aerial platform, one used heavy rescue vehicle, two new grass fire trucks (two more scheduled for delivery in FY 2007), one used compressed air foam tanker, two new ambulances, one new hose tender and 5000 feet of five inch fire hose, one used hazardous-material response vehicle, all new bunker gear, all new chemical/biological self-contained breathing apparatus (SCBA) conversion kits, one new portable compressed air system, and quick hose connections at all HPFL and domestic fire hydrants

- Enhanced training including more hands on training for fire fighters and combined training with local fire departments to improve effectiveness during integrated responses.
  - Improved fire station systems including a new public address and alarm tone system, a *Fire Programs* computer system for electronic records management, and improved sleeping and exercise facilities.
- **Real Property Maintenance and Scientific/Process Capability Maintenance:** Many unplanned, but costly repairs or service requirements, occur on an annual basis and require maintenance resources to correct, often on overtime. For instance, two domestic water line breaks occurred within a 2-week period in January 2007, and Pantex is experiencing several process equipment failures. Although these events are not unexpected in the world of maintenance and utility management, there is no mechanism to adjust annual funding to accommodate the gradual increase in expenses over time.
  - **Utilities and General Services:** Heavy snow and below normal freezing conditions have resulted in increased maintenance of utility lines and general site services (snow removal).

#### Impacts to Base Program by Funding Maintenance at Required Level

The FY 2007 maintenance budget is approximately \$64 million, which is an adequate level to prevent DM growth in FY 2007. At the FY 2008 FYNP target, base program funding for maintenance is \$44 million. This assumes a significant cut in the ESH&Q and Facilities Management & Support sub-elements, which may be unrealistic. Total FY 2008 shortfall in base programs is \$28.4 million, \$9 million to sustain maintenance and \$19 million required to meet base program needs in ESH&Q and Facilities Management & Support.

BWXT Pantex has concluded that an additional \$21.8 million above required base program funding is needed to reduce the DM backlog not being addressed by FIRP and to prevent new growth in DM.

#### 4.1.4.3 Growth of the Deferred Maintenance Backlog

The Deferred Maintenance backlog at the end of FY 2006 was \$237 million, which is \$61 million more than the \$176 million DM baseline established in FY 2003. One reason for the growth is because not all facilities and infrastructure were physically inspected when the baseline was established in FY 2003 due to the short time frame given to establish the baseline. Pantex CAS inspections are performed on a 3-year cycle. FY 2006 was the 3<sup>rd</sup> year of that cycle, thus approximately one-third of the Plant's infrastructure was visually inspected for the first time. Another factor to the DM growth is the less than adequate RTBF funding for maintenance.

BWXT Pantex DM estimates for deficiencies identified during CAS inspections are derived from the CAIS database. Future DM backlog projections are based on a

mathematical model that includes factors for plant deterioration, inflation, and plant growth. The model is also used to estimate required maintenance based on approved and proposed projects as listed in this TYSP within FYNSP targets. Required maintenance is estimated based on achieving a 6.4% FCI for Mission Critical and Mission Dependent, Not Critical facilities and infrastructure in FY 2008, trending to 5% in 2011, and stabilizing thereafter. The required maintenance for Not Mission Dependent facilities and infrastructure is based on maintaining a 15% FCI. All projections are based on applying the current funding level and escalating for future years to the maintenance program. The required maintenance estimate is discussed in detail in Section 4.1.5 Maintenance.

Due to RTBF funding limitations, there is currently no funding mechanism to address DM outside of the FY 2003 baseline, which impacts the plant's ability to maintain an adequate condition for all facilities and infrastructure. The result of this is evident in Attachment F-4, which reflects the in-balance in the FCI for mission critical and mission dependant not critical facilities and infrastructure.

#### **4.1.5 Maintenance**

##### **Overview**

The Pantex Plant has the characteristics of several plants from a maintenance program perspective. These characteristics range from general industrial maintenance requirements to more demanding requirements for nuclear explosive operating facilities, and include special maintenance considerations for high explosive processing facilities and the interim storage of nuclear materials. This spectrum of facilities and their special hazards place various levels of requirements on the maintenance program with respect to training, conduct of operations, integrated safety, quality, configuration control, and job planning. Approximately 35,000 work orders are processed each year to maintain the operational status of Pantex. Maintenance backlog is approximately 25,000 hours, which is within industry standards for a facility similar to the Pantex Plant. A graded approach is used that places the greatest maintenance support on production facilities, ensuring that vital safety systems are operable and reliable.

The objective of the maintenance program is to provide safe and cost effective stewardship of the site's physical assets throughout the various phases of their life cycle so that the NNSA's mission can be assured. This includes measures to protect the workers, the public, and the environment. The maintenance management program is designed to preserve and restore facility systems and provide reasonable assurance that facility structures, systems, components (SSC), installed equipment, and other equipment important to safe and reliable plant operations and protection of the environment are capable of fulfilling their design and safety function. This is a significant safety function that supports work at the facility level. Periodic inspections of facility SSC and equipment are made to determine whether degradation or technical obsolescence threatens performance or safety.

The maintenance program at Pantex Plant is mature, stable, and staffed with experienced managers and craft personnel. Pantex has one maintenance management

program for the site coordinated by the Maintenance Division. The primary funding source is RTBF, with a portion of funding from DSW for maintenance of special tooling. All other equipment, including most programmatic equipment, mobile equipment, and some personal property, is maintained from the RTBF program.

### Required Maintenance

Required maintenance is defined as the estimate of all costs required to perform maintenance activities for buildings, facility systems and equipment, site utility systems, and OSFs in the optimum fiscal year as determined by engineering, maintenance, life-cycle analysis, and vendor recommended maintenance schedules. Included are preventive and predictive maintenance, and any other maintenance activity for which the current fiscal year is the optimum year of accomplishment. When funding falls short of the required maintenance estimate, maintenance is deferred and a DM backlog develops. Projections of required maintenance are unconstrained. Approximately 50 percent of the classical maintenance budget is required for nuclear and high explosive surveillance and regulation driven work, and is not discretionary for continuing operations or facility sustainment efforts. Nevertheless, the program is closely monitored and frequently assessed to verify its compliance with requirements, and to seek opportunities to improve safety and operating efficiency.

A required maintenance funding level for Pantex was estimated based on the mathematical model discussed in Section 4.1.4.

The analysis yielded an estimate for required maintenance funding of \$67 million in FY 2008 inclusive of general, predictive, preventive, and corrective maintenance, RIK, GPP, and Expense projects. The analysis was based on the funding required to preclude growth of the DM backlog for an FCI of 6.4% for mission critical and mission dependent not critical facilities and infrastructure, and target for not mission dependent facilities and infrastructure FCI of 15%. Table 4-15 shows the total additional amount of funding estimated to preclude growth of the DM backlog is \$30.8 million in FY 2008 and escalated annually in addition to maintenance funding projected within the Pantex Operations of Facilities budget per FYNPS targets.

**Table 4-15, Additional FY 2008 Annual Funding for Maintenance, Capacity, and Capability**

ACTIVITY	CURRENT FUNDING AMOUNT (000)	% OF RPV	ADDITIONAL REQUIRED FUNDING (000)	% OF RPV
<b>PLANT MAINTENANCE</b>				
MAINTENANCE	\$44,238	1.3%	\$9,000	1.5%
RIK, GPP, AND EXPENSE PROJECTS	0	0	\$21,800	0.6%
<b>GRAND TOTAL</b>	<b>\$44,238</b>	<b>1.3%</b>	<b>\$30,800</b>	<b>2.2%</b>

## Maintenance Management Process

Effective implementation and control of maintenance activities is accomplished through a set of administrative procedures that establish: policies, roles and responsibilities, accountabilities, work standards for the conduct of maintenance, organizational interfaces and working relationships needed to implement a maintenance program, resource planning, and mechanisms to improve and monitor program performance. Routine inspections are performed to assess facility and materiel condition. Maintenance facilities, equipment and materials are provided and controlled. Administrative procedures define the maintenance work control system, which directs the daily evaluation, preparation and performance of maintenance work. The maintenance program provides for worker safety at the activity level through the analysis of job hazards and implementation of worker protection controls, tailored to optimize worker productivity and job safety.

PassPort© Work Management and related modules provide the computerized maintenance management system (CMMS) used at the Pantex Plant. This system processes user requests for maintenance, supports work planning and work order approval, facilitates material acquisition, collects applied material and labor costs, and provides current status of work through completion. The system schedules occurrences of planned preventive maintenance activities, which include nuclear surveillance and in-service inspection tasks applicable to nuclear facility SSC. The maintenance master equipment list is maintained in PassPort©, where the safety classification and configuration control status is defined consistent with authorization basis documents and the Plant configuration management program requirements. Additional controls are applied to work planning and execution based on the SSC safety classification (e.g., safety class, safety significant, or important-to-safety) and configuration control status to assure work is performed within the authorization basis and design functions are maintained. Work is prioritized and scheduled based on a documented prioritization process that places proper emphasis on safety, health and environmental requirements, maintenance backlog, system availability for timely execution of DSW and Campaign deliverables, and requirements for those infrastructure elements identified as part of the nuclear facility safety basis.

Maintenance performance is monitored and formally documented in the monthly Maintenance Performance Report. Key performance indicators include worker safety total recordable case rate, safety and fire system maintenance backlog, overall maintenance backlog, ratio of preventive to corrective maintenance, utility system reliability, facility availability, and cycle time for high priority corrective maintenance work. The backlog of maintenance craft hours is continually monitored by the maintenance organization to verify appropriate management and control of required maintenance activities. The backlog includes all work that is planned but not completed at the end of the reporting period (normally monthly). The monthly backlog has averaged slightly above 25,000 hours for the twelve-month period ending January 2007, down significantly from a high of 45,000 hours in 2001. The site goal is to maintain the backlog as approximately 25,000 hours.

The Maintenance organization implements maintenance activities through a balance of predictive, preventive and corrective maintenance, considering manufacturer's recommendations, good engineering practices, and operating experience. Preventive maintenance procedures include technical safety requirements and regulation driven inspection and testing. With the implementation of 10 CFR 851, *Worker Safety*, additional demands on the maintenance program can be expected to address the mitigation or elimination of identified hazards in a timely manner. Predictive maintenance is limited to oil analyses, visual inspections, and infrared evaluations of electrical system components. System engineers and other technical authorities provide input to preventive maintenance and planned maintenance requirements in order to increase selected systems' reliability and operability. While engineering analysis of systems is limited primarily to safety class and safety significant systems, there is increasing attention paid to data captured during Condition Assessment Surveys and the identification of projects, for work-off by maintenance crafts and through subcontracted work. The major challenge is to provide classical maintenance activities to achieve optimum service life of facilities and equipment, while meeting AB requirements and stabilizing the DM backlog in an environment of decreasing budget targets. Proactive steps are being taken to reduce DM, improve system reliability, and improve utilization of craft labor include:

- Establishment of a work management center to improve the evaluation, prioritization and disposition of incoming work requests.
- Development of defined work packages based on data in the CAIS database for work-off by craft resources or unit price maintenance contracts as funding becomes available.
- Use of PassPort© maintenance history for evaluation and revision of planned maintenance tasks to improve system reliability and application of maintenance resources.

Per DOE O 433.1 a *Maintenance Implementation Plan (MIP)* is required for the Pantex Plant nuclear facilities. The *MIP* is reviewed at least every 2 years with changes formally submitted to NNSA/PXSO for approval. The Pantex Plant *MIP* was updated in September 2006 and has been approved by NNSA/PXSO. It describes a mature maintenance management program that interfaces with safety, quality, and engineering programs. The 18 programmatic elements required by DOE O 433.1 are implemented, and their related objectives and criteria are documented and used for the ongoing evaluation of the maintenance management program.

#### **4.1.6 Identification of Replacement-In-Kind (RIK) Requirements**

RIK is defined as the replacement of building subsystems, which include roofs, electrical distribution equipment, HVAC equipment, building control systems, paving, fire protection apparatus, etc. These subsystems require replacement at the end of their optimum service life, but may place undue strain on an annual maintenance budget; i.e., cost in excess of \$500,000.

The RIK projects for Pantex were forecast from CAIS based on analyzing major subsystems that will reach the end of their optimum service life during FY 2007 and beyond. Attachment F-5 contains a list of potential RIK projects. Some approved and proposed RTBF and FIRP projects could be classified as RIK. Refer to Attachment A and K.

#### **4.1.7 Utilities**

Municipal utility service is not available to Pantex; therefore, site generated utility services must have a high degree of operability and reliability and must have redundancies built in to sustain operations. Pantex utility systems are well managed and on average are available greater than 99.5% of the time annually.

##### **4.1.7.1 Description**

Pantex utility operations meet federal, state, and local permit and other regulatory requirements. The following services are provided:

- Electrical distribution system (approximately 33 miles) supporting all Plant electrical requirements including backup power generation to certain areas of the Plant. The Plant procures electrical power from a public utility, which provides two 115 kilovolt power feeds.
- Potable water system that includes operation of four water wells and distribution that provides water for domestic, industrial, and fire protection requirements. The potable water system includes over 30 miles of main line distribution piping.
- Domestic wastewater (sewage) collection and treatment with over 5 miles of main collection lines and 9 miles of branch piping.
- Natural gas distribution throughout the Plant with over 10 miles of main lines and 7 miles of branch piping. Natural gas is procured from a public utility.
- Steam plant operations consisting of four boilers and associated support equipment capable of producing 120,000 pounds per hour and delivering 120 to 150 pounds per square inch gauge (psig) of steam for Plant operations through steam lines. Condensate is returned through a condensate return system. There are approximately 9 miles of overhead steam and condensate return lines.
- Zone 12 compressed air, generated by three main compressors and one diesel driven auxiliary unit, provides 110-psig compressed air to production facilities. Zone 11 compressed air, generated by two main compressors and one diesel driven auxiliary unit, provides 110-psig compressed air to HE development facilities.
- Equipment room operations including operation of HVAC equipment; monitoring of equipment status including some safety systems; and general cleaning and filter changes for HVAC equipment.

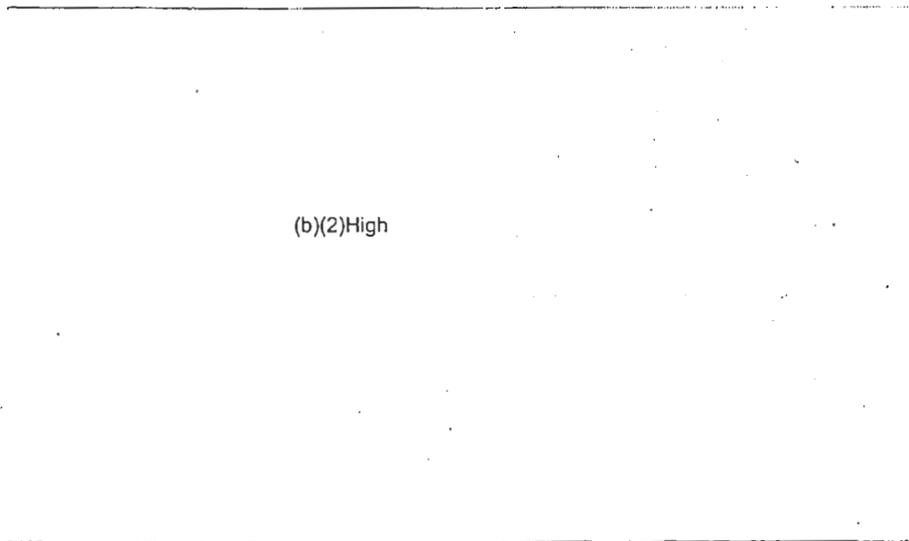


Table 4-16 provides the utility capacities and usage rates for Pantex. The table provides the total capacity available for each system, and the actual usage in FY 2006.

**Table 4-16, Utility Capacities and Usage**

UTILITY SYSTEM	ANNUAL CAPACITY	ACTUAL USAGE IN FY 2006
ELECTRICITY (MEGAWATT-HOURS)	400,000	70,029
NATURAL GAS (MILLION CUBIC FEET)	10,220	367
STEAM (MILLION POUNDS)	1,051	264
WATER (MILLION GALLONS)	525	131
WASTEWATER TREATMENT (MILLION GALLONS)	204	84
COMPRESSED AIR (MILLION CUBIC FEET)		
ZONE 11	350	140
ZONE 12	650	311

The site's utility systems are in operating condition; however, some of the components within the systems are past their life expectancy. Both the water distribution system and natural gas system contain lines and valves that were installed in 1942 and represent a significant amount of deferred maintenance in the backlog. Proposed



(b)(2)High

Line Item projects to upgrade these systems are contained in this TYSP. The North Electrical Substation Upgrade replaced antiquated and inefficient transformers and switchgear and increased the capacity from 210,480 to 400,000 megawatt-hours.

Utility system capacities are capable of handling present and future loads; however, most of the mainline utility systems are reaching the end of their service life. Twelve major utility upgrade projects are listed in Attachment A.

## 4.1.8 Energy Savings

### 4.1.8.1 Energy Savings Performance Contract (ESPC)

DOE's Federal Energy Management Program helps government agencies use ESPC to finance many kinds of energy efficiency projects. Benefits of ESPC are:

- New equipment
- No up-front costs
- Energy and water savings
- Lower utility bills
- Improved reliability and load management
- Better air quality.

ESPC II, a second ESPC delivery order is underway at Pantex. ESPC Phase II implementation cost is \$19.5 million and will cover the remaining 85 percent of the site's square footage. The guaranteed savings are \$52.8 million over 19 years. The savings include 17,654,125 kilowatt-hour of electricity and 163,613 million BTU of natural gas per year. Annual cost savings are projected to be approximately \$2 million. The main focus of Phase II is a new energy management system, upgraded lighting, upgraded dehumidifiers in Zone 12 South, a new chilled water closed loop for the Zone 12 South Material Access Area, and upgraded steam and condensate return systems to reduce losses and increase efficiency. If there are facilities identified for potential demolition and the confidence that these facilities will be demolished is low, the upgrade will be evaluated on a case by case. The ESPC Phase II project will also reduce DM associated with those systems and equipment being replaced.

ESPC Phase II construction started in FY 2006. Construction is scheduled to complete in FY 2009.

### 4.1.8.2 Excellence in Environmental and Energy Management

Recycling electronics, conserving energy and greening the site's cafeterias are all award-winning activities at the Pantex Plant. The NNSA Pollution Prevention Awards Program recently honored BWXT Pantex with three NNSA Environmental Stewardship Awards and one Best-In-Class award. These programs are to be submitted for the White House Closing-the-Circle competition.

BWXT Pantex was recognized in four areas: Electronics Stewardship, Recycling, Environmental Management System (EMS) and Waste Minimization/Pollution Prevention.

- Electronic Stewardship - approximately 700 unclassified used computers are eligible for the recycling program to school. Before shipment off site, each is stripped of its hard drive and memory devices. The NNSA selected this as a Best-In-Class winner.

ycling - the Pantex Pollution Prevention Team proactively worked to identify appropriate disposition paths for old wooden utility poles and compressed gas cylinders.

Energy management and resource conservation are a significant part of the Environmental Management System at Pantex. In FY 2006, Pantex made an extraordinary effort to conserve energy as an EMS objective. The goal set by ISA was to achieve a minimum of 10 percent reduction in energy use as compared to energy use in FY 2004. BWXT Pantex created a special energy conservation task force to manage the project. Because of work by the task force, Pantex exceeded the NNSA's goals. Pantex reduced energy consumption by 12.2 percent for electricity and 13.3 percent for natural gas. This resulted in conservation of more than eight million watt hours and 51 million cubic feet of natural gas when compared to energy use in FY 2004. As of September 2006, Pantex saved approximately \$484,000 on electricity and \$395,000 for natural gas.

Working through the Environmental Management System, Pantex converted the cafeterias to the use of reusable dishware and flatware from styrofoam dishware and plastic cutlery, resulting in an annual waste reduction of almost 50 metric tons and an annual cost savings of more than \$200,000. In addition to the waste reduction project, the cafeterias collect cardboard, metal food cans, food waste, aluminum cans, and plastic bottles for recycling.

### **Production Readiness/Plant Capacity**

will perform all WR assembly, surveillance, dismantlement, and High Explosive production for RRW. Information provided is based on the planning guidance provided by ISA during the feasibility study. Facility and infrastructure needs are based on this guidance and current inspection and diagnostic requirements for similar weapons.

RRW WR FPU is scheduled for FY 2012. Activities are scheduled to occur from FY 2012 thru FY 2024, they include: SS-21 process development (procedures, tooling, training, and facility preparation), WR assembly, new material assembly/testing/assembly, Joint Test Assembly (JTA) production, and High Explosive production (formulation, synthesis, pressing, and machining). RRW WR assembly activities will require four operations bays, Vacuum Chamber, PAL/CAP, Radiography, and Mass Properties facilities.

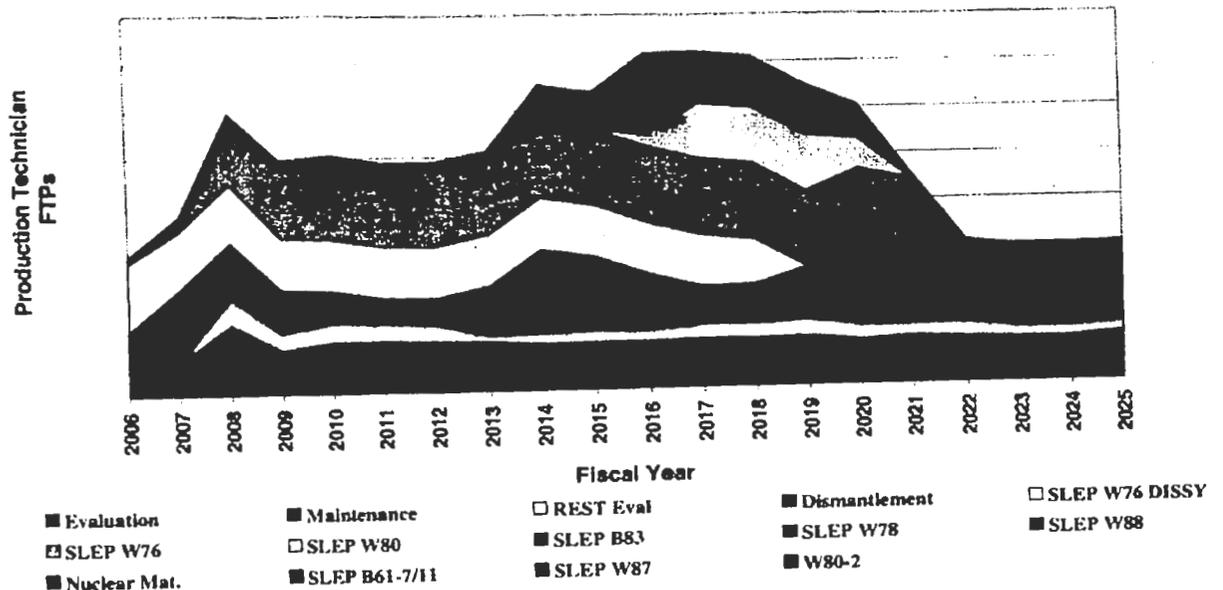
Surveillance activities are scheduled to occur from FY 2014 thru FY 2050, they include: Disassembly & Inspection (D&I), Testbed Assembly and Disassembly, and High Explosive testing. RRW surveillance activities will require one operation bay, PAL/CAP, Radiography, and Mass Properties facilities. Additional diagnostic capabilities may be required once specific surveillance requirements are developed by the design agencies.

Dismantlement activities are scheduled to occur from FY 2042 thru FY 2052, they include: WR disassembly and component disposition. RRW dismantlement activities will require three operations bays, PAL/CAP and Radiography.

**4.1.9.1 Production Personnel**

Figure 4-11 depicts the number of production technicians required to process the weapons workload identified in Section 3.1.7 Workload. The number of Production technicians needed to accomplish the workload increases in FY 2008 and again in 2013 because of LEP maintenance and RRW. Beginning in FY 2013, a significant increase in the required number of production technicians is forecast for the remaining years in the ten year planning horizon.

**Level of Effort  
Draft P&PD 2007-0**



*Figure 4-11 Direct Labor Required for Workload Draft P&PD 2007-0*

**4.1.9.2 Production Facilities and Equipment Capacity**

A production readiness analysis was performed utilizing the P&PD 2005-0 workload and identified potential shortfalls and decision dates impacting critical facilities and equipment.

**Mass Properties Measurement**

Figure 4-12 depicts the number of bays needed to support the workload (based upon current process definition).

(b)(2)High

***Figure 4-12, Mass Properties Bay Requirements, Draft P&PD 2007-0***

(b)(2)High

(b)(2)High

### Linac Bays

(b)(2)High

### SNM Component Requalification

NNSA assigned Pantex to develop the capability to process pits through recertification and/or requalification. The process to recertify / requalify existing SNM components is a more desirable alternative than manufacturing new components. It is environmentally prudent since it generates lower levels of radioactive waste and it is more economical since it requires fewer facilities and less processing than producing new pits. The number of pits proposed for recertification/ requalification will complement the approximately 20 new pits per year that will be manufactured by LANL.

The requalification process is an extensive series of operations, evaluations, and inspections. Although requalification is more extensive than recertification (a series of operations, evaluations, and inspections that validate a component is still within its original design life), the processes will not generate transuranic (TRU) waste under normal conditions. Requalification will be performed on weapon components that have exceeded their original design life. Requalification will characterize the normal population, refurbish components if required, and reaccept them for reuse in war reserve weapons. Requalification will be required for pits that flow through the stockpile evaluation and rebuild programs and those that are required to support the LEP workload.

The Stockpile Stewardship and Management Program established a baseline requirement to recertify/requalify approximately 350 pits per year. These pits will be used in war reserve weapons in the enduring stockpile. To accomplish this work, an existing facility is being modified. Approval of Mission Need (CD-0) was received July 2001 and approval of the preliminary baseline was received September 2002 (CD-1) to modify Building (b)(2)High for SNM Component Requalification operations. The project took Beneficial Occupancy in December 2004 and is in the process of installing and starting up process equipment to support the LEP workload.

### **Production Bays**

(b)(2)High

(b)(2)High

(b)(2)High

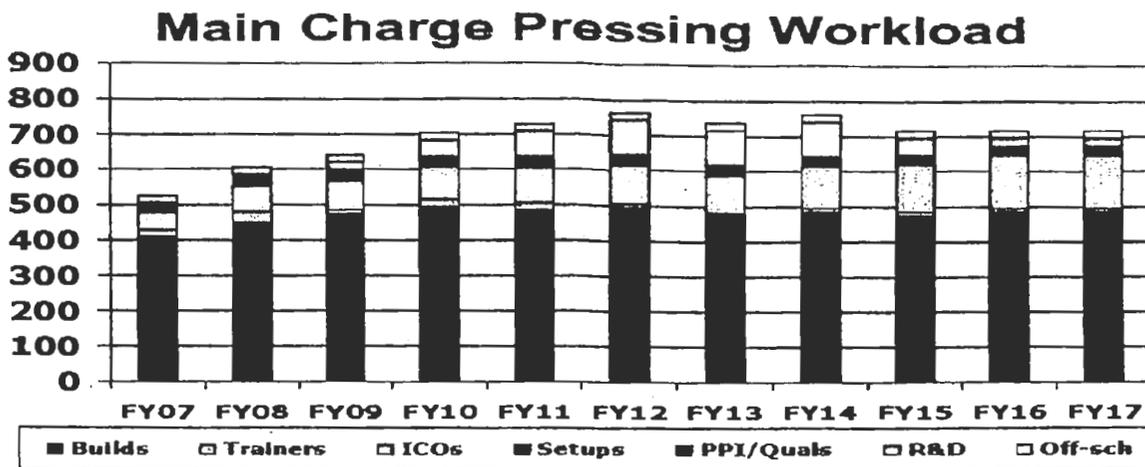
(b)(2)High

### HE Pressing

Figure 4-16 represents the projected main charge HE pressings that need to be conducted at Pantex to support the expected weapons workload based on programmatic scheduling activities. These pressings consist of weapons rebuilds, JTAs, LEP, training and development needs and do not include RRW.



(b)(2)High



**Figure 4-16, Projected Main Charge Pressing Workload**

A new HE Pressing Facility is critical to support the NNSA's LEP. It will consolidate HE pressing and rough contour machining into a single facility and provide the capacity needed to meet the base workload and weapon refurbishment schedules. This proposed facility consists of approximately 52,000 square feet; it includes a pressing facility, a magazine storage area, and a ramp. CD-1 approval occurred in FY 2005 and the facility is in the design phase now.

**HE Formulation/Synthesis**

HE formulation is currently being performed in several aged facilities. To support the expected workload and provide backup capability of sufficient quantities of HE, relocation of the formulation/synthesis facility processes are necessary. The current facility lacks the capacity to support the expected workload and requires extensive maintenance. A project to modernize the formulation/synthesis facility was approved and design completed; however, due to funding issues this project was cancelled in FY 2004. A new HE Formulation Facility is being proposed in this TYSP.

**Component Evaluation**

Recognizing that the nuclear weapons stockpile is aging, NNSA is undertaking new surveillance initiatives and has placed mission assignments at Pantex associated with product requalification. This is increasing the workload for Pantex in the form of new evaluation activities that include augmented sampling, increased testing, and new testing. As the stockpile continues to age and the design agencies continue their exploration of the weapon materials aging process, the requirements for surveillance, lifetime prediction, component characterization, and reuse of components for stockpile rebuild will increase.

To address the increasing surveillance initiatives and assignments, BWXT Pantex proposed the CEF as a Line Item project. The facility will increase capacity and capability for non-destructive evaluation testing and provide space for the deployment of new technologies required to perform new and additional surveillance and requalification or reacceptance of weapons and weapon components. This seven bay facility will consist of the following functional areas: a computed tomography bay, a Linac bay, a mass properties bay, a CSA evaluation bay, a staging bay that will also be used for anomaly evaluation as required, a small lot build bay, and an advanced concepts initiative/diagnostics development bay.

A request to NNSA for approval of mission need (CD-0) was made in September 2000 for an FY 2004 Line Item project to construct the CEF. The CEF project is included in the ICPP as an FY 2005 Line Item project. There is concern that delaying this project will impact the ability to support the need date of FY 2016 for the LEP workload and requirements. (Refer to Table 4-17 for the required dates for the remaining project management critical decisions associated with this project.)

### Operational Flexibility

BWXT Pantex is implementing strategies to optimize operational flexibility in order to be able to respond to any workload scenario by redirecting plant resources to maximize the throughput. The resources required to increase production capacities or to "surge" any given weapon program due to an operational necessity consist of three general types: personnel, startup engineering, and facilities. Lead times for these categories are typically:

- Personnel                                      12 to 18 Months
- Startup Engineering                        12 to 18 Months
- Facilities                                        Months to 8 Years.

Additional personnel required to increase throughput capacities are primarily Production Technicians, Quality Assurance Technicians, and Material Handlers. Production personnel can be hired, cleared, and trained in approximately twelve to eighteen months. Personnel can be redirected from other programs and trained to perform work on another program to reach temporary surge level production rates.

Startup engineering includes process development, hazards analysis, tooling design and fabrication, etc. Completing the engineering tasks to start a new production process requires approximately 6 to 12 months. Assuming the tooling design was complete, a lead-time of approximately four to six months is required to reach surge-level production rates on any weapon program already in production.

Facility modification requires between 6 to 18 months for minor modifications and 7 to 8 years for major renovations or new construction in accordance with the process requirements of DOE Order 413.3, *Program and Project Management for the Acquisition*



of *Capital Assets*. It is possible to expedite the process to a limited extent; however, Line Item projects typically require seven to eight years to bring to fruition.

BWXT Pantex plans to position the Pantex Plant so that any weapon system can be worked in any cell or bay, significantly increasing operational flexibility. When this effort is complete, Pantex could then support any weapon process startup within 36 months.

**Decision Dates Required to Support Planned Increases In Production Capacity and Capabilities**

To support workload increases or new capabilities, any additional resources must be available in a sufficient time frame to ensure that the required preparatory work can be accomplished on time. Table 4-17 provides a summary of the decision dates associated with the ten-year weapons work and the associated lead-time so the resources are available when required. These dates are based on approved baseline schedules for the listed projects.

**Table 4-17, Decision Dates to Support Planned Increases In Production**

FY NEEDED	LONGEST LEAD RESOURCE NEEDED	LEAD TIME (YEARS)	DECISION DATE (FY)	WORKLOAD DRIVER
	LINE ITEM PROJECTS <sup>1</sup>	7 TO 8 <sup>2</sup>		
2006	SNM COMPONENT REQUALIFICATION		CD-4 2007	
2008	(b)(2)High PRODUCTION CELLS UPGRADE (5) (ASSUMES PHASE II CONSTRUCTION FY 2009)		CD-4 2010	
2008	HIGH EXPLOSIVES PRESSING		CD-3 2009 CD-4 2013	(b)(2)High
2016	COMPONENT EVALUATION FACILITY		CD-0 2004 CD-1 2008 CD-2 2009 CD-3 2011 CD-4 2016	

<sup>1</sup>CD-0 Approve mission need      CD-3 Approve construction  
 CD-1 Approve preliminary baseline      CD-4 Approve operations  
 CD-2 Approve performance baseline

<sup>2</sup>Lead Time includes the preplanning activities prior to CD-0 for Line Item projects

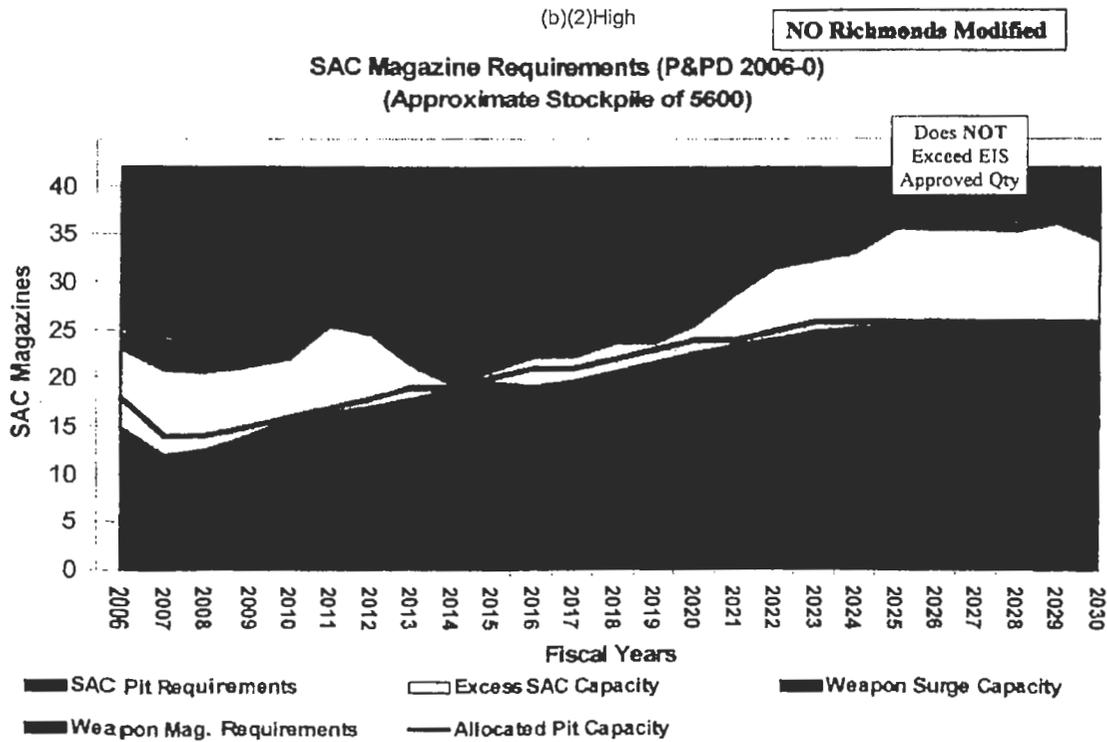


**Zone 4 Staging Capacity Enhancements**

Based on the Draft P&PD 2007-0 requirements, Zone 4 SAC magazine staging allocations need to be addressed. SAC magazine capacity supports both weapons and pit staging. As depicted in Figure 4-18, additional SAC staging capacity is needed to support both requirements. The first project that yields additional capacity is the completion of Building 12-116 first 2-room and second 2-room modifications. The completion of modification to the first 2 rooms is scheduled in April 2007 and the completion of the second 2 rooms is planned for December 2007. At the completed modification of the first 2 rooms, up to 3 SAC magazines could be changed from pit staging to weapon staging.

In 2013, additional SAC staging magazines will be required to meet the needs of both weapons and pit staging. This short fall of staging capacity is expected to peak in 2021 with a maximum decrement of eight SAC magazines. Evaluations are on-going which would modify six existing Richmond magazines to Modified Richmond magazines to accommodate additional pit staging capacity. The evaluations are considering funding profiles and completion/requirements issues.

Zone 4 SAC Magazine storage allocations were analyzed in FY 2006 based on the 2006-0 P&PD, as depicted in Figure 4-17. A similar analysis was performed using the Draft 2007 P&PD with an approximate stockpile of 900 less units, as depicted in Figure 4-18. The increase in dismantlements in the Draft 2007 P&PD is the reason why there is a shortage in Zone 4 SAC staging allocation in FY 2013 through FY 2021.



**Figure 4-17, SAC Requirements P&PD 2006-0**

(b)(2)High

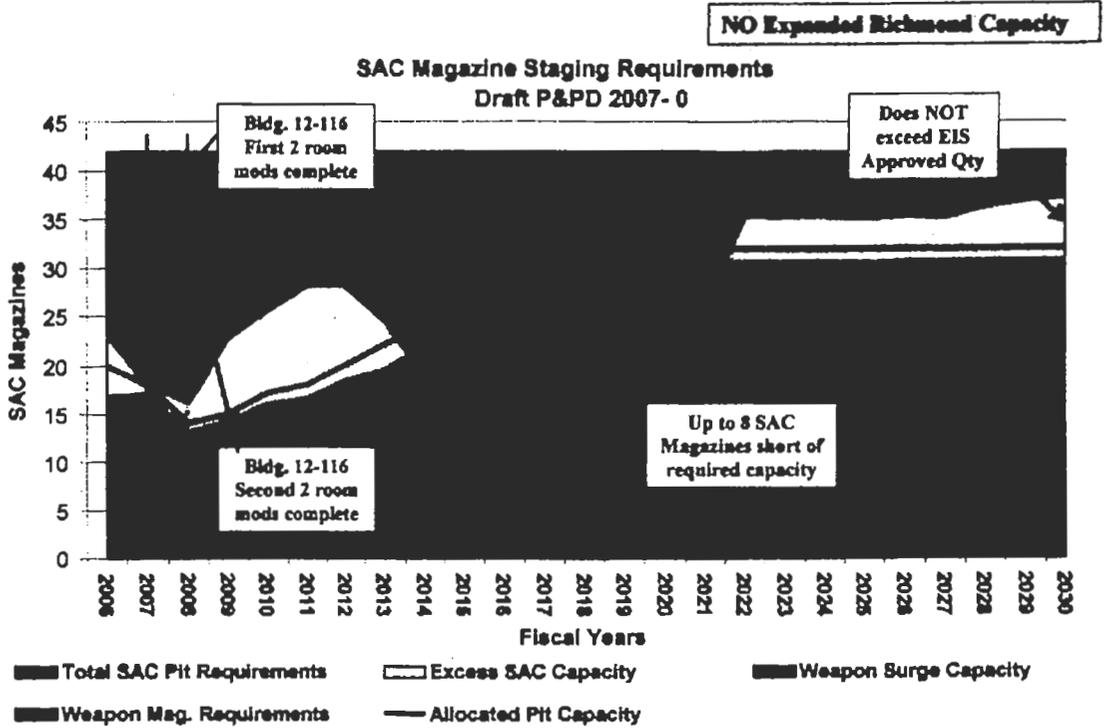


Figure 4-18, SAC Requirements Draft P&PD 2007

## ES&H/Regulatory Issues

### National Environmental Policy Act (NEPA) Program

BWXT Pantex does not anticipate that any of the projects included in this TYSP will require an EIS level of NEPA documentation, nor impact the site-wide EIS. However, some of the projects identified in this TYSP (Attachment A and K) may require an EA (Environmental Analysis), primarily those projects that involve the construction of new facilities. NEPA evaluation for all projects will identify and mitigate environmental compliance issues such as permitting, water, air, natural resources, and cultural resources before these projects are initiated.

### Authorization Basis (AB) Upgrade Program

The objective of the AB Upgrade Program has been to identify those activities required to achieve compliance with 10 CFR 830, subpart B. This has been accomplished by AB documentation for the site, facilities, and weapon programs. The NNSA approved Pantex Technical Safety Requirement Integrated Implementation Project (TSRIIP) has implemented approximately 200 TSR controls from 10 different SAR documents across 10 different weapons programs in over 70 nuclear facilities. Implementation includes facility and equipment modification, procedure revisions, and operator training. TSR controls implementation and emerging requirements combined have significantly increased program cost. The costs (both RTBF and DSW) associated with AB Hazards Analysis and AB Controls implementation have more than doubled since FY 2001.

As reported in the FY 2005 TYSP additional funding above existing Operations of Facilities targets would be needed to support emerging AB requirements. Additional FY 2005 and FY 2006 requirements were paid for out of Congressional plus up.

Funding that must be redirected to support ongoing AB development and maintenance reduces the amount of site funding available to work off deferred maintenance and improve facility condition indices.

The NNSA has also recognized that some controls related to the seismic qualification of facilities and equipment will have to be implemented in a separate project. The scope and cost of the Seismic Project is currently being evaluated. This project is a requirement over target.

### Pantex Worker Safety & Health Plan 10 CFR 851

During FY 2006 Pantex expects to come into full compliance with the 10 CFR 851 requirement for a Worker Safety & Health Plan that includes almost all who perform work at Pantex for more than 30 days in a year. While guidance remains fluid and continues to evolve, Pantex has evaluated multiple options and is prepared to execute any of them pending receipt of final NNSA direction, guidance and additional funding if needed. Most increases in cost will be accrued to affected subcontracts.

### **Environmental Management System (EMS)**

The Pantex EMS is a major component of the site's Integrated Safety Management System (ISMS). The system provides for evaluation of all work processes for safety hazards to personnel, the community and the natural environment prior to work initiation. An ISM/EMS requires anyone working within the boundaries of the plant to be aware of safety and environmental issues. Personnel are responsible to individually seek improvements for their own safety and for the safety of the environment within which they work. The system requires continual evaluation and improvement while strengthening environmental compliance, pollution prevention and the achievement of goals for a safer more productive workforce. The Pantex EMS is modeled on the internationally recognized standard from the International Organization for Standardization's ISO 14001, *Environmental Management Systems*.

The system has been recognized within the DOE/NNSA Complex. Pantex is a member of the Clean Texas, Cleaner World program sponsored by the Texas Commission on Environmental Quality. The program recognizes entities within the State for management systems that promote improvement impacts related to work processes.

### **Quality Assurance Program**

BWXT Pantex has developed and implemented a comprehensive Quality Management System, which implements the quality requirements promulgated by the NNSA and nationally recognized quality standards as well as BWXT Pantex management expectations. The Quality & Performance Assurance Division is responsible for maintaining the basic framework of the quality management system, its driving requirements, and the Pantex quality policy. The program is described in Contract Document (CD)-00079, *Quality Assurance Program Description*, and is not limited to but includes the following:

Conduct and submit a Management Self Assessment of the Pantex Quality Management Program.

Implement and maintain infrastructure and processes to establish the basis for confidence in the quality of weapon products and processes.

Assure all contractual requirements are adequately flowed into Plant implementing documents using the Business Requirements And Instruction Network (BRAIN).

Direct the development and implementation of the Quality Management Program and Plans.

Manage the Issues Management Program, Operating Experience Program/Lessons Learned, and maintains a corrective action program to identify, report, track, and bring to closure conditions adverse to quality.

Establish and maintain an organizational performance measurement system linked to key business drivers; measures past, present, and future performance; and is based on

the needs of customers, managers, and other key stakeholders.

Maintain an operational readiness review program and conduct readiness reviews to confirm that hazardous operations or facilities may be started or restarted safely, using trained and qualified personnel.

Establish and maintain a Contractor Assurance Program that monitors effectiveness of the site-wide process for self-assessments conducted by respective managers.

Establish a Supplier Quality Program that oversees the acquisition and acceptance processes to assure materials accepted for use in product applications conform to specifications and requirements.

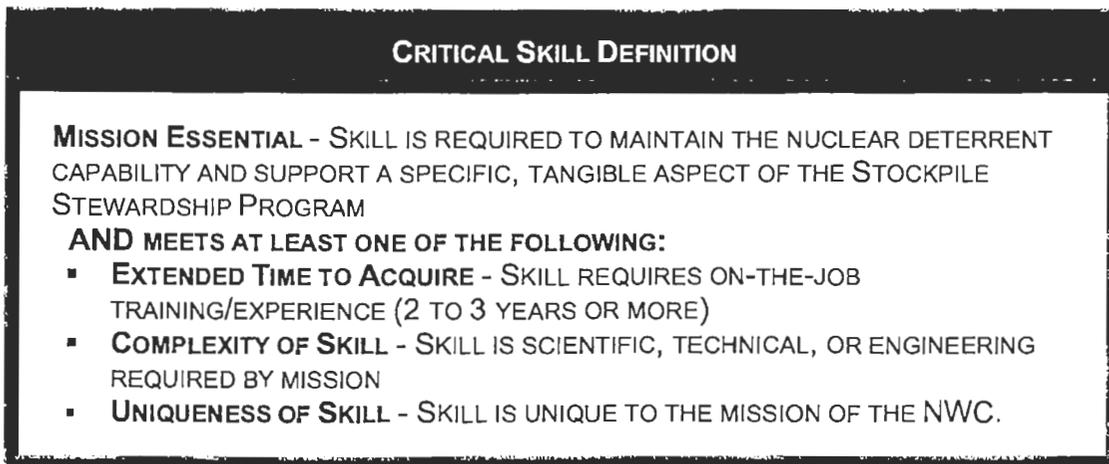
Establish and maintain the Standards and Calibration Program that provides National Institute of Standards and Technology traceable calibrations to support the quality of Nuclear Weapons and General Operations activities at Pantex.

Establish and maintain a Software Quality Assurance compliance program.

BWXT Pantex will continue to focus significant management attention on strengthening all aspects of the Pantex Quality Management System. This will assure that BWXT Pantex will attain its quality vision.

### Workforce Profile

BWXT Pantex, using the following NNSA critical skills definitions, [Figure 4-19](#), has identified 1,246 critical skills positions with direct input from line managers.



*Figure 4-19, Critical Skill Definition*

BWXT Pantex has analyzed all positions to ensure they are properly designated as critical or non-critical, and that they are categorized appropriately relative to the Common Occupational Classification System.

Table 4-18 depicts critical skills staffing requirements over the ten-year planning cycle. Critical skills staffing requirements for FY 2007 have been identified at 1,246 and are projected to remain static. As of January 2007 1,231 critical skill positions were filled. Critical skills staffing will focus on engineers and technicians. The projected workload increase and associated skill mix adjustments will require additional realignment in critical skill staffing in the out years.

**Table 4-18, Critical Skills Staffing Requirements**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
<b>CRITICAL SKILL POSITIONS</b>	1,246	1,246	1,246	1,246	1,246	1,246	1,246	1,246	1,246	1,246

Pantex critical skills resources are on target to meet upcoming mission requirements. This favorable position has been achieved through a number of mechanisms:

- BWXT Pantex has retained a relatively stable workforce since the end of the Cold War through maintenance of a continuing weapons workload, fewer reductions in force as compared to other NWC sites, and continued hiring to replace critical skills.
- By continuing to hire critical skills, BWXT Pantex maintains a wide age spread with the average age of the workforce at 46 years. For the past few years, only 1-2 percent of critical skill personnel retired each year. However, retirements are anticipated to increase as the Baby Boomer generation reaches retirement age.
- The current critical skills turnover rate is 4.5% compared with the national industry turnover rate of approximately 11%.

BWXT Pantex' ability to address turnover coupled with the success of the critical skills hiring plan assures adequate availability of critical skills resources to accomplish the projected workload.

#### **Retention of Skills and Knowledge**

Pantex is in a good position relative to critical skills availability to meet upcoming mission requirements. Maintaining and enhancing this position requires strategic planning as well as aggressive programs for the acquisition and retention of critical skills personnel. The following actions have been implemented to position BWXT Pantex to retain and recruit adequate scientific and technical expertise to carry out its mission:

- Workforce planning to ensure that needed skills are available at the right time as workload and internal demographic changes occur. This planning integrates work scope, priority, skill mix, funding, facility/equipment availability, demographics, and historical analysis to develop projections of specific needs.

- Implementation of a management development curriculum designed to enhance hands-on managerial skills that promote a high achievement environment conducive to retention of critical skill personnel.
- Partnering with universities to promote student work programs and recruit new graduates and alumni.
- BWXT Pantex continues to work with Amarillo College, Texas Tech and West Texas A & M universities to bring critical skill degree programs to the Pantex area.
- Recruiting candidates within the NWC to retain skills that have been affected by downsizing.
- Continuation of student work programs for interns and Co-ops that focus on promoting Pantex relationships with universities and students in fields of study that support future weapons missions.
- Providing an attractive and competitive total compensation/benefits package plus variable pay options such as lump merit increases, signing and retention bonuses, and increased base salaries in specialty areas.
- Challenging work which enhances BWXT Pantex' ability to attract and retain individuals in critical skill areas.
- Significant recognition and awards programs to motivate and reward superior performance.
- Implementing multi-media knowledge preservation tools to sustain HE manufacturing competency and to archive weapons processes.
- In-house education and educational assistance programs to promote continuous personal development and improvement of the Plant's knowledge base such as locally delivered Masters of Business Administration (MBA) and Masters of Engineering degrees.

These programs and activities are reviewed regularly and refined as necessary to ensure appropriate critical skills resources are available to meet the Plant's mission.

#### **4.2 Safeguards & Security (S&S)**

The Safeguards & Security mission at Pantex includes the protection of NNSA interests from theft, diversion, sabotage, unauthorized access, loss or compromise and other hostile or negligent acts that may cause unacceptable adverse impacts to national security, the environment, or the health and safety of employees and the public. As a result of the terrorist attacks on 9/11/01, Pantex will continue to operate at a heightened security level as directed by NNSA and meet requirements identified in the approved Site Safeguards & Security Plan (SSSP). The 03 DBT has been implemented and

validated, and implementation of the 05 DBT has begun and is on schedule with the approved implementation plan.

#### **4.2.1 Security Infrastructure**

Security infrastructure requirements as a result of the 05 DBT have been identified in the approved 05 DBT Implementation Plan. Pantex has received funding for three of the four infrastructure projects identified in the Plan and the projects are underway. Pantex anticipates receiving funding for the remaining 05 DBT related infrastructure project in FY 2008.

In addition to the infrastructure requirements identified as a part of DBT implementation, Pantex has identified several Expense, GPP and Line Item projects required to support continued implementation of the new security orders, and lifecycle upgrades & enhancements (Attachments A-1, A-2, A-6(a) & A-6(b), K). Pantex will continue to identify upgrades and/or enhancements required to maintain a level of systems effectiveness necessary to protect the site in accordance with the approved Site Safeguards & Security Plan (SSSP).

All infrastructure requirements have and will continue to be clearly identified and prioritized in NA-70 budget submissions.

## 5.0 F&I PROJECTS/ACTIVITIES AND COST PROFILES

This section discusses future projects required to meet Facilities & Infrastructure (F&I) requirements for the ten-year planning period. The prioritization process for F&I projects is discussed in this section and also in Section 4.1.

### 5.1 Overview of Site Project Prioritization and Cost Profile

BWXT Pantex developed a prioritization system that is used for all projects and equipment requests regardless of funding source. Project priorities are determined by applying risk-based criteria against deficiencies according to the severity of their impacts. Projects are categorized based on the Mission Consequence Level, which is assigned by the requesting division, and the Probability of Failure, which is assigned by program management. Refer to Section 4.1. Priority within categories is based on reduction of DM in mission critical facilities. Facilities and infrastructure are critical to the mission, and a consistent effort is made to coordinate construction activities with production to minimize impacts to the mission work. Projects that are identified to reduce DM, extend the useful life of systems and components, and decrease or eliminate unplanned downtime or system failures receive high categorization scores.

Attachment A reflects projects in priority order within FYNSP targets. FY 2007 projects continue to focus on consolidation of operations to facilitate the demolition of DM laden buildings, excess facilities, management of NNSA's Roofing Program, recapitalization of mission essential structures and systems, and elimination of deficiencies discovered through CAS inspections. Line Item projects using FIRP funding began in FY 2004 and will continue through FY 2009 to upgrade mission essential services. Projects include upgrade of portions of two mainline utility systems due to age and degradation of the physical condition that reduces reliability.

Near-term challenges for project execution include maintaining progress on Line Item projects that support the LEPs and plant capability so that the weapons workload can be met. Section 4.1.9, Production Readiness/Plant Capacity, discusses the relationship between workload and supporting projects in more detail. In addition, the Line Item projects, HE Pressing, CEF, Building 12-44 Production Cells Upgrade (5 Cells), and Security PIDAS Upgrade, face funding challenges. There is currently a \$280 million difference between the current CD estimate and the ICPP dated November 7, 2006. This difference will require resolution prior to the next CD approval. Attachment A-1 shows the Line Item projects correlating to the ICPP dated November 7, 2006, at funding levels noted in the ICPP or the FY 2008 Construction Project Data Sheet. For those projects that require additional funding, the proposed funding level is shown in Attachment A-2.

The FYNSP funding profiles for Pantex show the Operations of Facilities budget to be decreasing throughout the planning period. At the current funding level, there is no funding available for Expense and GPP projects and maintenance is funded at approximately 2.0% of RPV. In FY 2008, the anticipated maintenance funding is 1.4% RVP. This is significantly below the amount needed to stabilize maintenance and

prevent growth in the backlog. Operations of Facilities funding is closely managed so that as under-runs are identified they are re-allocated to maintenance or improvement projects throughout the year. Likewise, FIRP and Congressional plus up funding is also monitored and under-runs are allocated to new projects.

The long-term challenge is to increase funding allocations to the site to support a higher percentage of Operations of Facilities funding for maintenance, critical infrastructure improvements, and capital equipment replacement. In order to stabilize the DM backlog for the long term, more resources must be applied to maintaining plant and capital equipment and for life cycle replacements of facilities and infrastructure.

## 5.2 Significant Project Deletions and Additions

The following projects have been added since the FY 2007 TYSP:

- The Operations Systems Development & Integration Project was added to the TYSP. This project is an Information Technology project to replace the software and required hardware related to the MRP II function at Pantex.
- The HE Formulation Project was added to the proposed LI project list. This facility will provide large batch synthesis production up to 10,000 pounds and all formulation production capabilities for main charge explosives up to 10,000 pounds per year in support of continuing stockpile weapons programs. Currently these operations are performed in WW II facilities.
- The Administrative Support Facility was added to the proposed LI project list. This project replaces several older facilities and consolidates several organizations in one facility. Third party financing will be pursued for funding this project.
- The (b)(2)High project was added to the proposed RTBF LI project list. This project supports the relocation of ammo (b)(2)High
- The Zone 4 Richmond Magazine Upgrade project was added back the proposed MD LI project list. The modification of these magazines is critical to address storage issues in FY 2013.

The following projects have been deleted since the FY 2007 TYSP:

- Building 12-64 Production Bays Upgrade – This project remains in the TYSP and ICPP but has been cancelled with the approval of BCP-17 and CD-4 issued November 14, 2006.
- The Impact Resistant Bunker project – This project remains in the TYSP and the ICPP without funding.

### 5.3 F&I Cost Projection Spreadsheets

Attachments A-1 through A-6 present cost projections for Line Item projects in the current ICPP, proposed Line Item projects, RTBF/Operations of Facilities funded projects, S&S projects and FIRP projects. A brief description of all projects is provided in Attachment I, Construction Project Data Sheets, and Attachment J. These attachments were developed consistent with the FYNSP planning targets. The cost projections shown in Attachment A-1 reflect funding profiles reflected in the November 7, 2006 ICPP, or based on the FY 2008 Construction Project Data Sheets as noted. The following changes to supported projects have been included in Attachment A-2:

- Building 12-44 Production Cells Upgrade revised to indicate additional funding to complete Phase II
- HE Pressing Facility represents a revised estimate and approved CD-2
- CEF represents a revised estimate based on the October 06 Conceptual Design Report
- Sewer Equipment Refurbishment represents a delay of one year
- High Pressure Fire Loop – Zone 11 represents a revised estimate
- Water Secondary Distribution Upgrade represents a revised estimate and shows a start date two years earlier.
- 12-044 Cell 1 and 8 projects were combined into a single project.

Attachment K is provided for informational purposes and represents the backlog of unfunded GPP, expense, and capital equipment projects at Pantex. Some of the key projects in the backlog include the replacement of fire alarm panels, the replacement of the high pressure fire loop piping to production and production support buildings, such as Buildings (b)(2)High upgrades to existing facility foundations, and security capital improvements.

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Pantex Plant

Attachment A-2  
Facilities and Infrastructure Cost Projection Spreadsheet  
Proposed Line Item Projects for Pantex Plant  
(\$000s)

Line Item	Project Name	Category	MD	DNS	Other	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
<b>C. Safeguards &amp; Security (8&amp;S) Line Items</b>																			
1	CCTV Enhancement Project	OPC				500	1,100	1,000	1,000	1,200	1,200	1,500							15,000
		PE&D						3,300	2,400										5,700
		LI								25,100									25,100
2	Security PIDAS Upgrade	OPC	MD	DNS		700	500	300	200	100	200	200	200	200	200	200	200	200	2,000
		PE&D					1,500	6,000	9,970		40,000	50,000	39,470						146,000
		LI					129,470												129,470
3	Protective Force Facilities Upgrade and Enhancement Project	OPC	MD	DNS		300	300	2,000	800	400	1,600	1,600	2,000						10,000
		PE&D						7,500			50,000	43,100							57,600
		LI																	93,100
4	Protective Force Portal Upgrade and Enhancement Project	OPC	MD	DNS		300	300	1,600	1,000	850	1,200	1,750	2,400						10,100
		PE&D						4,100	3,000		43,000	28,000							49,100
		LI																	71,000
5	Protective Force Live Fire Ranges Upgrade and Enhancement Project	OPC	MD	DNS		400	400	1,000	700	400	1,100	1,800							6,300
		PE&D						3,450			10,850								14,300
		LI																	27,250
		Subtotal				1,200	4,700	15,200	31,120	84,650	117,220	146,000	179,350	4,600					448,466

**Safeguards & Security Line Items Subtotal**

NOTE: For Security Line Items 1-5 OPC, PE&D, and LI will be funded by Safeguards & Security.  
 1 PIDAS - Proposed funding level required. The ICPP currently includes partial funding requirements for PE&D.  
 2 Project scope has recently changed. Estimate based on consolidation of previous Line Item plus previous GPP projects.





FY 2008 TYSP

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Pantex Plant

Attachment A-3





**Attachment A-4(a)**  
**NNSA Facilities and Infrastructure Cost Projection Spreadsheet**  
**Facilities and Infrastructure Re-capitalization Program (FIRP) for Pantex Plant**

Phase	Phase Description	Phase ID	Phase Type	Phase Status	Phase Start	Phase End	Phase Duration	Phase Category	Phase Sub-Category	Phase Priority	Phase Funding Source	Phase Funding Amount	Phase Funding Type	Phase Funding Period	Phase Funding Start	Phase Funding End	Phase Funding Total
54	Zone 12 Mission Dependent Phase B	P-DM-MZ12-07	MD	Various	525			E			2,600						2,600
55	Zone 11 Mission Dependent	P-DM-11-01	MD	RC	1,000			E			4,500						4,500
56	Zone 11 Mission Dependent	P-DM-11-01	MD	RC	825			E			3,800						3,800
57	Zone 12 Mission Dependent Phase 5	P-DM-MZ12-35	MD	Various	1,000			E			4,500						4,500
58	Zone 12 Mission Dependent Phase 7	P-DM-12M-02	MD	Various	750			E			3,000						3,000
59	NWC RAMP Roofing Support (FY12)	Various	MD	Various	750			E			1,000						1,000
60	Additional Roofing - Replacements	Various	MD	Various	500			E			2,000						2,000
61	Planning & Design of FY 13 Recap Projects	NA	NA	NA							5,500						5,500
62	2030 Maintenance Facility	P-DNM-12N-04	MD	RTBF				GPP	+6,000		5,000						5,000
63	2030 Maintenance Facility	P-DNM-12N-05	MD	RTBF				GPP	+6,000		5,000						5,000
64	2030 Maintenance Facility	P-DNM-12N-06	MD	RTBF				GPP	+12,000		5,000						5,000
65	Zone 11 Mission Dependent	P-DNM-11-03	MD	RC	1,050			E			4,200						4,200
66	Deferred Maintenance Electrical Tasks (1827)	P-DNR-04-12	MD	RTBF	825			E			2,500						2,500
67	Deferred Maintenance Electrical Task 4	P-DNR-05-08-2	MD	RTBF	875			E			3,500						3,500
68	Roof Replacement	P-DNM-MZ-12-20	MD	Various	1,150			E			4,600						4,600
69	Zone 12 Mission Dependent Phase 2	P-DM-12M-01	MD	Various	1,175			E			4,700						4,700
70	Zone 12 Mission Dependent Phase 9	P-DM-MZ12-08	MD	Various	625			E			2,500						2,500
71	Zone 12 Mission Dependent Phase 8	P-DM-MZ12-07	MD	Various	1,000			E			4,000						4,000
72	Zone 12 Mission Dependent Phase 8	P-DM-MZ12-06	MD	Various	950			E			3,800						3,800
73	NWC RAMP Roofing support (FY13)	Various	MD	Various	750			E			1,000						1,000
74	Additional Roofing - Coatings	Various	MD	Various	612			E			2,446						2,446
75	12-42A Refurbishment	P-DM-MZ12-07	MD	DSW	801			E			4,419						4,419
76	Demolish 11-48, 11-48SS, 12-48, 12-49	P-DNM-12-065B P-DNM-12-011A	MD	RTBF	168			E	-12,483		5,000						5,000
	ADJUSTMENTS										(5,918)						(5,918)
	<b>Grand Total</b>										<b>17,805</b>						<b>17,805</b>
																	<b>43,023</b>
																	<b>126,233</b>

FY 2007 funding targets based on current Work Authorization.





FY 2008 TYSP

Pantex Plant

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Attachment A-4(b)



FY 2008 TYSP

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Pantex Plant

Attachment A-5

**Attachment A-6(a) - FY 2007 -- FY 2009  
NNSA Facilities and Infrastructure Cost Projection Spreadsheet  
Currently Funded Security Infrastructure Projects for Pantex Plant (\$000s)**

Project ID	Project Name	Site	Priority	Start Year	End Year	Estimate	Category	Operating	Y
1	Security Operations Facility*	2005-087	MD	DNS	4,999		Security Operating	Y	
2	Security Locker Facility*	2001-127	MD	DNS	4,999		Security Operating	Y	
3	Physical Training Facility	2005-067	MD	DNS	4,999		Security Operating	Y	
4	Protective Force Renovation Project <sup>1</sup>		MD	DNS	5,000		Security Operating	Y	

<sup>1</sup>Estimate based on Security Budget Information



Pantex Plant

FY 2008 TYSP

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Attachment A-6(a)

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Attachment A-6(b)

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**U. S. Department of Energy  
Facilities Information Management System  
Asset Utilization Index by FRPC Categories**

Program Office	EM	AUI	FRPC Guidelines	OECM Guidelines	Operating Gross Sqft*	Operating No of Bldgs*
Site	Pantex Site Office					
Site Wide AUI: 100.00% **						
Measures						
Warehouse		100.00%	50 - 85%	88%	4,558	1
All Other Categories		100.00%	N/A	N/A	5,537	1
Pantex Site Office Site Totals*						
					10,095	2
EM Program Totals*						
					10,095	2

\* These numbers do not reflect the total gross square footage and number of buildings. They represent operating buildings only.  
\*\* Site Wide AUI includes all DOE Owned Building assets



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**U. S. Department of Energy  
Facilities Information Management System  
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Program Office	NNSA								
Site	Pantex Site Office								
Measures	AUI	FRPC Guidelines	OECM Guidelines	Operating Gross Sqft*	Operating No of Bldgs*				
Site Wide AUI:	98.52%**								
Office	96.80%	70 - 95%	95%	387,119	57				
Warehouse	99.11%	50 - 85%	90%	638,530	188				
Medical	100.00%	70 - 95%	90%	11,516	1				
All Other Categories	98.65%	N/A	N/A	1,866,232	293				
<b>Pantex Site Office Site Totals*</b>					<b>2,963,397</b>	<b>539</b>			
<b>NNSA Program Totals*</b>					<b>2,963,397</b>	<b>539</b>			

\* These numbers do not reflect the total gross square footage and number of buildings. They represent operating buildings only.  
 \*\* Site Wide AUI includes all DOE Owned Building assets





**Attachment E-1  
Facilities Disposition Plan  
Pantex Plant**

FIRP	Facility Name	Disposition	Progress	Cost	DOE	FY	Start	End	Count	Eligible	Notes
FIRP 12-8	Chemistry Laboratory Annex	Demolished	N/A	626	N/A	FY 2004	873	18	2	No	
FIRP 12-59	Chemistry Laboratory Annex	Demolished	N/A	7,215	N/A	FY 2004	with 12-9	247	7	No	
FIRP 12-59E	Equipment Room	Demolished	N/A	600	N/A	FY 2004	with 12-9	148	1	No	
FIRP 12-59V	Valve Building	Demolished	N/A	35	N/A	FY 2004	with 12-8	-	1	No	
FIRP 12-R-8	Ramp from 12-008 to 12-R-006	Demolished	N/A	3,000	N/A	FY 2004	with 12-8	5	4	No	
FIRP 12-R-59	Ramp from 12-009 to 12-R-008	Demolished	N/A	545	N/A	FY 2004	with 12-8	2	1	No	
FIRP 11-23	Explosives and Inert Storage	Demolished	N/A	640	N/A	FY 2004	2,208	-	2	No	
FIRP 11-24	Inert Storage	Demolished	N/A	640	N/A	FY 2004	with 11-23	-	2	No	
FIRP 11-34	Acid Storage	Demolished	N/A	668	N/A	FY 2004	with 11-23	10	1	No	
FIRP 11-36	Explosives Synthesis	Demolished	N/A	5,138	N/A	FY 2004	with 11-23	137	9	No	Eligible for inclusion in the National Register of Historic Places.
FIRP 11-36SS	Shade Structure	Demolished	N/A	793	N/A	FY 2004	with 11-23	-	1	No	
FIRP 11-39	Flammable Liquid Storage	Demolished	N/A	1,000	N/A	FY 2004	with 11-23	15	2	No	
FIRP 11-39SS	Shade Structure	Demolished	N/A	102	N/A	FY 2004	with 11-23	-	1	No	
FIRP 11-R-14	Ramp from 11-023 to 11-034	Demolished	N/A	1,140	N/A	FY 2004	with 11-23	-	2	No	
FIRP 11-R-20	Ramp from 11-035 to 11-R-014	Demolished	N/A	209	N/A	FY 2004	with 11-23	35	2	No	
FIRP 11-R-39	Ramp from 11-036 to 11-039	Demolished	N/A	88	N/A	FY 2004	with 11-23	17	1	No	
FIRP 4-52P	Generator Building	Demolished	N/A	960	N/A	FY 2004	With FY 2005 FIRP 12-78 Demolition	3,098	1	No	
FIRP 12-R-78	Ramp from 12-24 South to 12-78	Demolished	N/A	24,540		FY 2004		650	41	No	
FIRP FY 04 TOTAL											
FIRP 11-9	Hazardous Waste Storage	Demolished	N/A	17,182	N/A	FY 2005	1,301	1,193	13	No	Small spot of fixed rad. Contamination
FIRP 15-16	Potable Water Well and Building	Demolished	N/A	200	N/A	FY 2005	76	75	1	No	
FIRP 12-78	NDE Storage	Demolished	N/A	3,541	N/A	FY 2005	756	77	3	No	Eligible for inclusion in the National Register of Historic Places.
FIRP FY 05 TOTAL											
FIRP 9-3	Office Building	RTBF	In Progress	1,572	None	FY 2007	with 12-97	with 12-97	1	No	No
FIRP 12-97	Office Building	NA	In Progress	9,896	DOE	FY 2007	1,000	385	10	No	SF118, SF118A, Title V Submitted, HUD Determination Unsuitable, published in Federal Register
FIRP 12-9A	Tester Design and Robotics Laboratory	DSW	In Progress	3,083	DOE	FY 2007	700	86	6	No	SF118, SF118A, Title V Submitted, HUD Determination Unsuitable, published in Federal Register
FIRP 12-R-9A	Ramp from 12-9 to 12-R-9B	NA	In Progress	1,408	DOE	FY 2007	1,200	-	3	No	SF118, SF118A, Title V Submitted, HUD Determination Unsuitable, published in Federal Register
FIRP 12-14	Office Building	DSW	In Progress	837	DOE	FY 2007	300	2	3	No	SF118, SF118A, Title V Submitted, HUD Determination Unsuitable, published in Federal Register
FIRP FY 07 TOTAL											
FIRP				16,786			3,200	473	23		



Attachment E-1  
Facilities Disposition Plan  
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FIRP	12-9	35 Account Support and Tester Design	DSW	44	1	19,382	DOE	FY 2008	FY 2008	5,000	444	33	No	No	SF118, SF118A, Title V Submitted, HUD Determination Unusable, published in Federal Register.
FIRP	11-7	Component and Hazardous Waste Storage	DSW	76	1	33,700	None	FY 2009	FY 2009	4,900	3,130	45	No	No	SF118, SF118A, Title V Submitted, HUD Determination Unusable, published in Federal Register.
FIRP	11-10	Wastehouse	NA	56	2	922	None	FY 2009	FY 2009	1,200	459	1	No	No	SF118, SF118A, Title V Submitted, HUD Determination Unusable, published in Federal Register.
FIRP	11-28	Inert Storage	NA	56	2	7,004	None	FY 2009	FY 2009	with 11-10	with 11-10	10	No	No	SF118, SF118A, Title V Submitted, HUD Determination Unusable, published in Federal Register. Not currently excess.
FIRP	11-29	Photography Laboratory	NA	56	3	4,315	None	FY 2009	FY 2009	4,000	1,655	6	No	No	SF118, SF118A, Title V Submitted, HUD Determination Unusable, published in Federal Register. Not currently excess.
FIRP	11-27	Office Building	RC	56	3	5,138	None	FY 2009	FY 2009	with 11-29	with 11-29	6	No	No	SF118, SF118A, Title V Submitted, HUD Determination Unusable, published in Federal Register. Not currently excess.
FIRP	11-54	Office Building	DNS	56	3	3,130	None	FY 2009	FY 2009	with 11-29	with 11-29	5	No	No	SF118, SF118A, Title V Submitted, HUD Determination Unusable, published in Federal Register. Not currently excess.
FIRP	11-54A	Office Building	DNS	56	3	3,585	None	FY 2009	FY 2009	with 11-28	with 11-29	5	No	No	SF118, SF118A, Title V Submitted, HUD Determination Unusable, published in Federal Register. Not currently excess.
FIRP	12-2B	Office Building	DSW	56	3	3,181	DOE	FY 2009	FY 2009	with 11-29	with 11-29	5	No	No	SF118, SF118A, Title V Submitted, HUD Determination Unusable, published in Federal Register. Not currently excess.
FIRP	12-75A	Office Building	DNS	56	3	3,160	None	FY 2009	FY 2009	with 11-29	with 11-29	5	No	No	SF118, SF118A, Title V Submitted, HUD Determination Unusable, published in Federal Register. Not currently excess.
FIRP	12-3	Inert Storage	NA	72	4	2,062	None	FY 2009	FY 2009	600	207	4	No	No	SF118, SF118A, Title V Submitted, HUD Determination Unusable, published in Federal Register. Not currently excess.
FIRP	12-R-3	Ramp from 12-3 to 12-R-1	NA	72	4	588	None	FY 2009	FY 2009	with 12-3	with 12-3	2	No	No	SF118, SF118A, Title V Submitted, HUD Determination Unusable, published in Federal Register. Not currently excess.
FIRP	12-3L	Generator Building	NA	72	4	87	None	FY 2009	FY 2009	with 12-3	with 12-3	-	No	No	SF118, SF118A, Title V Submitted, HUD Determination Unusable, published in Federal Register. Not currently excess.
FIRP	FY 09 TOTAL					66,832				10,700	5,451	94			
FIRP	11-48	Maintenance Shop	RTBF	52	3	4,019	None	FY 2013	FY 2013	5,000	58	6	No	No	Related to construction proposed in FIRP for Complex of 2030
FIRP	11-48SS	Shade Structure	RTBF	52	3	102	None	FY 2013	FY 2013	with 11-48	-	1	No	No	Related to construction proposed in FIRP for Complex of 2030
FIRP	12-48	Maintenance Shop	RTBF	52	2	4,218	None	FY 2013	FY 2013	with 11-48	61	7	No	No	Related to construction proposed in FIRP for Complex of 2030
FIRP	12-49	Maintenance Shop	RTBF	52	1	4,144	None	FY 2013	FY 2013	with 11-48	49	6	No	No	Related to construction proposed in FIRP for Complex of 2030
FIRP	FY 13 TOTAL					12,483				5,009	168	20			

E-3

Attachment E-1

Attachment E-1  
Facilities Disposition Plan  
Pantex Plant

Pantex Plant

EM	10-4	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004	-	No	No	Note 2
EM	10-5	Zone 10 Ruins	Demolished	N/A	N/A	9,800	N/A	1950's	FY 2004	2,200	No	No	Note 2
EM	10-6	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	10-8	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	10-10	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	10-14	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	10-14A	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	10-14B	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	10-16	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	10-17	Zone 10 Ruins	Demolished	N/A	N/A	9,200	N/A	1950's	FY 2004	with 10-5	No	No	Note 2
EM	10-18	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	10-19	Zone 10 Ruins	Demolished	N/A	N/A	16,032	N/A	1950's	FY 2004	with 10-5	No	No	Note 2
EM	10-20	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	10-21	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	10-22	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	10-25/25A	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	10-26	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	10-38	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	10-40	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	10-RS	Zone 10 Ruins	Demolished	N/A	N/A	0	N/A	1950's	FY 2004		No	No	Note 2
EM	FY 04 TOTAL					35,032				2,200			
EM	12-24SS	Shutdown Chemical Storage	Demolished	N/A	N/A	200	N/A	FY 2005	FY 2005	2,250	1	No	No
EM	12-25	Tooling Storage	Demolished	N/A	N/A	900	N/A	FY 2005	FY 2005	with 12-24SS	1	No	No
EM	12-43	Fire Station Storage	Demolished	N/A	N/A	2,704	N/A	FY 2005	FY 2005	with 12-24SS	53	No	No
EM	12-R-25	Ramp from 12-024 South to 12-025	Demolished	N/A	N/A	925	N/A	FY 2005	FY 2005	with 12-24SS	1	No	No
EM	12-24A	Shutdown Office Building	Demolished	N/A	N/A	1,200	N/A	FY 2005	FY 2005	with 12-24SS	19	No	No
EM	FY 05 TOTAL					5,529				2,250	6		
EM	12-24 North	Shutdown Explosives Machining	Demolished	N/A	N/A	45,747	N/A	1990's	FY 2006	5,150	21	No	No
EM	12-24 South	Shutdown Demilitarization and Staging	Demolished	N/A	N/A	with 12-24 North	N/A	1990's	FY 2006	with 12-24 North	with 12-24 North	Yes	No
EM	FY 06 TOTAL					45,747				5,150	21		

\* Actual sq. ft. for Zone 10 Ruins is 88,127. This sq. ft. was previously not included in totals because the ruins were Other Structures and Facilities in the Facilities Information Management System (FIMS). NNSA approved banking of square footage for 10-5, 10-17, and 10-20

Attachment E-1  
Facilities Disposition Plan  
Pantex Plant

RTBF	16-26	CNG Fueling Station	Demolished	N/A	N/A	128	N/A	FY 2002	FY 2002	FY 2002	N/A	40	1	No	No	FY 2002 demolitions have unknown deferred maintenance since the projects were demolished prior to establishment of the DM baseline.
RTBF	11-44	Shutdown Explosives Filter	Demolished	N/A	N/A	2,118	N/A	FY 2003	FY 2003	FY 2003	N/A	-	-	No	No	
RTBF	9-2	Office Building	Demolished	N/A	N/A	1,540	N/A	FY 2008	FY 2008	FY 2008	400	-	1	No	No	
RTBF	9-8	Temporary Guard Station	Demolished	N/A	N/A	90	N/A	FY 2006	FY 2006	FY 2006	with 9-2	-	1	No	No	
RTBF	9-9	Temporary Guard Station	Demolished	N/A	N/A	90	N/A	FY 2006	FY 2006	FY 2006	with 9-2	-	1	No	No	
RTBF	9-10	Temporary Guard Tower	Demolished	N/A	N/A	90	N/A	FY 2006	FY 2006	FY 2006	with 9-2	-	1	No	No	
RTBF	9-11	Temporary Guard Station	Demolished	N/A	N/A	90	N/A	FY 2006	FY 2006	FY 2006	with 9-2	-	1	No	No	
RTBF	9-12	Temporary Guard Tower	Demolished	N/A	N/A	90	N/A	FY 2006	FY 2006	FY 2006	with 9-2	-	1	No	No	
RTBF	9-14	Temporary Guard Station	Demolished	N/A	N/A	84	N/A	FY 2006	FY 2006	FY 2006	with 9-2	-	1	No	No	
RTBF	9-21	Class Room	Demolished	N/A	N/A	614	N/A	FY 2006	FY 2006	FY 2006	with 9-2	-	1	No	No	
RTBF	9-24	Security Support	Demolished	N/A	N/A	196	N/A	FY 2006	FY 2006	FY 2006	with 9-2	-	1	No	No	
RTBF	9-25	Security Support	Demolished	N/A	N/A	194	N/A	FY 2006	FY 2006	FY 2006	with 9-2	1	1	No	No	
RTBF	9-99	Inert Storage	Demolished	N/A	N/A	67	N/A	FY 2006	FY 2006	FY 2006	with 9-2	-	1	No	No	
RTBF	9-102	Storage Building	Demolished	N/A	N/A	117	N/A	FY 2006	FY 2006	FY 2006	with 9-2	-	1	No	No	
RTBF	9-17	Waiting Station	Demolished	N/A	N/A	100	N/A	FY 2006	FY 2006	FY 2006	-	-	-	No	No	
RTBF	9-29	Unbarred Personnel Office	Demolished	N/A	N/A	592	N/A	FY 2006	FY 2006	FY 2006	-	-	-	No	No	Archived 12-5-03. NNSA did not credit to bank in FY2004.
RTBF	FY 06 TOTAL					3,934					400	1	12			



**Attachment E-1  
Facilities Disposition Plan  
Pantex Plant**

TBD	11-14SS <sup>3</sup>	Shade Structure	DSW	52	1	140	None	FY 2007	FY 2007	30	1	No	No	No
TBD	10-2 <sup>3</sup>	Emergency Management Training	EM	60	1	4,559	None	FY 2008	FY 2008	450	1	No	No	No
TBD	16-10B	Vehicle Wash System	RTBF	52	2	799	None	FY 2008	FY 2008	150	2	No	No	No
TBD	12-24E	Central Chilled Water Equipment Room and NHPA Storage	DSW	76	3	3,234	None	FY 2008	FY 2008	625	6	No	No	No
TBD	FY 08 TOTAL					8,591				1,225	9			
TBD	11-15 <sup>3</sup>	Inactive Elms Press	DSW	52	1	5,960	None	FY 2013	FY 2013	6,300	17	No	No	Eligible for Inclusion in the National Register of Historic Places.
TBD	11-15A <sup>3</sup>	Auto Gas Generator Disassembly		52	1	2,334	None	FY 2013	FY 2013	1,400		No	No	Eligible for Inclusion in the National Register of Historic Places.
TBD	11-R-7 <sup>3</sup>	Ramp from 11-15 to 11-17	NA	52	1	4,605	None	FY 2013	FY 2013	5,500	76	No	No	No
TBD	FY 13 TOTAL					12,899				13,200	20			
<sup>3</sup> The square feet for these facilities are not included in totals in AII. E4. D&D is either tied to a nonapproved construction project, or facility D&D is being reevaluated based on workload and future requirements														
<b>SUMMARY</b>														
	FIRP					202,271				33,956	8,741	283		
	EM					86,308				9,600	10,878	27		
	RTBF					6,180				400	41	13		
	TBD					21,630				14,455	93	30		Not included in E4.
	<b>SUMMARY TOTAL</b>					<b>316,389</b>				<b>58,411</b>	<b>19,753</b>	<b>353</b>		Totals from FY 2002 through FY 2017.



Attachment E-2  
New Construction Footprint Added  
Pantex Plant

Project Number	Facility Name	Design Discipline	Project Type	Project Area	Fiscal Year	Notes
FIRP	Generator Facility	DSW	GPP	224	2003	
FIRP	Narrow Band Radio Facility	RTBF	GPP	768	2005	
FIRP	Process Container Storage Facility	RTBF	GPP	16,127	2005	
FIRP	Administration Facility	OFO	GPP	18,279	2006	
FIRP	Records Storage Facility	OFO	GPP	9,837	2006	
FIRP	Technical Support Facility	DSW	GPP	13,482	2006	
FIRP	Tester Design Facility	DSW	GPP	14,096	2007	
FIRP	Ramp	DSW	GPP	1,231	2007	
FIRP	Water Well Building	RTBF	GPP	612	2007	
FIRP	Production Storage Facility Replacement	DSW	GPP	14,000	2008	
FIRP	Applied Technology Administration Facility	RC	GPP	13,356	2009	
FIRP	Production Storage II	DSW	GPP	21,000	2009	
FIRP	2030 Maintenance Structure	RTBF	GPP	6,000	2012	
FIRP	2030 Maintenance Structure	RTBF	GPP	6,000	2012	
FIRP	2030 Maintenance Structure	RTBF	GPP	12,000	2012	
RTBF	Utility Break Area	RTBF	GPP	630	2004	
RTBF	Security Supply Warehouse	DNS	GPP	3,528	2004	
RTBF	ESPC Pumphouse	RTBF	GPP	247	2008	
RTBF	HE Pressing Facility	RC	LI	52,718	2013	
RTBF	Component Evaluation Facility	DSW	LI	75,600	2016	
EM	Soil Vapor Extraction Facility	EM	GPP	239	2005	
EM	Zone 12 Ozone Treatment Facility	EM	GPP	160	2006	
EM	Plgys 1 Dewatering Facility	EM	GPP	5,537	2008	
OST	Central Command Federal Agent Facility	STA	GPP	25,375	2008	
Sandia National Lab	Weapons Evaluation Testing Laboratory (WETL)	DSW	LI	31,819	2005	
Sandia National Lab	Argus Access Facility	DNS	LI	344	2005	
Sandia National Lab	Sandia Storage Facility	DSW	GPP	391	2006	
Security	Ammunition Storage Facility	DNS	GPP	160	2006	
Security	Security Operations Facility*	DNS	GPP	11,000	2007	
Security	Security Locker Facility*	DNS	GPP	12,780	2007	
Security	Physical Training Facility	DNS	GPP	13,356	2008	

Table includes only approved Line Item projects in the latest ICPP, and GPP projects that are constrained within Pantex's TYCSP and FYNISP targets.

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Pantex Plant

**Attachment E-3  
GRANDFATHERED Footprint Added  
Pantex Plant**

Planning Code	Project Number	Facility Name	Major Activity	Facility Type (LI, GPP, etc.)	Project Area Total Value	Year of Completion	Notes
RTBF	84-D-128	Analytical Laboratory	RC	LI	8,982	2002	
RTBF	N/A	Rapid Prototype Facility	DSW	GPP	495	2002	
S&S	N/A	Supplemental Security Post	DNS	GPP	96	2002	
S&S	N/A	Supplemental Security Post	DNS	GPP	96	2002	
RTBF	N/A	Equipment Building	EM	GPP	138	2002	
RTBF	96-D-122	Main Filter Building	RTBF	LI	613	2004	This facility is part of the Sewer Treatment Quality Upgrade Line Item, received CD-3 in January, 1998.
RTBF	96-D-122	Field Filter Building	RTBF	LI	613	2004	This facility is part of the Sewer Treatment Quality Upgrade Line Item, received CD-3 in January, 1998.
RTBF	01-PU-20	Weapon Trainer Simulation Facility	DNS	GPP	3,243	2005	This facility was a design-build contract awarded November 2001. This facility was previously the Back-up Fire Alarm Receiving System Facility. The name has changed to reflect the requirement to support a new security mission.

Pantex Plant

FY 2008 TYSP

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Attachment E-3

PRIME

E-10

**Attachment E-4(a)**  
**FOOTPRINT TRACKING SUMMARY SPREADSHEET**  
**Pantex Plant Footprint Tracking Summary - NNSA**

Fiscal Year	Beginning Site Footprint (gsf)	EM Demolished Square Footage (gsf)	EM Owned Facilities Square Footage (gsf)	Grandfathered Footprint Square Footage (gsf)	Waiver/Transfer (gsf)	Banked (gsf)	Beginning Site Footprint (gsf)	EM Demolished Square Footage (gsf)	EM Owned Facilities Square Footage (gsf)	Grandfathered Footprint Square Footage (gsf)	Waiver/Transfer (gsf)	Banked (gsf)	Total Footprint (gsf)
FY 2002 Actual	2,942,259	-128	0	2,942,131	-128	0	2,942,131	9,807	9,807	2,951,938	45,628	9,807	2,951,938
FY 2003 Actual	2,942,131	-44,373	224	2,897,982	-44,277	224	2,897,982	0	9,807	2,907,789	47,070	9,807	2,907,789
FY 2004 Actual	2,897,982	-59,572	4,158	2,842,568	-99,691	4,158	2,842,568	1,226	11,033	2,853,601	66,158	11,033	2,853,601
FY 2005 Actual	2,842,568	-20,933	49,297	2,870,932	-71,327	49,297	2,870,932	3,243	14,276	2,885,208	66,156	14,276	2,885,208
FY 2006 Actual	2,870,932	-66,710	42,289	2,846,511	-95,748	42,289	2,846,511	0	14,276	2,860,787	67,494	14,276	2,860,787
FY 2007	2,887,683	-16,796	39,719	3,010,606	-72,825	39,719	3,010,606	0	14,276	3,024,882	87,670	14,276	3,024,882
FY 2008	3,010,606	-18,382	52,978	3,045,202	-38,228	52,978	3,045,202	0	14,276	3,059,478	87,670	14,276	3,059,478
FY 2009	3,045,202	-88,882	34,356	3,012,676	-70,755	34,356	3,012,676	0	14,276	3,026,952	87,670	14,276	3,026,952
FY 2010	3,012,676	0	0	3,012,676	-70,755	0	3,012,676	0	14,276	3,026,952	87,670	14,276	3,026,952
FY 2011	3,012,676	0	0	3,012,676	-70,755	0	3,012,676	0	14,276	3,026,952	87,670	14,276	3,026,952
FY 2012	3,036,676	0	24,000	3,036,676	-46,755	24,000	3,036,676	0	14,276	3,050,952	87,670	14,276	3,050,952
FY 2013	3,076,921	-12,483	52,728	3,076,921	-6,510	52,728	3,076,921	0	14,276	3,091,197	87,670	14,276	3,091,197
FY 2014	3,076,921	0	0	3,076,921	-6,510	0	3,076,921	0	14,276	3,091,197	87,670	14,276	3,091,197
FY 2015	3,076,921	0	0	3,076,921	-6,510	0	3,076,921	0	14,276	3,091,197	87,670	14,276	3,091,197
FY 2016	3,076,921	0	75,600	3,152,521	69,090	75,600	3,152,521	0	14,276	3,166,797	87,670	14,276	3,166,797
FY 2017	3,152,521	0	0	3,152,521	69,090	0	3,152,521	0	14,276	3,166,797	87,670	14,276	3,166,797

<sup>1</sup> The FY 2005 and FY 2006 EM demolished square footage in E-1 is included in the Waiver/Transfer column in FY 2007.

<sup>2</sup> FY 2007 Footprint "Banked" (gsf), column 6, includes the square footage transfer approved in the Bruce Scott to James Rispoli memo dated October 12, 2006.

<sup>3</sup> FY 2007 Beginning Site Footprint is a hard coded number and reflects revised plant square footage resulting from remeasuring existing facilities. Grandfathered footprint square footage has been revised also. EM owned facilities have been removed and are included in E-4b



FY 2008 TYSP

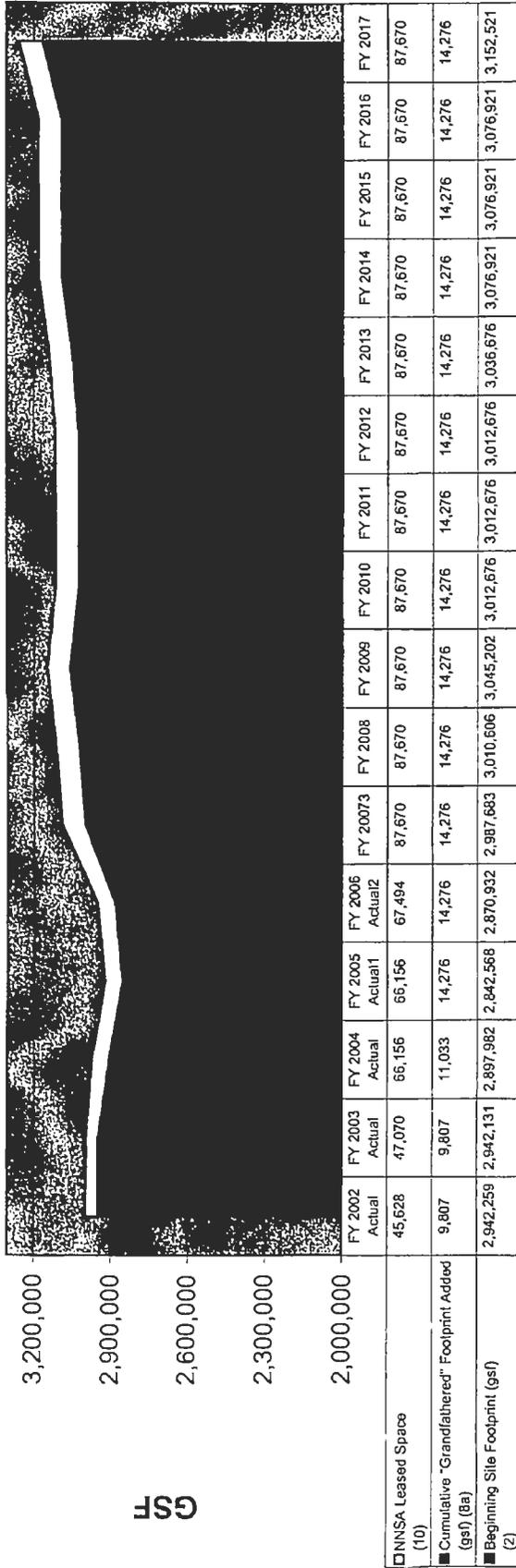
E-12

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Pantex Plant

Attachment E-4(a)

**ATTACHMENT E-4(a)  
RIVER GRAPH  
Pantex Plant Space Tracking Summary - NNSA**



FY 2008 TYSP

Pantex Plant

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Attachment E-4(e)

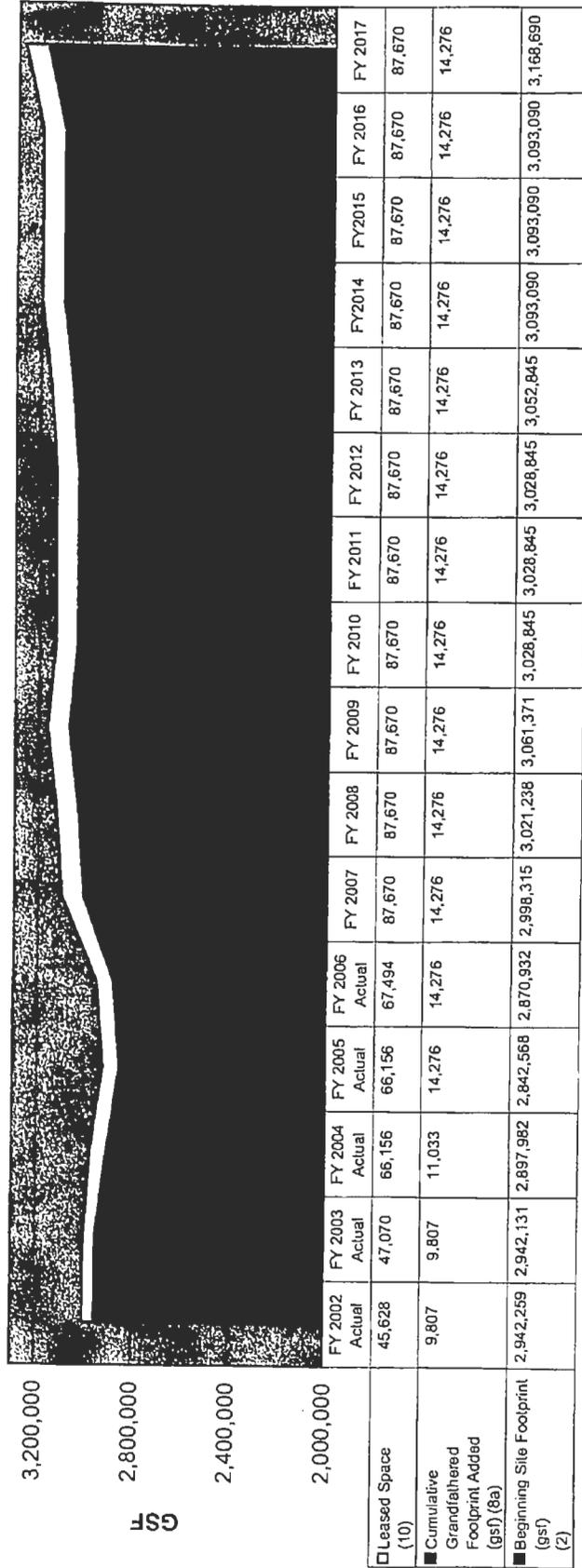


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Pantex Plant

FY 2008 TYSP

**ATTACHMENT E-4(b)  
RIVER GRAPH  
Pantex Plant Site Wide Footprint Tracking Summary - SITE WIDE**



Attachment E-4(b)

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Pantex Plant

FY 2008 TYSP

Attachment E-5 Waiver/Transfer Log (Space Added or Eliminated) Pantex Plant							
Site or Program Designator (1)	Site or Program Designator (2)	Major Program Designator (3)	Transfer Designator (4)	Required Designation (5)	Approved Designation (6)	Comments (7)	
TBD	Pantex Plant	150,000	62,776	No	No	Draft request has been prepared.	
Pantex Plant (EM)	Pantex Plant (NNSA)			Yes	Yes	The total square footage transferred, per memo from Bruce Scott to James Rispoli, dated October 12, 2006, is 99,926 square feet. The 99,926 square feet includes 37,150 square feet for 11-044 and Pantex AT 550 (10-7, 10-7, 10-20) that has already been credited to the Pantex bank per memos from Bruce Scott to Dan Glenn.	

FY 2008 TYSP

PRIME

E-20

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Pantex Plant

Attachment E-5

**Attachment E-6  
FY 2007 Leased Space Profile  
Pantex Plant**

(1) #	(2) Field #	(3) Property Name	(4) Market Designation	(5) Market Designation	(6) # Occupants	(7) Floor Area (sq ft)	(8) Annual Cost	(9) Lease Type	(10) Lease Term (yr)	(11) Exp. Month / Year	(12) Termination Option
1	09-059	Leased Office Building	RTBF	MD	55	10,194	97,354	Full	3	Sep-07	Y
2	09-060	Leased Office Building	EM	MD	62	11,827	113,203	Full	3	Sep-07	Y
3	09-061	Leased Office Building	NA	MD	31	10,220	97,354	Full	3	Sep-07	Y
4	09-129	Leased Office Building*	RTBF	NMD	7	1,442	17,760	Full	3	Jun-06	Y
5	09-130	Leased Office Building*	RTBF	MD	113	19,086	307,000	Full	3	Sep-06	Y
6	09-138	Leased Office Building	STA	NMD	5	669	3,480	Full	2	Jul-07	Y
7	09-139	Leased Office Building	STA	NMD	5	669	3,480	Full	2	Jul-07	Y
8	09-140	Leased Office Building	RTBF	NMD	5	859	10,416	Full	3	Jul-09	Y
9	09-141	Leased Change Trailer	RTBF	NMD	5	165	3,504	Full	3	Jul-09	Y
10	09-142	Leased Change Trailer	RTBF	NMD	5	165	3,504	Full	3	Jul-09	Y
11	09-143	Leased Change Trailer	RTBF	NMD	5	165	3,504	Full	3	Jul-09	Y
12	18-001	Leased Office Building	RTBF	NMD	10	7,218	46,676	Full	5	Sep-09	Y
13	18-002	Leased Storage Building	RTBF	NMD	-	6,169	19,830	Full	5	Sep-09	Y
14	AP-314	Leased Airport Facility Building 314	RTBF	NMD	-	1,271	762	Full	5	May-11	Y
15	AP-315	Leased Airport Facility Building 315	RTBF	NMD	-	2,551	1,530	Full	5	May-11	Y
16	AP-317	Leased Airport Facility Building 317	RTBF	NMD	8	15,000	15,000	Full	5	May-11	Y

\*First of two 12-month option periods exercised



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Attachment F-1  
 FIRP FY 2003 Legacy Deferred Maintenance Baseline and Projected Deferred Maintenance Reduction from Baseline  
 NNSA  
 (\$000s)

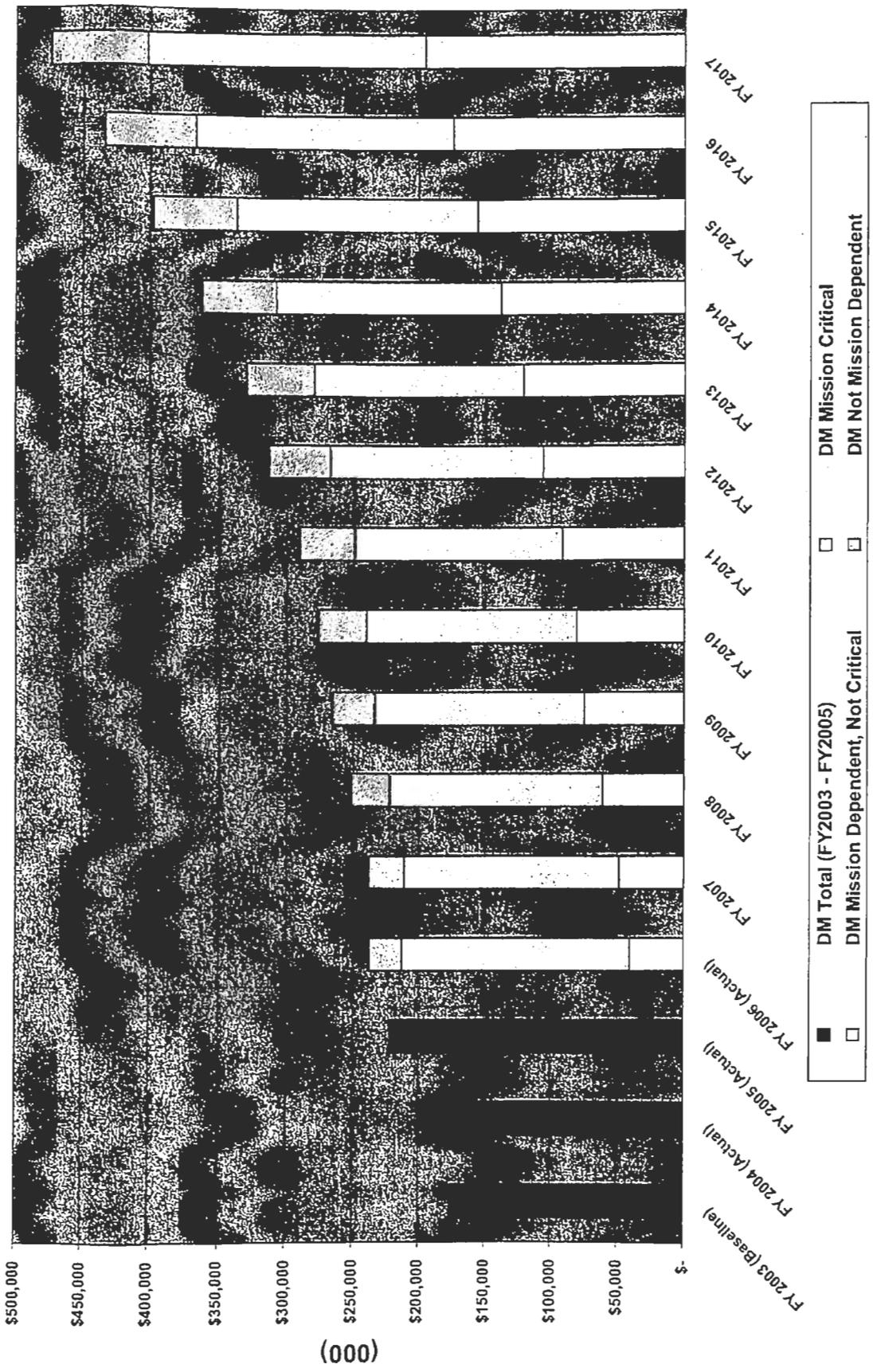
Category of Maintenance	Fiscal Year										
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
1. FIRP DEFERRED MAINTENANCE (DM) BASELINE (Excluding Programmatic Real Property or Equipment)	176,000	145,800	122,046	73,400	64,662	56,791	46,186	37,717	29,522	24,133	14,263
2. DEFERRED MAINTENANCE BASELINE (DM) REDUCTION TOTAL		24,600	23,754	48,646	8,738	7,871	10,604	8,469	8,195	5,389	9,870
A. Reduction in DM Baseline (total due to FIRP ONLY) for all F&I				21,288	8,556	7,748	10,042	8,469	8,195	5,389	9,870
i. Reduction in DM for Mission-Critical F&I (due to FIRP ONLY)				752	-	1,880	62	2,420	16	-	-
ii. Reduction in DM for Mission-Dependent, Not Critical F&I (due to FIRP ONLY)				734	8,470	5,424	9,315	6,049	8,179	5,389	9,870
iii. Reduction in DM for Not Mission-Dependent F&I (due to FIRP ONLY)				19,800	88	444	666	-	-	-	-
3. REPLACEMENT PLANT VALUE (RPV) FOR NNSA FACILITIES & INFRASTRUCTURE											



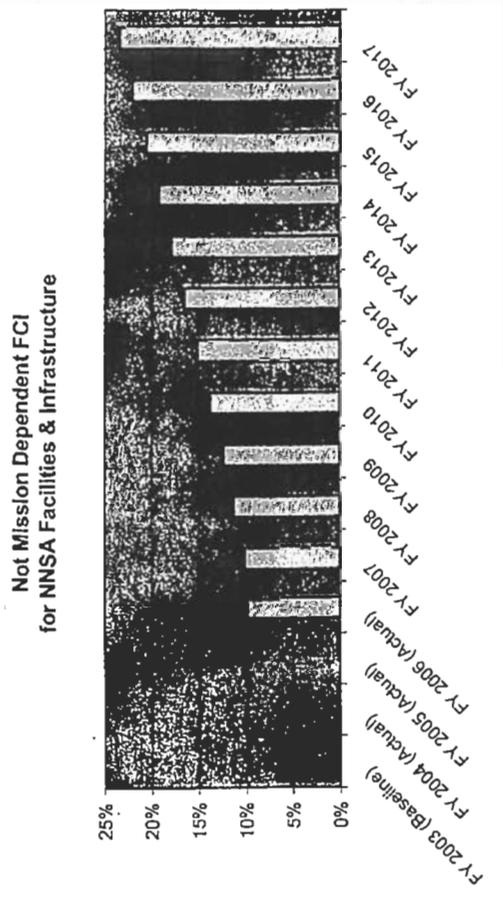
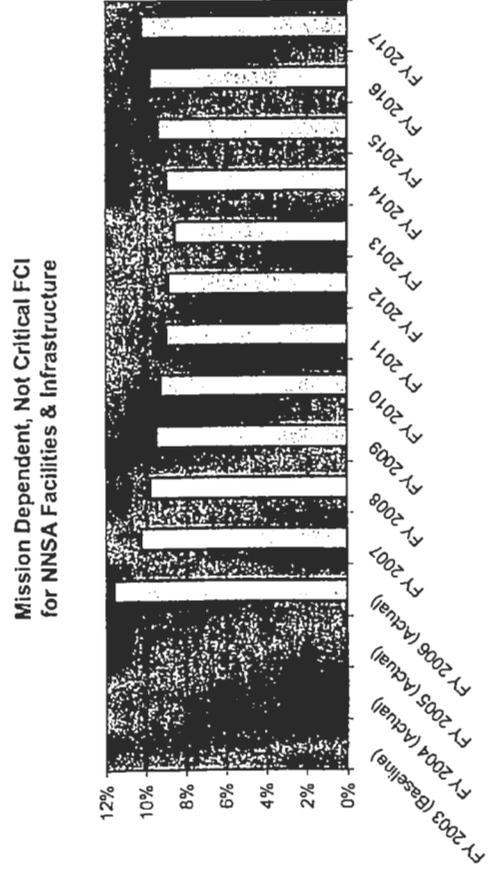
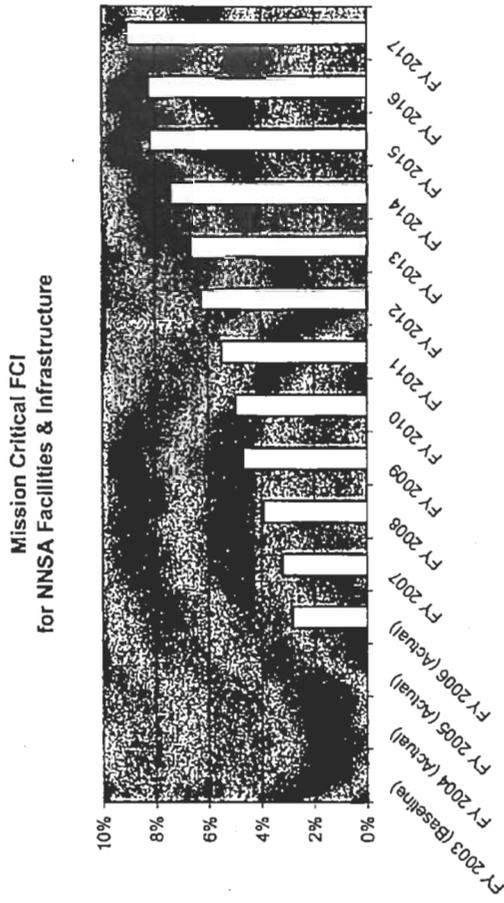
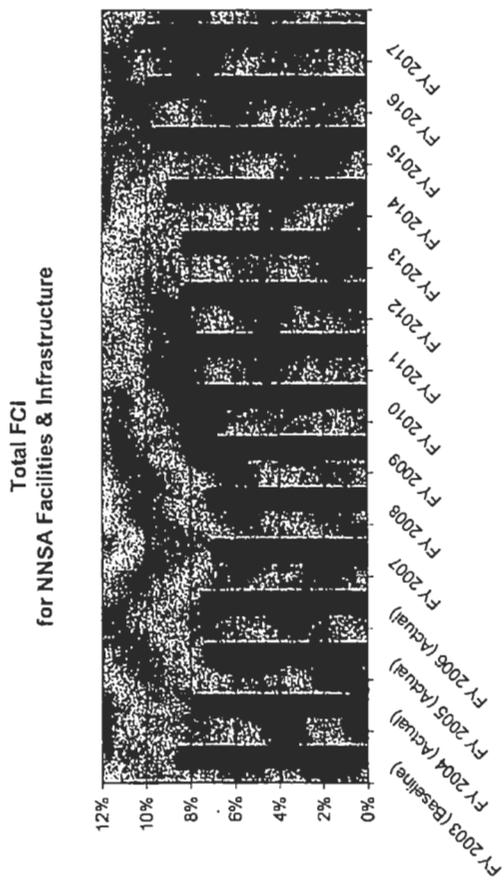


FY 2008 TYSP

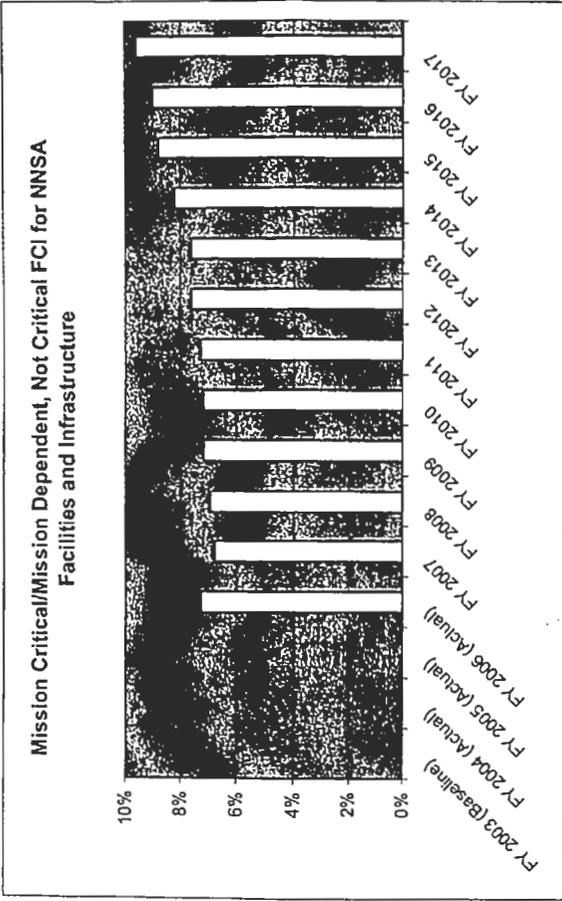
Attachment F-3: Pantex Deferred Maintenance Profile for NNSA F&I



### ATTACHMENT F-4: Pantex Facility Condition Index (FCI) for NNSA F&I



### ATTACHMENT F-4: Pantex Facility Condition Index (FCI) for NNSA F&I



Attachment F-5  
Replacement-In-Kind Projects Over \$500K

Year	Project Description	Category	Code	Quantity	Unit	Material	Notes	Cost
2004	11-50 Roof Replacement	MC	11-050			Replace or repair deteriorated roof	Unfunded	\$557
2005	12-88 Roof Replacement	MDNC	12-068			Replace or repair deteriorated roof	Unfunded	\$911
2006	12-99 Roof Replacement	MC	12-099			Replace or repair deteriorated roof	Unfunded	\$1,070
	12-66 Roof Replacement	MC	12-066			Replace or repair deteriorated roof	Unfunded	\$604
2007	Replace Diesel Generators (3)	MDNC	12-108			Replace diesel generators used as backup power to critical facilities	Unfunded	\$1,778
	12-21 Roof Replacement	MC	12-021			Replace or repair deteriorated roof	Unfunded	\$1,021
2008	Fire Alarm Panel Replacement	MDNC	PXAT 620			Replace obsolete fire alarm panels	Unfunded	\$3,763
	Fence Repair/Replacement	MDNC	PXAT480			Repair deteriorated plant security fencing	Unfunded	\$1,775
2009	12-103 Roof Replacement	NMD	12-103			Replace or repair deteriorated roof	Unfunded	\$530
	Fence Repair/Replacement	MDNC	PXAT480			Repair deteriorated plant security fencing	Unfunded	\$4,764
2010	18-12 Roof Replacement	MDNC	18-012			Replace or repair deteriorated roof	Unfunded	\$699
2011	Fence Repair/Replacement	MDNC	PXAT480			Repair deteriorated plant security fencing	Unfunded	\$5,337
2012	Fence Repair/Replacement	MDNC	PXAT480			Repair deteriorated plant security fencing	Unfunded	\$3,763
2013	Transformer Replacements	MDNC	PXAT 615			Replace aging electrical transformers	Unfunded	\$575
2014	12-5 Roof Replacement	MDNC	12-005			Replace or repair deteriorated roof	Unfunded	\$3,352
2015	12-28E Roof Replacement	MDNC	12-028E			Replace or repair deteriorated roof	Unfunded	\$893
2016	12-083 Roof Replacement	MC	12-083			Replace or repair deteriorated roof	Unfunded	\$557
2017	Rehabilitate Water Storage Tanks	MDNC	PXAT550-02			Replace two 2,000,000 gallon surface awler storage reservoirs	Unfunded	\$6,800

Note: Projected costs are based on CAIS estimates

(FIMS 092)

**U.S. Department of Energy  
Facilities Information Management System  
Mission Dependency Report**

Page 1 of 2  
2/13/2007

Program Office: **NNSA**

Site: **Pantex Site Office**

Property ID	Property Name	Mission Dependency	Building RPV	Deferred Maintenance	Summary Condition*	MD Pgm Oic	Gross Square Ft.	UM %
	Pantex Building	Mission Critical	\$1,452,787	\$137,657	Adequate	ENG	1,538	100%
	Pantex Building	Mission Critical	\$40,692,980	\$2,913,909	Adequate	RC	30,978	100%
	Pantex Building	Mission Critical	\$11,436,929	\$948,424	Adequate	RC	12,021	100%
	Pantex Building	Mission Critical	\$28,646,397	\$2,526,712	Adequate	RC	26,255	100%
	Pantex Building	Mission Critical	\$1,187,648	\$97,354	Adequate	DSW	1,276	100%
	Pantex Building	Mission Critical	\$4,563,642	\$294,660	Adequate	DSW	2,618	100%
	Pantex Building	Mission Critical	\$8,545,587	\$135,131	Excellent	RC	8,982	100%
	Pantex Building	Mission Critical	\$19,943,212	\$313,311	Excellent	RC	15,182	100%
	Pantex Building	Mission Critical	\$26,779,668	\$39,274	Excellent	DSW	31,819	100%
	Pantex Building	Mission Critical	\$24,378,000	\$46,553	Excellent	DSW	3,873	100%
	Pantex Building	Mission Critical	\$24,378,000	\$271,632	Excellent	DSW	5,383	100%
	Pantex Building	Mission Critical	\$24,378,000	\$70,841	Excellent	DSW	5,792	100%
	Pantex Building	Mission Critical	\$55,699,179	\$696,444	Excellent	DSW	49,707	100%
	Pantex Building	Mission Critical	\$24,378,000	\$61,057	Excellent	DSW	5,788	100%
	Pantex Building	Mission Critical	\$24,378,000	\$29,931	Excellent	DSW	5,839	100%
	Pantex Building	Mission Critical	\$24,378,000	\$8,397	Excellent	DSW	5,839	100%
	Pantex Building	Mission Critical	\$24,378,000	\$11,093	Excellent	DSW	5,839	100%
	Pantex Building	Mission Critical	\$24,378,000	\$0	Excellent	DSW	5,839	100%
	Pantex Building	Mission Critical	\$93,124,220	\$1,177,326	Excellent	DSW	64,449	100%
	Pantex Building	Mission Critical	\$144,469,768	\$263,704	Excellent	DSW	99,984	100%
	Pantex Building	Mission Critical	\$109,404,234	\$190,364	Excellent	DSW	75,716	100%
	Pantex Building	Mission Critical	\$53,803,206	\$168,532	Excellent	DSW	48,015	100%
	Pantex Building	Mission Critical	\$3,719,671	\$3,118	Excellent	DSW	6,238	100%
	Pantex Building	Mission Critical	\$69,310,361	\$737,737	Excellent	RC	49,159	100%
	Pantex Building	Mission Critical	\$7,949,960	\$968,139	Fair	RC	9,446	100%
	Pantex Building	Mission Critical	\$8,915,666	\$1,196,693	Fair	RC	9,371	100%
	Pantex Building	Mission Critical	\$14,380,006	\$2,227,796	Fair	RC	17,086	100%
	Pantex Building	Mission Critical	\$6,069,117	\$1,356,090	Fair	RC	7,210	100%

(b)(2)High

\*Summary Condition: Excellent (DM <2% of RPV); Good (DM is 2 - <5% of RPV); Adequate (DM is 5 - <10% of RPV); Fair (DM is 10 - <25% of RPV); Poor (DM is 25 - <50% of RPV); Fail (DM is > 50% of RPV); Not Applicable (Bldg falls into one of the following Status Categories: Shutdown Pending Transfer, Shutdown Pending D and D, D and D in Progress, Shutdown Pending Disposal, Deactivation)



(FIMS 092)

**U.S. Department of Energy  
Facilities Information Management System  
Mission Dependency Report**

Page 2 of 2  
2/13/2007

Program Office: NNSA

Site: Pantex Site Office

Property ID	Property Name	Mission Dependency	Building RPV	Deferred Maintenance	Summary Condition	MD Pgm Ctg	Gross Square Ft	LM %
	Pantex Building	Mission Critical	\$25,727,822	\$3,583,817	Fair	RC	28,481	100%
	Pantex Building	Mission Critical	\$1,013,852	\$218,180	Fair	RC	1,000	100%
	Pantex Building	Mission Critical	\$31,748,535	\$3,744,109	Fair	DSW	35,146	100%
	Pantex Building	Mission Critical	\$6,851,779	\$764,561	Fair	ENG	7,585	100%
	Pantex Building	Mission Critical	\$5,408,321	\$893,490	Fair	ENG	7,634	100%
	Pantex Building	Mission Critical	\$6,352,416	\$904,678	Fair	DSW	6,081	100%
	Pantex Building	Mission Critical	\$2,352,137	\$397,109	Fair	RC	2,320	100%
	Pantex Building	Mission Critical	\$1,327,173	\$177,396	Fair	RC	1,358	100%
	Pantex Building	Mission Critical	\$1,604,726	\$217,978	Fair	ENG	1,642	100%
	Pantex Building	Mission Critical	\$2,063,080	\$224,546	Fair	RC	2,111	100%
	Pantex Building	Mission Critical	\$29,456,240	\$857,169	Good	DFO	25,796	100%
	Pantex Building	Mission Critical	\$24,378,000	\$612,852	Good	DSW	3,873	100%
	Pantex Building	Mission Critical	\$24,378,000	\$681,722	Good	DSW	3,873	100%
	Pantex Building	Mission Critical	\$24,378,000	\$970,846	Good	DSW	3,873	100%
	Pantex Building	Mission Critical	\$24,378,000	\$678,772	Good	DSW	3,873	100%
	Pantex Building	Mission Critical	\$8,023,680	\$322,509	Good	DSW	5,553	100%
	Pantex Building	Mission Critical	\$12,995,235	\$3,006,194	Good	DSW	85,122	100%
	Pantex Building	Mission Critical	\$18,863,782	\$587,604	Good	DSW	22,547	100%
	Pantex Building	Mission Critical	\$166,442,801	\$3,657,299	Good	DSW	115,191	100%
	Pantex Building	Mission Critical	\$6,336,038	\$193,370	Good	DSW	5,733	100%
	Pantex Building	Mission Critical	\$6,632,303	\$248,338	Good	RC	6,891	100%
	Pantex Building	Mission Critical	\$162,216	\$41,741	Poor	RC	160	100%
	Pantex Building	Mission Critical	\$892,221	\$304,118	Poor	RC	4,148	100%
	Pantex Building	Mission Critical	\$1,760,117	\$562,867	Poor	RC	1,801	100%
		<b>Mission Critical Totals:</b>	<b>\$1,438,843,798</b>	<b>\$40,671,058</b>			<b>995,139</b>	
		<b>Pantex Site Office Site Totals:</b>	<b>\$1,438,843,798</b>	<b>\$40,671,058</b>			<b>995,139</b>	
		<b>NNSA Program Office Totals:</b>	<b>\$1,438,843,798</b>	<b>\$40,671,058</b>			<b>995,139</b>	

(b)(2)High

\*Summary Condition: Excellent (DM <2% of RPV); Good (DM is 2 - <5% of RPV); Adequate (DM is 5 - <10% of RPV); Fair (DM is 10 - <25%); Poor (DM is 25 - <60% of RPV); Fail (DM is > 59% of RPV); Not Applicable (Bkg falls into one of the following Status Categories: Shutdown Pending Transfer, Shutdown Pending D and D, D, and D In Progress, Shutdown Pending Disposal, Deactivation)

PRIME

## ATTACHMENT H - Summary of Pantex Future Environmental Liabilities

Pantex identified and investigated 252 Solid Waste Management Units (SWMUs). Each SWMU is noted in Figure 3-6 and here in Attachment H with the Risk Reduction Standard (RRS) used to measure SWMU closure. The RRS criteria is also included in at the end of Attachment H.

Waste Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure
1	AOC 8a: SOLVENT LEAKS (PAD 11-12)	AOC 8a	Soil Closure with Uncertainty Management		RRS 3
2	AOC 8b: SOLVENT LEAKS (PAD 11-13)	AOC 8b	Soil Closure with Uncertainty Management		RRS 3
3	Building 11-12	SWMU 150	Soil Closure with Uncertainty Management		RRS 3
4	LANDFILL E OF 11-13 PAD (DEBRIS FROM BLDGS 11-12,11-13)	UN-12/SVS 5	Soil Closure with Uncertainty Management		RRS 3
5	SWMU 147 ZONE 11 TNT SETTLING PIT (11-13)	SWMU 147	Soil Closure with Uncertainty Management		RRS 3
6	SWMU 149: ZONE 11 TNT SETTLING PIT (11-26)	SWMU 149	Soil Closure with Uncertainty Management		RRS 3
7	AOC 2: MAIN ELECTRICAL SUBSTATION (4-28)	AOC 2	CLOSED	09/22/93	RRS 1
8	SWMU 60 LANDFILL 9 (Group III)	SWMU 60	Soil Closure with Uncertainty Management		RRS 3
9	SWMU 61 LANDFILL 10 (Group III)	SWMU 61	Soil Closure with Uncertainty Management		RRS 3
10	ZONE 11 PARALLEL DEPRESSION NEAR BLDG 11-26 (SVS 2)	UN-8/SVS 2	Soil Closure with Uncertainty Management		RRS 3
11	AOC 1: TRANSFORMER LEAK NEAR 11-14A	AOC 1	Soil Closure with Uncertainty Management		RRS 3
12	AOC 8c: SOLVENT LEAKS (PAD 11-17)	AOC 8c	Soil Closure with Uncertainty Management		RRS 3
13	SWMU 117 11-44 HE SETTLING TANK	SWMU 117	Soil Closure with Uncertainty Management	03/18/94	RRS 3
14	SWMU 118: BLDG 11-44 EQUALIZATION BASIN	SWMU 118	Soil Closure with Uncertainty Management	08/26/02	RRS 3
15	SWMU 119a: BLDG 11-44 HE PARTICULATE FILTERS	SWMU 119a	Soil Closure with Uncertainty Management	03/18/94	RRS 3

### ATTACHMENT H - Summary of Pantex Future Environmental Liabilities

Waste Number	Waste Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure
16	2	SWMU 12: DRAINAGE DITCH NEAR 11-14 POND & PIPELINE	SWMU 12	Soil Closure with Uncertainty Management		RRS 3
17	2	SWMU 120a: BLDG 11-44 ACTIVATED CARBON FILTERS	SWMU 120a	Soil Closure with Uncertainty Management	03/18/94	RRS 3
18	N/A	SWMU 81 IGLOO 4-19 WASTE STORAGE	SWMU 81	CLOSED	10/29/93	RRS 1
19	2	SWMU 148: ZONE 11 TNT SETTLING PIT (11-17)	SWMU 148	Soil Closure with Uncertainty Management		RRS 3
20	2	SWMU 3: BLDG 11-44 DRAINAGE DITCH	SWMU 3	Soil Closure with Uncertainty Management		RRS 3
21	2	SWMU 86: WASTE ACCUM 11-14 SOLVENT STORAGE SHED	SWMU 86	Soil Closure with Uncertainty Management		RRS 3
22	2	Unassigned SWMU 11-14 HYPALON POND	Unassigned	CLOSED	02/21/95	RRS 2
23	3	AOC 7a: SULFURIC ACID SPILLS (11-36)	AOC 7a	Soil Closure with Uncertainty Management		RRS 3
24	3	AOC 8d: SOLVENT LEAKS (PAD 11-22)	AOC 8d	Soil Closure with Uncertainty Management		RRS 3
25	3	AOC 8e: SOLVENT LEAKS (BLDG 11-36)	AOC 8e	Soil Closure with Uncertainty Management		RRS 3
26	8	SWMU 108 BATCH MASTER 12-68	SWMU 108	CLOSED	05/29/97	RRS 1
27	N/A	CONTAINER STORAGE AREA (CONEX WM1-A)	Unit 46	CLOSED	04/22/98	RRS 1
28	3	SWMU 113: OVERFLOWS FROM 11-36 COLLECTION SYSTEM/SUMP	SWMU 113	Soil Closure with Uncertainty Management		RRS 3
29	N/A	CONTAINER STORAGE AREA (CONEX WM1-B)	Unit 47	CLOSED	04/22/98	RRS 1
30	N/A	CONTAINER STORAGE AREA (CONEX WM3-A)	Unit 48	CLOSED	04/22/98	RRS 1
31	N/A	CONTAINER STORAGE AREA (CONEX WM5-A)	Unit 49	CLOSED	04/22/98	RRS 1
32	N/A	CONTAINER STORAGE AREA (CONEX WM5-B)	Unit 50	CLOSED	04/22/98	RRS 1

## ATTACHMENT H - Summary of Pantex Future Environmental Liabilities

Waste Number	Waste Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure
33	3	SWMU 5/08 DRAINAGE DITCH 11-36	SWMU 5-08	Soil Closure with Uncertainty Management		RRS 3
34	3	Unassigned FORMER LEACHING BED N OF BLDG 11-50 & W OF BLDG 11-36	UN-6	Soil Closure with Uncertainty Management		RRS 3
35	4	SWMU 13: SURFACE IMPOUNDMENT SOLAR EVAPORATION PITS AT BLDG 11-51	SWMU 13	Soil Closure with Uncertainty Management		RRS 3
36	4	SWMU 5/09a DRAINAGE DITCH 11-17	SWMU 5-09a	Soil Closure with Uncertainty Management		RRS 3
37	4	SWMU 5/09b: DRAINAGE DITCH 11-20	SWMU 5-09b	Soil Closure with Uncertainty Management		RRS 3
38	4	SWMU 5/11 Z11 MAIN DRAINAGE DITCH	SWMU 5-11	Soil Closure with Uncertainty Management		RRS 3
39	4	SWMU 87: WASTE ACCUM 11-20 SOLVENT STORAGE SHED	SWMU 87	Soil Closure with Uncertainty Management		RRS 3
40	4	UNASSIGNED EVAPORATION PIT, EAST OF BAY 3, BLDG 11-20	UN-4	Soil Closure with Uncertainty Management		RRS 3
41	4	UNASSIGNED EVAPORATION PIT, S OF BAY 11, W OF BAY 6, BLDG 11-20	UN-5	Soil Closure with Uncertainty Management		RRS 3
42	5	AOC 7c: SULFURIC ACID SPILLS (12-64)	AOC 7c	Soil Closure with Uncertainty Management		RRS 3
43	N/A	IGLOO 4-46 STORAGE	Unit 52	CLOSED	04/22/98	RRS 1
44	5	SWMU 103: FORMER BATTERY STORAGE AREA, BLDG 12-81	SWMU 103	Soil Closure with Uncertainty Management		RRS 3
45	N/A	IGLOO 4-74 STORAGE	Unit 54	CLOSED	04/22/98	RRS 1
46	N/A	BLDG 11-15A	Unit 38	CLOSED	02/23/99	RRS 1
47	5	SWMU 135: SUBSURFACE LEACH BEDS, BLDG 12-44	SWMU 135	Soil Closure with Uncertainty Management		RRS 3
48	5	SWMU 5/06a: DRAINAGE DITCH 12-44	SWMU 5-06a	Soil Closure with Uncertainty Management		RRS 3
49	5	SWMU 5/06b: DRAINAGE DITCH 12-81	SWMU 5-06b	Soil Closure with Uncertainty Management		RRS 3

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Number	Waste Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure
50	5	SWMU 56 LANDFILL 5 (Group III)	SWMU 56	Soil Closure with Uncertainty Management		RRS 3
51	5	SWMU 57 LANDFILL 6 (Group III)	SWMU 57	Soil Closure with Uncertainty Management		RRS 3
52	5	SWMU 68a: ORIGINAL GENERAL PURPOSE SANITARY LANDFILL	SWMU 68a	Soil Closure with Uncertainty Management		RRS 3
53	N/A	BLDG 11-15B	Unit 39	CLOSED	02/23/99	RRS 1
54	N/A	BLDG 11-9	Unit 37	CLOSED	02/23/99	RRS 1
55	6/7	AOC 10a: PESTICIDE RINSE AREA (BLDG 12-43)	AOC 10a	Soil Closure with Uncertainty Management		RRS 3
56	6/7	AOC 13a: FORMER COOLING TOWER IN ZONE 12 (PAD)	AOC 13a	Soil Closure with Uncertainty Management		RRS 3
57	6/7	AOC 13b: FORMER COOLING TOWER IN ZONE 12 (PIPING/SOIL)	AOC 13b	Soil Closure with Uncertainty Management		RRS 3
58	6/7	SWMU 1: BLDG 12-17 DRAINAGE DITCH	SWMU 1	Soil Closure with Uncertainty Management		RRS 3
59	6/7	SWMU 119b: BLDG 12-43 HE PARTICULATE FILTERS	SWMU 119b	Soil Closure with Uncertainty Management	03/18/94	RRS 3
60	6/7	SWMU 120b: BLDG 12-43 ACTIVATED CARBON FILTERS	SWMU 120b	Soil Closure with Uncertainty Management	03/18/94	RRS 3
61	6/7	SWMU 121 12-43 HE SETTLING TANK	SWMU 121	Soil Closure with Uncertainty Management	03/18/94	RRS 3
62	6/7	SWMU 122a: BLDG 12-43 EQUALIZATION TANK/SOIL	SWMU 122a	Soil Closure with Uncertainty Management	08/26/02	RRS 3
63	6/7	SWMU 122b: Bldg 12-24N/12-43 VICINITY SOILS	SWMU 122b	Soil Closure with Uncertainty Management		RRS 3
64	6/7	SWMU 123: BLDG 12-43 CONCRETE SUMP	SWMU 123	Soil Closure with Uncertainty Management		RRS 3
65	N/A	BLDG 11-9 TANK	Unit 36	CLOSED	02/23/99	RRS 1
66	3	SWMU 130: PORTABLE WASTE SOLVENT TANKS Bldg. 11-36	SWMU 130	CLOSED	05/03/99	RRS 1

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Waste Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure	
67	6/7	SWMU 97: WASTE ACCUM 12-34	SWMU 97	CLOSED	05/03/99	RRS 2
68	N/A	FS-22 CONTAINER	UN-1b	CLOSED	08/03/99	RRS 2
69	6/7	SWMU 2: BLDG 12-43 DRAINAGE DITCH	SWMU 2	Soil Closure with Uncertainty Management		RRS 3
70	6/7	SWMU 5/04 DRAINAGE DITCH 12-73	SWMU 5-04b	Soil Closure with Uncertainty Management		RRS 3
71	6/7	SWMU 5/04a: DRAINAGE DITCH 12-19	SWMU 5-04a	Soil Closure with Uncertainty Management		RRS 3
72	6/7	SWMU 5/05 DRAINAGE DITCH BETWEEN BLDGS 12-21 & 12-24	SWMU 5-05	Soil Closure with Uncertainty Management		RRS 3
73	6/7	SWMU 5/07 DRAINAGE DITCH 12-41	SWMU 5-07	Soil Closure with Uncertainty Management		RRS 3
74	6/7	SWMU 5/12a Z12 MAIN DRAINAGE DITCH	SWMU 5-12a	Soil Closure with Uncertainty Management		RRS 3
75	6/7	SWMU 54 LANDFILL 3	SWMU 54	Soil Closure with Uncertainty Management		RRS 3
76	6/7	SWMU 55 LANDFILL 4	SWMU 55	Soil Closure with Uncertainty Management		RRS 3
77	N/A	SWMU 70 FIRING SITE 5	SWMU 70	CLOSED	08/04/99	RRS 2
78	5	UST #38, BLDG 12-98	UN-16	CLOSED	08/18/99	RRS 1
79	5	UST #39, BLDG 12-84	UN-17	CLOSED	08/18/99	RRS 1
80	10	UST #7, BLDG 12-5B	UN-15	CLOSED	08/18/99	RRS 1
81	N/A	SWMU 133: UST #30, WASTE OIL TANK, BLDG 16-1	SWMU 133	CLOSED	08/18/99	RRS 1
82	N/A	UST #9, BLDG 12-17E	UN-14	CLOSED	08/18/99	RRS 1
83	10	AOC 6a: GASOLINE LEAKS AT BLDG 12-35	AOC 6a	CLOSED	08/24/99	RRS 1
84	N/A	AOC 6b: GASOLINE LEAKS AT BLDG 16-1	AOC 6b	CLOSED	08/24/99	RRS 1
85	11 North	CONTAINER STORAGE AREA (CONEX WM1)	SWMU 80/Unit 4	CLOSED	09/01/00	RRS 1

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Number	Waste Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure
86	11 North	CONTAINER STORAGE AREA (CONEX WM2)	SWMU 80/Unit 5	CLOSED	09/01/00	RRS 1
87	N/A	CONTAINER STORAGE AREA (CONEX WM6)	Unit 9	CLOSED	09/01/00	RRS 1
88	11 North	CONTAINER STORAGE AREA (CONEX WM3)	SWMU 80/Unit 6	CLOSED	09/05/00	RRS 1
89	11 North	CONTAINER STORAGE AREA (CONEX WM4)	SWMU 80/Unit 7	CLOSED	09/05/00	RRS 1
90	N/A	CONTAINER STORAGE AREA (CONEX WM5)	Unit 8	CLOSED	09/05/00	RRS 1
91	N/A	CONTAINER STORAGE AREA (CONEX WM7)	Unit 10	CLOSED	09/05/00	RRS 1
92	N/A	CONTAINER STORAGE AREA (CONEX WM8)	Unit 11	CLOSED	09/05/00	RRS 1
93	N/A	SWMU 71 FIRING SITE 6	SWMU 71	CLOSED	11/01/00	RRS 2
94	N/A	SWMU 73 FIRING SITE 15	SWMU 73	CLOSED	11/01/00	RRS 2
95	9	AOC 10b: PESTICIDE RINSE AREA (BLDG 12-51)	AOC 10b	Soil Closure with Uncertainty Management		RRS 3
96	9	AOC 12: BLDG 12-5D PAINT SHOP AREA/SOLVENT PIT	AOC 12	Soil Closure with Uncertainty Management		RRS 3
97	9	AOC 5: ELECTRICAL EQUIPMENT BONE YARD NEAR BLDG 12-5	AOC 5	Soil Closure with Uncertainty Management		RRS 3
98	9	CAPACITOR BANK RUPTURE ZONE 12	UN-3	Soil Closure with Uncertainty Management		RRS 3
99	2	SWMU 129a: HE SLUDGE CONTAINERS (11-44)	SWMU 129a	Administrative Closure	09/19/01	RRS 1
100	9	SWMU 5/02a: DRAINAGE DITCH 12-51	SWMU 5-02a	Soil Closure with Uncertainty Management		RRS 3
101	9	SWMU 5/02b: DRAINAGE DITCH 12-67	SWMU 5-02b	Soil Closure with Uncertainty Management		RRS 3
102	9	SWMU 5/02c: DRAINAGE DITCH 12-110	SWMU 5-02c	Soil Closure with Uncertainty Management		RRS 3
103	3	SWMU 111: 11-36 SOLVENT TANK	SWMU 111	Administrative Closure	09/19/01	RRS 1

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Waste Number	Waste Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure
104	10	AOC 15: DDT RELEASE AT BLDG 12-35	AOC 15	Soil Closure with Uncertainty Management		RRS 3
105	3	SWMU 112: 11-36 SOVENT TANK	SWMU 112	Administrative Closure	09/19/01	RRS 1
106	10	BLDG 12-5 CONCRETE SUMP	UN-18	Soil Closure with Uncertainty Management		RRS 3
107	3	SWMU 114: 11-36 SCRUBBER SYSTEM	SWMU 114	Administrative Closure	09/19/01	RRS 1
108	10	SWMU 5/01a:DRAINAGE DITCH BLDG 12-5	SWMU 5-01a	Soil Closure with Uncertainty Management		RRS 3
109	10	SWMU 5/01b:DRAINAGE DITCH BLDG 12-5B	SWMU 5-01b	Soil Closure with Uncertainty Management		RRS 3
110	3	SWMU 115: 11-36 CARBON FILTER	SWMU 115	Administrative Closure	09/19/01	RRS 1
111	3	SWMU 116: 11-36 HE SLUDGE FILTERS	SWMU 116	Administrative Closure	09/19/01	RRS 1
112	6/7	SWMU 125: 12-43 HE CHARCOAL BOXES (site wide)	SWMU 125	Administrative Closure	09/19/01	RRS 1
113	6/7	SWMU 126: 12-43 HE WASTE DUMPSTERS (site wide)	SWMU 126	Administrative Closure	09/19/01	RRS 1
114	6/7	SWMU 129b: HE SLUDGE CONTAINERS (12-43)	SWMU 129b	Administrative Closure	09/19/01	RRS 1
115	8	SWMU 141: CLASSIFIED WASTE INCINERATOR	SWMU 141	Administrative Closure	09/19/01	RRS 1
116	8	SWMU 85: MOCA WASTE ACCUMULATION (BLDG 12-16)	SWMU 85	Administrative Closure	09/19/01	RRS 1
117	11 North	SWMU 68b: GP SANITARY LANDFILL 1	SWMU 68b	Soil Closure with Uncertainty Management		RRS 3
118	11 North	SWMU 82: NUCLEAR ACCIDENT RESIDUE STORAGE - ZONE 4	SWMU 82	Soil Closure with Uncertainty Management		RRS 3
119	11 South	OLD PISTOL RANGE NEAR PLAYA #1 (SVS 4)	UN-9/SVS 4	ACTIVE	N/A	N/A

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Waste Number	Waste Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure
120	11 South	SWMU 5/13 (a, b, and c) DRAINAGE DITCH TO PLAYA 1	SWMU 5-13	Soil Closure with Uncertainty Management		RRS 3
121	11 South	SWMU 6: PLAYA 1	SWMU 6	Soil Closure with Uncertainty Management		RRS 3
122	11 South	SWMU 68c: GP SANITARY LANDFILL 2	SWMU 68c	Soil Closure with Uncertainty Management		RRS 3
123	12	ABANDONED ZONE 10 LANDFILLS	SVS 8	Soil Closure with Uncertainty Management		RRS 3
124	12	AOC 14: BATTERY STORAGE AREA, SCRAP/SALVAGE YARD, (10-9)	AOC 14	Soil Closure with Uncertainty Management		RRS 3
125	12	AOC 3a: FORMER BOILER HOUSE AREAS, ZONE 10	AOC 3a	Soil Closure with Uncertainty Management		RRS 3
126	12	SVS 3: CARBON BLACK BURIAL AREA-ZONE 10 (Duplicate of SWMU 67)	SWMU 67 / SVS 3	Soil Closure with Uncertainty Management		RRS 3
127	12	SWMU 143a: FORMER WASTE DRUM STORAGE AREAS/BLDG 10-9	SWMU 143a	Soil Closure with Uncertainty Management		RRS 3
128	12	SWMU 143b: FORMER WASTE DRUM STORAGE AREAS/BLDG 10-7	SWMU 143b	Soil Closure with Uncertainty Management		RRS 3
129	12	SWMU 144: ZONE 10 TNT SETTLING PIT (10-13)	SWMU 144	Soil Closure with Uncertainty Management		RRS 3
130	12	SWMU 145: ZONE 10 TNT SETTLING PIT (10-17)	SWMU 145	Soil Closure with Uncertainty Management		RRS 3
131	12	SWMU 146: ZONE 10 TNT SETTLING PIT (10-26)	SWMU 146	Soil Closure with Uncertainty Management		RRS 3
132	12	SWMU 68d: ACTIVE SANITARY LANDFILL	SWMU 68d	Soil Closure with Uncertainty Management		RRS 3
133	12	SWMU 84: SCRAP AND SALVAGE YARD, BLDG 10-9	SWMU 84	Soil Closure with Uncertainty Management		RRS 3
134	12	Zone 10 Construction Debris Landfills (5)	Unassigned AOC	Soil Closure with Uncertainty Management		RRS 3
135	13	SWMU 14 BURNING GROUNDS-EXPLOSIVE BURN PAD 1	SWMU 14	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3

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Waste Number Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure	
136	13	SWMU 15 BURNING GROUNDS-EXPLOSIVE BURN PAD 2	SWMU 15	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
137	13	SWMU 16 BURNING GROUNDS-EXPLOSIVE BURN PAD 3	SWMU 16	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
138	13	SWMU 17 BURNING GROUNDS-EXPLOSIVE BURN PAD 4	SWMU 17	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
139	13	SWMU 18 BURNING GROUNDS-EXPLOSIVE BURN PAD 5	SWMU 18	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
140	13	SWMU 19 BURNING GROUNDS-EXPLOSIVE BURN PAD 6	SWMU 19	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
141	13	SWMU 20 BURNING GROUNDS-EXPLOSIVE BURN PAD 7	SWMU 20	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
142	13	SWMU 21 BURNING GROUNDS-EXPLOSIVE BURN PAD 7A	SWMU 21	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
143	13	SWMU 22 BURNING GROUNDS-EXPLOSIVE BURN PAD 8	SWMU 22	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
144	13	SWMU 23 BURNING GROUNDS-EXPLOSIVE BURN PAD 9	SWMU 23	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
145	13	SWMU 24 BURNING GROUNDS-EXPLOSIVE BURN PAD 10	SWMU 24	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
146	13	SWMU 25 BURNING GROUNDS-EXPLOSIVE BURN PAD 11	SWMU 25	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
147	13	SWMU 26 BURNING GROUNDS-EXPLOSIVE BURN PAD 12	SWMU 26	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
148	13	SWMU 27 BURNING GROUNDS-EXPLOSIVE BURN PAD 13	SWMU 27	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
149	13	SWMU 28 BURNING GROUNDS-EXPLOSIVE BURN TRAYS	SWMU 28	ACTIVE	N/A	N/A
150	13	SWMU 29 BURNING GROUNDS-EXPLOSIVE BURN TRAYS	SWMU 29	ACTIVE	N/A	N/A
151	13	SWMU 30 BURNING GROUNDS-EXPLOSIVE BURN TRAYS	SWMU 30	ACTIVE	N/A	N/A

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Waste Number Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure	
152	13	SWMU 31 BURNING GROUNDS-EXPLOSIVE BURN TRAYS	SWMU 31	ACTIVE	N/A	N/A
153	13	SWMU 32 BURNING GROUNDS-EXPLOSIVE BURN TRAYS	SWMU 32	ACTIVE	N/A	N/A
154	13	SWMU 33 BURNING GROUNDS-EXPLOSIVE BURN TRAYS	SWMU 33	ACTIVE	N/A	N/A
155	13	SWMU 34 BURNING GROUNDS-EXPLOSIVE BURN TRAYS	SWMU 34	ACTIVE	N/A	N/A
156	13	SWMU 35 BURNING GROUNDS-EXPLOSIVE BURN TRAYS	SWMU 35	ACTIVE	N/A	N/A
157	13	SWMU 36 BURNING GROUNDS-EXPLOSIVE BURN TRAYS	SWMU 36	ACTIVE	N/A	N/A
158	13	SWMU 37 BURNING GROUNDS-LANDFILL 1	SWMU 37	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
159	13	SWMU 38 BURNING GROUNDS-LANDFILL 2	SWMU 38	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
160	13	SWMU 39 BURNING GROUNDS-LANDFILL 3	SWMU 39	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
161	13	SWMU 40 BURNING GROUNDS-LANDFILL 4	SWMU 40	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
162	13	SWMU 41 BURNING GROUNDS-LANDFILL 5	SWMU 41	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
163	13	SWMU 42 BURNING GROUNDS-LANDFILL 6	SWMU 42	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
164	13	SWMU 43 BURNING GROUNDS-LANDFILL 7	SWMU 43	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
165	13	SWMU 44 BURNING GROUNDS-LANDFILL 8	SWMU 44	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
166	13	SWMU 45 BURNING GROUNDS-BURN CAGES	SWMU 45	Soil Closure Acceptable Risk under BG HHRA	09/30/06 (03/04/97)	RRS 3
167	13	SWMU 46 BURNING GROUNDS-BURN CAGES	SWMU 46	Soil Closure Acceptable Risk under BG HHRA	09/30/06 (03/04/97)	RRS 3

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Waste Number Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure	
168	13	SWMU 47 BURNING GROUNDS-EVAPORATION PIT	SWMU 47	Soil Closure Acceptable Risk under BG HHRA	09/30/06	RRS 3
169	13	SWMU 48 BURNING GROUNDS-SOLVENT EVAP. PANS	SWMU 48	Soil Closure Acceptable Risk under BG HHRA	09/30/06 (10/08/92) (12/17/91)	RRS 3
170	13	SWMU 49 BURNING GROUNDS-SOLVENT EVAP. PANS	SWMU 49	Soil Closure Acceptable Risk under BG HHRA	09/30/06 (10/08/92) (12/17/91)	RRS 3
171	13	SWMU 50 BURNING GROUNDS-SOLVENT EVAP. PANS	SWMU 50	Soil Closure Acceptable Risk under BG HHRA	09/30/06 (10/08/92) (12/17/91)	RRS 3
172	13	SWMU 51 BURNING GROUNDS-SOLVENT EVAP. PANS	SWMU 51	Soil Closure Acceptable Risk under BG HHRA	09/30/06 (10/08/92) (12/17/91)	RRS 3
173	13	SWMU 52 BURNING GROUNDS-BURN RACKS AND FLASHING PITS	SWMU 52	Soil Closure Acceptable Risk under BG HHRA	09/30/06 (03/04/97)	RRS 3
174	13	SWMU 8: PLAYA 3	SWMU 8	Soil Closure Acceptable Risk under BG HHRA	09/30/06 (03/04/97)	RRS 3
175	9	SWMU 138: ZONE 12 PAINT SHOP COLLECTION CONE	SWMU 138	Administrative Closure	09/19/01	RRS 1
176	10	SWMU 131: WASTE OIL STORAGE TANKS Site Wide	SWMU 131	Administrative Closure	09/19/01	RRS 1
177	N/A	5/12b Drainage Ditch Bldg. 12- 86 Zone 12 South	SWMU 5/12b	Soil Closure with Uncertainty Management		RRS 3
178	N/A	AOC 11: FIRE DEPARTMENT BURN PITS	AOC 11	Soil Closure with Uncertainty Management	04/11/03	RRS 3
179	N/A	SWMU 124 BLDG 11-50 WASTEWATER TREATMENT	SWMU 124	Administrative Closure	09/19/01	RRS 1
180	N/A	AOC 3b: FORMER BOILER HOUSE AREAS, ZONE 11	AOC 3b	Soil Closure with Uncertainty Management		RRS 3
181	N/A	SWMU 127: NON HAZ WASTE DUMPSTERS	SWMU 127	Administrative Closure	09/19/01	RRS 1
182	N/A	SWMU 128: PORTABLE HE WASTEWATER TANKS	SWMU 128	Administrative Closure	09/19/01	RRS 1
183	N/A	SWMU 132: VACUUM GUZZLERS	SWMU 132	Administrative Closure	09/19/01	RRS 1

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Waste Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure	
184	N/A	SWMU 134: 11-29, SILVER RECOVERY OPERATIONS	SWMU 134	Administrative Closure	09/19/01	RRS 1
185	N/A	SWMU 142 LABORATORY HOOD AND FILTER SYSTEMS (24 BLDGS)	SWMU 142	Administrative Closure	09/19/01	RRS 1
186	N/A	SWMU 76 FS-18	SWMU 76	Administrative Closure	09/19/01	RRS 1
187	N/A	SWMU 77: FS-23 FILTER/EXHAUST SYSTEM	SWMU 77	Administrative Closure	09/19/01	RRS 1
188	N/A	SWMU 83: BLDG 4-8, CONTAINER STORAGE	SWMU 83	Administrative Closure	09/19/01	RRS 1
189	N/A	BLDG 11-9 STORAGE	Unit 40	CLOSED	09/20/02	RRS 1
190	1	SWMU 59 LANDFILL 8 (Duplicate of SVS 5)	SWMU 59	Administrative Closure	06/27/03	RRS 1
191	5	SWMU 100: WASTE ACCUM 12-42	SWMU 100	Administrative Closure	06/27/03	RRS 1
192	5	SWMU 104: WASTE ACCUM 12-82, ASSEMBLY BAYS	SWMU 104	Administrative Closure	06/27/03	RRS 1
193	5	SWMU 105: WASTE ACCUM 12-84, ASSEMBLE BAYS	SWMU 105	Administrative Closure	06/27/03	RRS 1
194	6/7	SWMU 137: 12-41, PAINT SHOP WASTEWATER TANK	SWMU 137	Administrative Closure	06/27/03	RRS 1
195	6/7	SWMU 99: WASTE ACCUM 12-41, SPRAY PAINTING	SWMU 99	Administrative Closure	06/27/03	RRS 1
196	6/7	SWMU96: WASTE ACCUM 12-21, GAS LAB EAST	SWMU 96	Administrative Closure	06/27/03	RRS 1
197	8	SWMU 90: WASTE ACCUM 12-9, HALL GROUND FLOOR	SWMU 90	Administrative Closure	06/27/03	RRS 1
198	8	SWMU 91: WASTE ACCUM 12-9, SOLVENT SHED	SWMU 91	Administrative Closure	06/27/03	RRS 1
199	8	SWMU 94: WASTE ACCUM RAMP 12-R-13	SWMU 94	Administrative Closure	06/27/03	RRS 1

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Waste Number	Waste Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure
200	N/A	CONTAINER STORAGE AREA 11-7N PAD	Unit 1	Conditional Closure received from TCEQ 02/28/05. Slab below surface has not been accepted as closed due to concrete core samples showing contamination. Final closure will require demolition, removal, and proper disposal.		RRS 2
201	8	SWMU 95: WASTE ACCUM 12-18, BATTERY CHARGING FACILITY	SWMU 95	Administrative Closure	06/27/03	RRS 1
202	8	SWMU92: WASTE ACCUM 12-9, OUTSIDE	SWMU 92	Administrative Closure	06/27/03	RRS 1
203	9	SWMU 93: WASTE ACCUM 12-111, PAINT SHOP	SWMU 93	Administrative Closure	06/27/03	RRS 1
204	10	SWMU 89: WASTE ACCUM 12-2, NORTH HALL	SWMU 89	Administrative Closure	06/27/03	RRS 1
205	N/A	IGLOO 4-72 STORAGE	Unit 53	ACTIVE	N/A	N/A
206	N/A	AOC 4 ASBESTOS INSTALLATION (PLANT WIDE)	AOC 4	Administrative Closure	06/27/03	RRS 1
207	N/A	IGLOO DEMOLITION DEBRIS LANDFILLS ZONE 4 (SVS 7a) AND ZONE 5 (SVS 7b)	UN-13/SVS 7	Soil Closure with Uncertainty Management		RRS 3
208	N/A	POTENTIAL TCE AND CR IN PERCHED WATER	UN-2	Soil Closure with Uncertainty Management		RRS 3
209	N/A	SWMU 10: PANTEX LAKE	SWMU 10	Soil Closure with Uncertainty Management		RRS 3
210	N/A	AOC 9 Site Wide, USTs including (FS-20)	AOC 9	Administrative Closure	06/27/03	RRS 1
211	N/A	SWMU 101: WASTE ACCUM 12-59 CHEM LAB	SWMU 101	Administrative Closure	06/27/03	RRS 1
212	N/A	SWMU 107: 16-5 Flammable Liquid Storage Building	SWMU 107	Administrative Closure	06/27/03	RRS 1

## ATTACHMENT H - Summary of Pantex Future Environmental Liabilities

Waste Number Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure	
213	N/A	SWMU 65 LANDFILL 14 (Duplicate of SVS 6)	SWMU 65	Administrative Closure	06/27/03	RRS 1
214	N/A	SWMU 88: WASTE ACCUM 11-41, COMPRESSOR BLDG	SWMU 88	Administrative Closure	06/27/03	RRS 1
215	N/A	SWMU 98: WASTE ACCUM 12-38, SOLVENT STORAGE FOR CHEM LAB	SWMU 98	Administrative Closure	06/27/03	RRS 1
216	8	SWMU 109: OUTSIDE SUMP RELEASES FROM BLDG 12-68	SWMU 109	CLOSED	04/30/04	RRS 2
217	8	SWMU 110: 12-68 ELECTROPLATING WASTE RETENTION BASIN (Interior Moat)	SWMU 110	CLOSED	04/30/04	RRS 2
218	8	SWMU 5/03a: DRAINAGE DITCH 12-68	SWMU 5-03a	CLOSED	04/30/04	RRS 2
219	8	SWMU 5/03b: DRAINAGE DITCH 12-18	SWMU 5-03b	CLOSED	04/30/04	RRS 2
220	N/A	SWMU 136: SUBSURFACE LEACHING SYSTEMS, BLDG 12-59	SWMU 136	Soil Closure with Uncertainty Management		RRS 3
221	8	SWMU 5/03c: DRAINAGE DITCH 12-9	SWMU 5-03c	CLOSED	04/30/04	RRS 2
222	8	SWMU 5/03d: DRAINAGE DITCH 12-10	SWMU 5-03d	CLOSED	04/30/04	RRS 2
223	N/A	AOC 7b: SULFURIC ACID SPILLS (12-4)	AOC 7b	CLOSED	04/30/04	RRS 2
224	N/A	SWMU 4: BLDG 11-50, DRAINAGE DITCH	SWMU 4	Soil Closure with Uncertainty Management		RRS 3
225	N/A	Building 12-1 Laundry Sump	AOC	CLOSED	04/30/04	RRS 2
226	N/A	FS-1 UNLINED LANDFILL/LANDFILL 18 NORTH OF FS-10	UN-1a	Administrative Closure	07/29/04	RRS 1
227	N/A	SWMU 5/15a & 5/15b DRAINAGE DITCH PLAYA 4	SWMU 5-15 a & b	Soil Closure with Uncertainty Management		RRS 3
228	N/A	SWMU 62 LANDFILL 11	SWMU 62	Administrative Closure	07/29/04	RRS 1

## ATTACHMENT H - Summary of Pantex Future Environmental Liabilities

Waste Number Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure	
229	N/A	SWMU 58 LANDFILL 7	SWMU 58	Soil Closure with Uncertainty Management	RRS 3	
230	N/A	11-7A PAD (Unit 41)	SWMU 79a	CLOSED	03/28/05	RRS 1
231	N/A	11-7B PAD (Unit 42)	SWMU 79b	CLOSED	03/28/05	RRS 1
232	N/A	SWMU 64 LANDFILL 13	SWMU 64	Soil Closure with Uncertainty Management		RRS 3
233	11 North	DENUDED AREA NEAR PLAYA #1 (SVS 1)	UN-7/SVS 1	CLOSED	04/25/05	RRS 2
234	N/A	SWMU 66 LANDFILL 15	SWMU 66	Soil Closure with Uncertainty Management		RRS 3
235	N/A	SWMU 69: FIRING SITE 4	SWMU 69	ACTIVE	N/A	N/A
236	N/A	SWMU 7: PLAYA 2	SWMU 7	Soil Closure with Uncertainty Management		RRS 3
237	N/A	FS-11 HE Dumpster Area	FS-11	CLOSED	04/25/05	RRS 2
238	N/A	SWMU 106: WASTE ACCUM 16-1, VEHICLE MAINTENANCE FACILITY	SWMU 106	CLOSED	04/25/05	RRS 2
239	N/A	SWMU 72 FIRING SITE 10	SWMU 72	ACTIVE	N/A	N/A
240	N/A	SWMU 11: SURFACE IMPOUNDMENT IN ZONE 5, BLDG FS-16	SWMU 11	CLOSED	04/25/05	RRS 2
241	N/A	SWMU 74 FIRING SITE 21	SWMU 74	ACTIVE	N/A	N/A
242	N/A	SWMU 75 FIRING SITE 22	SWMU 75	ACTIVE	N/A	N/A
243	N/A	SWMU 139: PHOTOPROCESSING LEACHING BED AT FS-10	SWMU 139	CLOSED	04/25/05	RRS 2
244	N/A	SWMU 140: OLD SEWAGE TREATMENT PLANT	SWMU 140	CLOSED	04/25/05	RRS 2
245	N/A	SWMU 78 FS-24 SUMP COLLECTION SYSTEM	SWMU 78	ACTIVE		N/A
246	N/A	SWMU 5/10 DRAINAGE DITCH AT OSTP	SWMU 5-10	CLOSED	04/25/05	RRS 2
247	N/A	SWMU 5/14 DRAINAGE DITCH TO PLAYA 2	SWMU 5-14	CLOSED	04/25/05	RRS 2
248	N/A	SWMU 53: TEMPORARY HIGH EXPLOSIVE BURN SITE	SWMU 53	CLOSED	04/25/05	RRS 2

## ATTACHMENT H - Summary of Pantex Future Environmental Liabilities

Waste Number Management Group (WMG)	DESCRIPTION	SWMU/AOC Number	2005 TCEQ Closure Status	Closed on	2005 TCEQ RCRA Risk Closure	
249	N/A	SWMU 9: PLAYA 4	SWMU 9	The SWMU will not be evaluated for final closure until the CORE has completed their investigation. Final assessment is deferred pending completion of the RFI by all PRPs (04/25/05).		
250	N/A	SWMU 63 LANDFILL 12	SWMU 63	CLOSED	04/25/05	RRS 2
251	N/A	UNNUMBERED ZONE 7 LANDFILLS	UN-11/SVS 6	Soil Closure with Uncertainty Management		RRS 3
252	8	SWMU 102: WASTE ACCUM 12-68, BATCH MASTER	SWMU 102	Administrative Closure	5/29/1997 & 6/27/2003	RRS 1

## ATTACHMENT H - Summary of Pantex Future Environmental Liabilities

### Risk Reduction Standard Criteria

- RRS 1: The site is not contaminated and therefore, no risk to people or the environment exists (no further action is needed for RRS 1 sites) due to industrial activities at the site. Sample results are less than background for naturally occurring compounds or below the laboratory detection limits for non-naturally occurring compounds. The laboratory detection limits are defined by the RRR and are called practical quantitation limits (PQLs).
- RRS 2: The site contains low levels of contamination. Sample results for one or more compounds exceed RRS 1 action levels (ALs). The sample results fall below comparison values that are similar to background values or are considered to protect people and the environment. These comparison values are called RRS 2 action levels. NNSA may elect to clean up sites that exceed the ALs, so that concentrations are reduced below the ALs. Once a site meets the RRS 2 ALs, no site cleanup is required, and the contaminant levels are recorded on the deed for the property.
- RRS 3: The site contains levels of contamination above the RRS 2 ALs. These sites require further evaluation to determine if risk to people and the environment may occur. This highly complex evaluation uses available data from the site to determine the level of risk posed by the contamination. Typically RRS 3 sites are evaluated within a risk assessment as defined in the RRR. Where unacceptable risk (as defined by the Risk Reduction Rule) occurs, cleanup levels are determined in the risk assessment, and cleanup methods are determined through a corrective measures study.

The program completed all Pantex Resource Conservation Recovery Act Facility Investigations that were approved by the State of Texas with concurrence of the EPA. Approval of the Baseline Risk Assessment is expected in FY07. The Pantex Corrective Measure Study, where different techniques and remediation strategies will be considered, has been submitted for regulator approval. In the regulatory sequence, Pantex will move through their Record of Decision with EPA at the completion of the Corrective Measures Study. Prior to completion of the Record of Decision (ROD), a Federal Facilities Agreement must be negotiated between EPA and Pantex. Following the ROD, Pantex will move on to the Corrective Measures implementations and renegotiation of the Compliance Plan with the State of Texas, leading to long-term monitoring. Ultimately, the ER program is scheduled to be moving into Long-Term Environmental Stewardship in FY 2008. From that point, the ER program at Pantex will focus on the operations, maintenance and monitoring of corrective measures.

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**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** Administrative Support Facility (Third Party Financing)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Program Director  
Robert D. Cole, BWXT Pantex Program Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

This project will provide a 100,000 square foot, multiple-story administrative facility. This project is currently planned to utilize third party financing for construction. Demolition of vacated administrative facilities is included with this project.

**Current Proposed/Actual Project Schedule:**

Third party financing will be pursued. The following represents a proposed schedule:

Design Completion                   FY 2010  
Construction Completion           FY 2013  
Demolition Completion              FY 2015

**Project Justification (Program Requirements):**

To achieve the DOE Nuclear Weapon Complex of the future (the Complex 2030 Vision), many Pantex administrative facilities require replacing. Administrative facilities are quickly becoming antiquated and have reached or are nearing the end of their useful life. Office facilities are currently located throughout Zone 12 North. Operational efficiencies are expected with the construction of the Administrative Support Facility.

**Alternatives Developed/Available to Meet Program Requirements:**

The following alternatives will be evaluated in the future with a Life Cycle Cost Analysis.

No Action

This alternative will continue housing administrative functions in aging facilities throughout the Plant. The existing facilities have exceeded or are nearing the end of their useful life and require replacement. This is not a viable alternative.

RTBF Funded Construction

This alternative will construct the proposed facility with RTBF funding. This is a viable alternative.

**Proposed Funding Profile (\$ x 1000):**

Funding Type	Total	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
OPC	\$10,000			\$1,000	\$1,000	\$2,000	\$2,000	\$1,000	\$1,500	\$1,500			
PE&D	\$9,000			\$9,000									
LI	\$79,000					\$32,000	\$20,000		\$27,000				
<b>Total</b>	<b>\$98,000</b>			<b>\$10,000</b>	<b>\$1,000</b>	<b>\$34,000</b>	<b>\$22,000</b>	<b>\$1,000</b>	<b>\$28,500</b>	<b>\$1,500</b>			

\*Parametric planning estimate only. Numbers do not constitute baseline. Third Party Financing is being pursued for funding.

***Administrative Support Facility - continued***

**Projected Annual Operating Costs:**

Because this project will replace 10 aging administrative facilities, a reduction in annual operating costs is expected. A Life Cycle Cost Analysis will be performed in the near future.

**Project Site/Facility Space Utilization:**

The proposed location is currently in Zone 12 North. Other siting options will be evaluated in the near future. The current operations occupy approximately the same square feet as the proposed new facility.

**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** Building 12-44 Production Cells Upgrade Phase II (5 Cells) (RTBF)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Program Director  
Robert D. Cole, BWXT Pantex Program Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

This information sheet is provided to support the additional funding requirements as noted in the Proposed Project section of this document.

The Building 12-44 Production Cells Upgrade Phase II (5 cells) provides required upgrades to two additional cells. Phase I has completed construction on three cells and is currently in the start-up process. The Phase II cell modifications will increase operating capacity to meet future requirements based on weapon complexity, projected workload, and the Life Extension Program (LEP) activities.

To handle the workload of the future and be a responsive plant for the future, the Pantex Plant facilities need to be maintained and ready for changing weapon design necessary in the 2030 Vision.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	2 <sup>nd</sup> Quarter FY 2002
Critical Decision -1 (CD-1) Approval	3 <sup>rd</sup> Quarter FY 2003
Critical Decision -2 (CD-2) Approval	3 <sup>rd</sup> Quarter FY 2004
Critical Decision -3 (CD-3) Approval	1 <sup>st</sup> Quarter FY 2005
Critical Decision -4 (CD-4) Approval	4 <sup>th</sup> Quarter FY 2010

**Project Justification (Program Requirements):**

The need for the proposed project is workload driven. Workload projections show an increase, creating insufficient cells to accommodate operations with conventional high explosives. These upgraded cells will provide additional capacity to meet future LEP work requirements.

The workload requirements were identified based upon current and projected plant missions based on the Ten Year Site Plan (TYS) and NNSA Stockpile Stewardship Program. If the cells are not upgraded, it will reduce the site's capacity and capability to meet the LEP requirements.

**Alternatives Developed/Available to Meet Program Requirements:**

No Action

This alternative does not provide the additional capacity required for the projected workload. A cell has unique structural properties that allow safe operations with conventional high explosives. All cells are fully utilized. There is no structure that is an acceptable substitute for a cell. There are no other cells or facilities at Pantex that can be converted for cell required production work. Cell 1 is currently non-operational. This is **not** a viable alternative.

Construct New Production Cell

This alternative builds two new cells inside the Zone 12 MAA area. This is **not** a viable alternative.



**Building 12-44 Production Cells Upgrade Phase 2 (5 cells) - continued**

**Proposed Funding Profile (\$ x 1000):**

OPC	\$1,871	\$371	\$200	\$300	\$200	\$400	\$400					
PE&D	\$1,410	\$1,410										
LI	\$41,965	\$12,465	\$7,500			\$22,000						
Total (TPC)*	\$45,246	\$14,246	\$7,700	\$300	\$200	\$22,400	\$400					

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

This project will not increase operating costs.

**Project Site/Facility Space Utilization:**

This project does not add square footage to the site.

**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** Building 12-44 Production Cells 1 and 8 Upgrade (RTBF)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Program Director  
Robert D. Cole, BWXT Pantex Program Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

The Building 12-44 Production Cells 1 and 8 Upgrade provides for the installation of a task exhaust system, replacement of dehumidifiers, Heating, Ventilation, and Air Conditioning (HVAC) equipment, hoists, Radiation Alarm Monitoring System (RAMS), and modifications to the blast doors to allow nuclear explosive weapon systems to be worked in the cell. Cell 1 will also include the remediation of tritium and mercury and replacement of the fire system. Cell 8 will also include the removal of the existing robot and shelving system. These modifications will increase operating capacity to meet future requirements based on weapon complexity, projected workload, and the Life Extension Program (LEP) activities.

To handle the workload of the future and be a responsive plant for the future, the Pantex Plant facilities need to be maintained and ready for changing weapon design necessary in the 2030 Vision.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2007
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2008
Critical Decision -2 (CD-2) Approval	1 <sup>st</sup> Quarter FY 2011
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2011
Critical Decision -4 (CD-4) Approval	1 <sup>st</sup> Quarter FY 2015

**Project Justification (Program Requirements):**

The need for the proposed project is workload driven. Workload projections show an increase, creating insufficient cells to accommodate operations with conventional high explosives. This upgraded cell will provide additional capacity to meet future LEP work requirements.

The workload requirements were identified based upon current and projected plant missions based on the Ten Year Site Plan (TYSP) and NNSA Stockpile Stewardship Program. If the cell is not upgraded it will reduce the site's capacity and capability to meet the LEP requirements.

**Alternatives Developed/Available to Meet Program Requirements:**

No Action

This alternative does not provide the additional capacity required for the projected workload. A cell has unique structural properties that allow safe operations with conventional high explosives. All cells are fully utilized. There is no structure that is an acceptable substitute for a cell. There are no other cells or facilities at Pantex that can be converted for cell required production work. Cell 1 is currently non-operational. This is **not** a viable alternative.

Construct New Production Cell

This alternative builds two new cells inside the Zone 12 MAA area. This is **not** a viable alternative.



**Building 12-44 Production Cells 1 and 8 Upgrade - continued**

**Proposed Funding Profile (\$ x 1000):**

Category	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
OPC	\$6,677	\$200	\$1,400	\$500	\$500	\$400	\$700	\$700	\$1,177	\$1,100			
PE&D	\$9,226			\$5,000	\$4,226								
LI	\$38,297						\$25,000	\$13,297					
<b>Total (TPC)*</b>	<b>\$54,200</b>	<b>\$200</b>	<b>\$1,400</b>	<b>\$5,500</b>	<b>\$4,726</b>	<b>\$400</b>	<b>\$25,700</b>	<b>\$13,997</b>	<b>\$1,177</b>	<b>\$1,100</b>			

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

This project will increase operating costs by \$420,000. This cost is attributed to converting Cell 1 to a production cell.

**Project Site/Facility Space Utilization:**

This project does not add square footage to the site.

**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** CCTV Enhancement Project (S&S)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

To help position security at Pantex for the 2030 Vision, this project provides for installation of a Closed Circuit Television (CCTV) system in all bays and cells in Zone 12 MAA. The system will be standalone (not connected to the Argus Security System) and will be classified. The system will be digital, using networked TCP/IP cameras, Digital Video Recorders, high-speed switches, and a single mode fiber backbone (new fiber will be required). Coverage of the cameras should include the personnel entry areas, material transfer areas, and the entire bay or cell. The system should utilize state-of-the-art Intelligent Video Assessment System (IVAS) Technology with "through the lens" motion detection. The video output of the system will be monitored at the CAS/SAS and modifications to the consoles may be needed to accommodate the monitors. The cameras should be low light and the lighting in the bays and cells modified to always leave lights turned on. The cameras may need to be explosion proof and radiation hardened. The system may require indications of tampering, both locally and remotely. At least one camera in the bay/cell should be covert equipped with audio monitoring capabilities. These upgrades and enhancements will allow Protective Force personnel the opportunity to plan for and train to the new threats as identified in the new Design Basis Threat Document while complying with the DOE Orders, Manuals, and Standards, and meet the protection programs as identified in the site approved SSSP. Since the terrorist attack in the United States on 11 September 2001, the Protective Force must have support facilities that address the increased requirements.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2008
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2009
Critical Decision -2 (CD-2) Approval	4 <sup>th</sup> Quarter FY 2011
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2012
Critical Decision -4 (CD-4) Approval	3 <sup>rd</sup> Quarter FY 2015

**Project Justification (Program Requirements):**

These projects will fulfill requirements described in DOE M 470.1, DOE M 470.4-2 Change 2, the Pantex SSSP, and DOE O 470.3A Design Basis Threat (DBT). These upgrades and enhancements will allow Protective Force personnel the opportunity to plan for the new threat as identified in the new Design Basis Threat while complying with the DOE Orders, Manuals, and Standards, and to meet the protection programs as identified in the site approved SSSP. New terrorists weapons and tactics now require Protective Force personnel that are better armed, equipped, and trained to protect the nation's nuclear weapons stockpile. These upgrades/enhancements are consistent with the Energy Secretary's strategic initiatives to:

- Upgrade security at key facilities;
- Identify, hire, and train specialized security contingents to guard Pantex's high-priority nuclear assets;
- Ensure a modern, efficient force that meets future threats; and
- Provide programs that train the Protective Force and test their readiness to respond to any threat to the site.

**Alternatives Developed/Available to Meet Program Requirements:**

Continue Protective Force operations with facilities designed to handle pre 9/11 threats and staffing.



**CCTV Enhancement Project - continued**

**Proposed Funding Profile (\$ x 1000):**

Category	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
OPC	\$8,600		\$500	\$1,700	\$1,000	\$1,000	\$500	\$1,200	\$1,200	\$1,500			
PE&D	\$5,700				\$3,300	\$2,400							
LI	\$45,300							\$25,100	\$20,200				
<b>Total (PPC)*</b>	<b>\$59,600</b>		<b>\$500</b>	<b>\$1,700</b>	<b>\$4,300</b>	<b>\$3,400</b>	<b>\$500</b>	<b>\$26,300</b>	<b>\$21,400</b>	<b>\$1,500</b>			

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

The completion of this project will increase operating, maintenance, and utility costs by approximately \$770,000 per year.

**Project Site/Facility Space Utilization:**

This project will have no net increase in the plant square footage. This project will free up no square feet.

**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** Component Evaluation Facility (RTBF)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

Montrell Harris, Federal Project Manager  
Michael Green, BWXT Pantex Project Manager

**Project Description:**

This information sheet is provided to support the additional funding requirements as noted in the Proposed Project section of this document.

The proposed Component Evaluation Facility (CEF) at the Pantex Plant will consolidate and increase capability and capacity of existing technologies, and provide space for new technologies required for surveillance and re-qualification of weapons.

Capabilities at the CEF will include the ability to conduct concurrent operations on multiple stockpile weapon types on a non-interference basis, to completely disassemble and inspect any insensitive-high-explosive weapon, and sufficient facility capacity to house, test, and operate new weapon diagnostics developed in the Enhanced Surveillance activities of the Engineering Campaign. The CEF will consist of a 71,000 square foot, 7 bay facility complex, and a 4,300 square foot connecting ramp.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2004
Critical Decision -1 (CD-1) Approval	2 <sup>nd</sup> Quarter FY 2008
Critical Decision -2 (CD-2) Approval	4 <sup>th</sup> Quarter FY 2009
Critical Decision -3 (CD-3) Approval	1 <sup>st</sup> Quarter FY 2011
Critical Decision -4 (CD-4) Approval	1 <sup>st</sup> Quarter FY 2016

**Project Justification (Program Requirements):**

The proposed new Component Evaluation Facility will provide the Pantex Plant the capabilities and capacities to re-qualify, re-certify, and inspect weapons and components as directed by the NNSA. The CEF will provide facilities, capabilities and capacities that will support known mission requirements. Capacity requirements were derived from programmatic direction documents using the Pantex workload model.

**Alternatives Developed/Available to Meet Program Requirements:**

There are no known technical alternatives for this project. Use of existing facilities capable of accepting the operations planned for the Component Evaluation Facility is unacceptable. According to future workload projections, all existing bays will utilize multiple shifts for planned operations.

**Component Evaluation Facility - continued**

**Proposed Funding Profile (\$ x 1000):**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>OPC</b>	\$12,700	\$1,830	\$530	\$800	\$750	\$750	\$750	\$750	\$750	\$750	\$750	\$2,000	\$2,940	\$100	
<b>PE&amp;D</b>	\$22,000	\$1,984	\$2,500	\$6,551	\$7,000	\$3,965									
<b>LI</b>	\$137,000							\$50,000	\$50,000	\$37,900					
<b>Total (TPC)</b>	\$172,600	\$3,814	\$3,030	\$7,351	\$7,750	\$4,715	\$750	\$50,750	\$50,750	\$38,650	\$2,000	\$2,940	\$100		

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

The completion of this project will increase operating, maintenance, and utility costs by approximately \$4,500,000 per year.

**Project Site/Facility Space Utilization:**

This project will add 75,600 square feet at the Pantex Plant. A waiver to obtain banked square feet from another DOE Site will be required.

**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** Compressed Air Refurbishment (RTBF)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

The scope of this project is to replace and upgrade existing compressed air equipment and provide additional back up capabilities. It also provides for contingency planning for component or facility failure and increases reliability of the compressed air system. The project will accomplish the following:

- Replace the existing Centac air compressor in Building 12-123
- Upgrade the controls on the existing west dryer in Building 12-123
- Provide a temporary installation of an air compressor connected to the main air piping in Zone 12 North. This allows for uninterrupted air for shop and production activities in Zone 12 North during the replacement of the air compressor in Building 12-123
- Upgrade the monitoring and compressor controls for Zone 12
- Provide a temporary installation of an air compressor connected to the main air piping in Zone 11 during replacement of the air dryer in Building 11-58
- Upgrade piping in Building 11-58 to provide for isolation of the facility
- Purchase a new after cooler, dryer, filter assembly, and connecting hoses that are "portable" to support the temporary installation of compressors.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2010
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2011
Critical Decision -2 (CD-2) Approval	3 <sup>rd</sup> Quarter FY 2013
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2014
Critical Decision -4 (CD-4) Approval	3 <sup>rd</sup> Quarter FY 2016

**Project Justification (Program Requirements):**

The replacement of the compressor in Building 12-123 requires temporary splitting of the Zone 12 compressed air system between Zone 12 North and Zone 12 South. The compressor provides air to Zone 12 North and Zone 12 South. Zone 12 North requires compressed air for instruments, maintenance, machine shops, tooling manufacturing, Metrology operations, environmental controls, and other processes. Zone 12 South requires compressed air for fire systems, environmental controls, lifting fixtures, and other assembly and disassembly processes. During the splitting of the system, a temporary compressor will provide compressed air for the operations in Zone 12 North.

The compressor and equipment in Building 11-58 provides air to Zone 11. Operations in Zone 11 require compressed air for fire systems, environmental controls, lifting fixtures, instrument air, and other processes. Replacement of the air dryer in Building 11-58 requires the compressor that services Zone 11 to be shut down. During the replacement of the dryer, a temporary compressor will provide compressed air for the operations in Zone 11. Upgrading the compressed air piping in Building 11-58 will provide isolation of the building, increase reliability of the system, and provide contingency in the event of component failure. Without this project the plant compressed air network will not support Pantex by 2030.

**Alternatives Developed/Available to Meet Program Requirements:**

Do Nothing

Compressed air is required for weapon and support operations. There is no substitute. This is not a viable alternative.



**Compressed Air Refurbishment - continued**

**Proposed Funding Profile (\$ x 1000):**

Category	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
OPC	\$1,800				\$375	\$375	\$200	\$100	\$200	\$450	\$100
PE&D	\$1,750						\$1,750				
LJ	\$8,050									\$8,050	
<b>Total (FCY)</b>	<b>\$11,600</b>				<b>\$375</b>	<b>\$375</b>	<b>\$1,950</b>	<b>\$100</b>	<b>\$200</b>	<b>\$8,500</b>	<b>\$100</b>

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

This project upgrades ongoing operations; therefore, there is not a significant change in operating cost.

**Project Site/Facility Space Utilization:**

This project does not affect the site square footage.

**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** FICAM Equipment Replacement (RTBF)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

The objective of this project is to provide state-of-the-art replacement of all FICAM equipment located in Pantex Plant bays and cells. This includes replacing and/or redesigning alpha and tritium continuous air monitors (CAMS), replacing evacuation alarm units (EAUs), replacing radiation alarm monitoring systems (RAMS), and modification and/or replacement of support equipment servicing multiple locations. All the production facilities inside the Material Access Area (MAA) plus a few satellite locations will receive upgraded CAMs, EAUs, and/or RAMS new equipment or upgraded existing system. The computer system for collecting and transmitting monitor conditions must be modernized as well as the status monitors in Buildings 12-122, 12-130 and 12-37. The systems must be replaced minimizing interrupted production schedules and downtime. This project will replace cable with fiber optic as needed to reduce interference. The FICAM equipment require upgrade from time to time to assure the infrastructure is maintained for today and the Complex 2030 Vision.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2007
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2008
Critical Decision -2 (CD-2) Approval	4 <sup>th</sup> Quarter FY 2010
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2011
Critical Decision -4 (CD-4) Approval	3 <sup>rd</sup> Quarter FY 2015

**Project Justification (Program Requirements):**

This equipment monitors potential radiation contamination to assure personnel safety. Replacement parts for the existing Alpha and tritium CAMs are no longer available from their manufacturer. There are components and subsystems in the current monitoring systems that are obsolete and if they fail the system will require a redesign before it can go back into service.

The Code of Federal Regulations: 10CFR835: 403 requires monitoring air born radioactivity when exposure may exceed more then 40 DAC hours in a year, when respirators are required to protect against radionuclides, and to detect and provide warning of dangerous levels of airborne radioactive material. The electronics used in the existing alarm system are based on technologies developed in the 1970's and upgraded in the late 1990s. The need to replace the FICAMs at Pantex is documented in the *FY03 BWXT Pantex Technology Plan* as a sunset technology requiring replacement and in the *Vital Safety System Operability/Reliability Assessment* published November 6, 2003. If a vital component supporting a system or systems fails, shutdown of the operating bay or bays is required and production in that bay/cell stops.

**Alternatives Developed/Available to Meet Program Requirements:**

According to the Code of Federal Regulations, Production Technicians cannot work in a bay or cell without a working monitoring system. The manufacturer does not support maintenance of the existing FICAM system, thus, maintaining the existing system to the NNSA and the Pantex Plant's requirements is not possible. Replacement of the systems is the only acceptable solution.



**FICAM Replacement - continued**

**Proposed Funding Profile (\$ x 1000):**

Category	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
OPC	\$5,003	\$200	\$800	\$600	\$500	\$400	\$550	\$500	\$600	\$853			
PE&D	\$6,413			\$3,900	\$2,513								
LI	\$62,546						\$25,000	\$25,000	\$12,546				
<b>Total (OPC)</b>	<b>\$73,962</b>	<b>\$200</b>	<b>\$800</b>	<b>\$4,500</b>	<b>\$3,013</b>	<b>\$400</b>	<b>\$25,550</b>	<b>\$25,500</b>	<b>\$13,146</b>	<b>\$853</b>			

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

This project upgrades ongoing operations; therefore, there is not a significant change in operating cost. The completion of this project is expected to decrease maintenance cost.

**Project Site/Facility Space Utilization:**

This project will have no net increase in the plant square footage. This project will free up no square feet.

**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** High Explosive (HE) Component Fabrication and Qualification Facility (RTBF)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

Design and construct a new non-nuclear facility for manufacturing, testing, and qualification of nuclear weapon explosives and explosive components. The following capabilities are included:

- Contact and remote manufacturing operations
- Testing using destructive and non-destructive methods
- Inspection and acceptance of explosive components.

This facility supports the Pantex High Explosive Modernization Program and upon completion operations from seven buildings will move into this facility.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2009
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2010
Critical Decision -2 (CD-2) Approval	4 <sup>th</sup> Quarter FY 2012
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2013
Critical Decision -4 (CD-4) Approval	3 <sup>rd</sup> Quarter FY 2017

**Project Justification (Program Requirements):**

The Department of Energy (DOE) assigned the mission to manufacture and qualify explosives and explosive components for the Nuclear Weapons Program to the Pantex Plant (re: Record of Decision: Programmatic Environmental Impact Statement for Stockpile Stewardship and Management). The current facilities are WW II vintage explosive manufacturing facilities. They are not optimum for operations as follows:

- The space in use is larger than is required to accommodate operations
- Operations are inefficient as they are scattered throughout Zone 11
- Compliance with current DOE Explosive Safety Requirements is dependent on personnel administering administrative controls rather than by compliance with safety through engineered designed safety controls that are included in facility construction.

This proposed facility reduces the explosive manufacturing footprint at Pantex, reduces the annual maintenance and utility costs, and reduces Deferred Maintenance by allowing old facilities to be demolished. Operating costs will diminish as the efficiency of the associated workforce improves with the consolidation of operations. The design of the new facility will comply fully with the DOE Explosive Safety Manual and engineered safety controls will reduce the dependence on administrative safety controls. The Pantex explosive component manufacturing and testing capability in this facility will utilize state-of-the-art technology, which will sustain the Nuclear Weapons mission well into the 21<sup>st</sup> century. This facility will be designed to support changing technology requirements without continuous expensive upgrades to inadequate facilities.

This project is essential to support future weapon Life Extension Programs (LEP's), future nuclear weapon rebuilds, and Joint Test Assemblies (JTA's). Completion of this proposed project reduces inefficiency in energy and operations related to current operations in various WW II vintage buildings. This project replaces rundown infrastructures with new facilities that support the establishment of a high explosive Center of Excellence to take Pantex closer to accomplishing the Complex 2030 Vision.

**High Explosives (HE) Component Fabrication and Qualification Facility – continued**

**Alternatives Developed/Available to Meet Program Requirements:**

Do Nothing

Continue to operate in existing facilities without significant changes to the facilities. State-of-the-art quality test equipment cannot operate reliably without improving the facility heating, ventilating, air-conditioning and controls to provide improved tolerances needed to obtain more accurate data. In addition, operations will remain in multiple facilities, causing operational inefficiencies, higher energy consumption, and risk of unwanted waste. These old facilities continue to rely on administrative, rather than engineered safety and environmental controls while energy loss continues. This is **not** a viable alternative.

Use Other Existing Facilities

The modern high explosive facilities at Pantex are either fully utilized or have plans for complete utilization; therefore, there are no suitable facilities available. This is **not** a viable alternative.

New Construction

Construct a new facility required to modernize non-nuclear manufacturing, testing, and qualification of nuclear weapon explosives and explosive components to support the LEPs and DOE research in the 21<sup>st</sup> century. This is a viable alternative.

Use Temporary Facilities

Fabrication and qualification functions will continue at Pantex indefinitely; therefore, temporary buildings are not considered for this permanent high explosive function. This is **not** a viable alternative.

Use Other Plants or Contractors

The Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management, page S-52, published by the United States Department of Energy and dated September 1996, stated that Pantex will supply the HE fabrication activities for the nuclear weapons complex. Moving this activity away from the Pantex Plant violates the Record of Decision. This is **not** a viable alternative.

**Proposed Funding Profile (\$ x 1000):**

Activity	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
OPC	\$14,700			\$250	\$1,700	\$600	\$600	\$400	\$700	\$850	\$2,900	\$6,700	
PE&D	\$8,925					\$6,400	\$2,525						
LI	\$105,100								\$80,000	\$25,100			
<b>Total</b>	<b>\$128,725</b>			<b>\$250</b>	<b>\$1,700</b>	<b>\$7,000</b>	<b>\$3,125</b>	<b>\$400</b>	<b>\$80,700</b>	<b>\$25,950</b>	<b>\$2,900</b>	<b>\$6,700</b>	

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

The anticipated annual maintenance and utility costs are projected to remain approximately the same annually; however, a reduction in operating costs is expected because of more efficient operations. Cost savings resulting from vacating Building 11-20 are not included. Building 11-20 is a historically significant facility and will not be demolished.

**Project Site/Facility Space Utilization:**

The proposed location is in Zone 11, between Buildings 11-51 and 11-20, on the southwest side of the interior perimeter road. The current operations occupy approximately 40,000 square feet. The proposed new facility is approximately 32,000 square feet. Building 11-20 is a historically significant facility and cannot be demolished; therefore the HE Component Fabrication and Qualification facility will result in a net increase in Plant square footage of approximately 10,000 square feet.

**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** High Explosive Formulation Facility (RTBF)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

The High Explosive Formulation Facility (HEFF) project consists of design and construction of a new facility. The proposed facility will be located in Zone 11 with other explosive operations. The HEFF will replace operations currently conducted in (b)(2)High, a World War II structure located inside the Protected Area (PA) of Zone 12, (b)(2)High. The proposed HEFF will consist of an operations bay complex (44,000 square feet), a building for blending up to 10,000 pound batches of high explosives (400 square feet), three staging magazines (6,000 square feet), inert area for administrative functions (2,800 square feet), and ramps leading to the blending bay and the magazines (20,000 square feet).

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2008
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2009
Critical Decision -2 (CD-2) Approval	4 <sup>th</sup> Quarter FY 2011
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2012
Critical Decision -4 (CD-4) Approval	3 <sup>rd</sup> Quarter FY 2016

**Project Justification (Program Requirements):**

- Because of the aging structure and antiquated design, formulation operations currently located in (b)(2)High are very limited to the amount of high explosives allowed in the bays and building. The construction of the existing bay walls do not meet today's standards; therefore, administrative controls, such as reduced explosive limits or operating on off-shift when other facilities are vacated, have been implemented. The proposed building location is in Zone 11 with other explosive functions, and the facility is sited adequately for required limits and to permit efficient operations without administrative controls.
- Two bays in this facility will house large batch Synthesis processing to efficiently support the large batch operations of Formulation.
- Construction of the HEFF is an instrumental step in Pantex becoming the established "Center of Excellence for High Explosive Development, Manufacturing, and Testing" as the NNSA Strategic plan, the Pantex Plant's Strategic Plan and Complex 2030 Vision are all striving to achieve.

**Alternatives Developed/Available to Meet Program Requirements:**

The alternatives are not yet fully developed but some alternatives for consideration are:

Rebuild the current location of Formulation, (b)(2)High

Locate the new facility outside the Limited Access (LA) inside the Personal Protective Area (PPA) to save security escort costs and contractor delays because of security. After this structure is completed reconstruct the LA to inclose this facility.

Eliminate the large batch processing and accept the fact that Pantex will not become the Center of Excellence for High Explosives Development, Manufacturing and testing. This means that Pantex cannot be planned on to support the NNSA or other government agency when the high explosive supplier fails to meet their obligations.

Use another building at Pantex instead of building this facility or fragment this facility by separating the operations into many smaller existing buildings.



**High Explosive Formulation Facility - continued**

**Proposed Funding Profile (\$ x 1000):**

Funding Type	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
OPC	\$8,700		\$400	\$1,000	\$1,000	\$1,500	\$600	\$600	\$600	\$2,000	\$1,000	
PE&D	\$9,300				\$6,000	\$3,300						
LI	\$79,000							\$50,000	\$29,000			
<b>Total</b>	<b>\$97,000</b>		<b>\$400</b>	<b>\$1,000</b>	<b>\$7,000</b>	<b>\$4,800</b>	<b>\$600</b>	<b>\$50,600</b>	<b>\$29,600</b>	<b>\$2,000</b>	<b>\$1,000</b>	

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

This project improves the efficiency of Formulation operations as well as reduced downtime. Because of the increase in square footage required for increased batch sizes, facility maintenance and utility costs are expected to increase approximately \$430,000 per year. When the Life Cycle Cost (LCC) Analysis is performed operational efficiencies will be further evaluated.

**Project Site/Facility Space Utilization:**

This project will move formulation operations out of 50,500 square feet and a new building is estimated to require 73,200 square feet, resulting in an increase of 22,700 square feet. The increase in square footage is required for the capability for blending large batches of high explosives.

## NNSA Integrated Construction Program Proposed Line Item Construction Project Information Sheet Pantex Plant

**Project Title/Site:** High Pressure Fire Loop (HPFL) Storage Tanks & Pumps (RTBF)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

The purpose of the HPFL Storage Tanks & Pumps Project is to provide a reliable water supply for the fire protection system. This system supports Weapons Operational Facilities, HE Manufacturing and Infrastructure operations. This project will replace the 15-24 & 15-25 HPFL storage tanks, pumps and pump houses (15-24A & 15-15A). These water storage tanks supply water to the fire suppression to mitigate the consequence of a fire event and thereby prevent fires from progressing to more severe events. The HPFL is designed to provide water at a pressure, flow rate, and quantity to meet the demands of the fire suppression system. These tanks support these requirements.

The project also includes the demolition of the existing tanks and associated buildings once the new facilities are operational.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2011
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2012
Critical Decision -2 (CD-2) Approval	3 <sup>rd</sup> Quarter FY 2014
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2015
Critical Decision -4 (CD-4) Approval	4 <sup>th</sup> Quarter FY 2017

**Project Justification (Program Requirements):**

This project is for the life cycle replacement of the existing tanks & pumps. This helps maintain the infrastructure today as well as for the 2030 Vision.

**Alternatives Developed/Available to Meet Program Requirements:**

No other alternatives have been developed.

**Proposed Funding Profile (\$ x 1000):**

Funding Type	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
OPC	\$6,500				\$400	\$1,500	\$500	\$300	\$1,500	\$2,000	\$300
PE&D	\$3,750						\$3,750				
LI	\$22,150									\$22,150	
<b>Total (MPC)</b>	<b>\$32,400</b>				<b>\$400</b>	<b>\$1,500</b>	<b>\$4,250</b>	<b>\$300</b>	<b>\$1,500</b>	<b>\$24,150</b>	<b>\$300</b>

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

This project is a replacement of existing assets; therefore, there is no expected change to operating costs.

**Project Site/Facility Space Utilization:**

This project will result in a net of zero square feet.

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**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** High Pressure Fire Loop (HPFL) Zone 11 (RTBF)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

The purpose of the HPFL project is to provide a reliable fire protection system to support HE Manufacturing and Infrastructure operations today and into the Complex 2030 Vision. The HPFL is a Safety-Class System as defined in the Authorization Basis and its Critical Safety function is to support the fire suppression systems to mitigate the consequence of a fire event and thereby prevent fires from progressing to more severe events. Supplying the necessary amount of water to the fire suppression systems performs this function. The HPFL is designed to provide water at a pressure, flow rate, and quantity to meet the demands of the fire suppression system in each facility. Additionally, this project will minimize DOE's risks associated with failures and maintenance by the system.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2009
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2010
Critical Decision -2 (CD-2) Approval	3 <sup>rd</sup> Quarter FY 2012
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2013
Critical Decision -4 (CD-4) Approval	3 <sup>rd</sup> Quarter FY 2017

**Project Justification (Program Requirements):**

Failures in the existing system have increased over the past several years. Three failures have occurred since 1995 in just the Zone 11 system. The latest of these failures occurred in July 2002. Because of the lack of cathodic protection, failures are expected to increase.

**Alternatives Developed/Available to Meet Program Requirements:**

No other alternatives have been developed to upgrade the Zone 11 HPFL.

**Proposed Funding Profile (\$ x 1000):**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
OPC	\$14,500			\$200	\$1,500	\$400	\$400	\$300	\$2,500	\$3,000	\$3,200	\$3,000
PE&D	\$6,900					\$6,900						
LI	\$51,400								\$22,000	\$19,400	\$10,000	
<b>Total</b>	<b>\$72,800</b>			<b>\$200</b>	<b>\$1,500</b>	<b>\$7,300</b>	<b>\$400</b>	<b>\$300</b>	<b>\$24,500</b>	<b>\$22,400</b>	<b>\$13,200</b>	<b>\$3,000</b>

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

This project is a replacement of an existing asset; therefore, there is no expected change to operating costs.

**Project Site/Facility Space Utilization:**

This is a utility type project and does not affect the site square footage.

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NNSA Integrated Construction Program
Proposed Line Item Construction Project Information Sheet
Pantex Plant

Project Title/Site: Non-Destructive Evaluation and Gas Laboratory Replacement DSW (Other Defense Programs)

Federal and Contractor Program Manager(s) or Sponsor(s):

Johnnie F. Guelker, Federal Project Director
Robert D. Cole, BWXT Pantex Project Manager

Federal and Contractor Project Manager(s):

To Be Determined

Project Description:

Construct a facility to house the non-Special Nuclear Material (SNM) X-ray activities and the Gas Lab operations including environmental aging. This facility includes separate operating areas; inert operations and explosive activities.

Current Proposed/Actual Project Schedule:

Table with 2 columns: Milestone (Critical Decision -0 to -4) and Date (4th Quarter FY 2010 to 2017)

Project Justification (Program Requirements):

Safeguards and Security Program

The design and construction of the proposed new facility will provide the Non-Destructive Evaluation and Gas Laboratory with a facility that satisfies security through its design rather than administrative controls. The facilities housing these operations were constructed for World War II conventional bomb loading and do not meet the intent of state-of-the-art secure facilities. Material Compatibility Containers restrict efficient staging and processing of materials. The building traffic flow arrangement adds unnecessary administrative controls to the operations. Meeting new requirements is challenging and incrementally more expensive for each new security advance implemented. This facility exchanges antiquated facilities for an improved infrastructure today and into Complex 2030.

Health and Safety Program

The existing High Explosive (HE) Non-Destructive Evaluation (NDE) operations are located in (b)(2)High, which was constructed in 1945. This facility is inadequate for operations by modern safety standards and does not utilize engineered controls to ensure personnel and operational safety. Safety in the current facilities depends on administrative controls, and in some cases there are no controls available as described below:

- List of safety concerns: main corridor through (b)(2)High, reduced explosive limits, asbestos contamination, ventilation issues, task exhausts, and safety risks in compatibility testing section.

***Non-Destructive Evaluation and Gas Laboratory Replacement - continued******Environmental Program***

Film processing of X-rayed explosives is handled in this building. Modifications of the building permit meeting environmental compliance requirements but the method of chemical handling is cumbersome. In addition, X-ray film is not provided the environmental requirements that the film manufacturers and the DOE Code of Federal Regulations (CFR) recommend.

***Programmatic***

The Life Extension Program and the Enhanced Surveillance Program are greatly increasing the workload in the Gas Lab and materials compatibility testing activities. If the current method of operations continues as the workload increases, there is an increased risk that capability and capacity to test weapon components may significantly be impacted as delays increase. With the reduced explosive limits in the X-ray bays, the increased workload may exceed the X-raying capacity.

**Alternatives Developed/Available to Meet Program Requirements:****Redesign Existing Facilities**

(b)(2)High were built in 1945 and contain the NDE explosive operations, the Gas Lab operations, and the environmental chambers. These facility structures are inadequate for the quantities of explosives needed for NDE and environmental testing functions. This is **not** a viable alternative.

**Use Other Existing Facilities**

There is no building available that meets the explosives safety criteria required for this operation. This is **not** a viable alternative.

**Combine New Construction and Existing Space**

(b)(2)High would require a massive remodeling and conversion to non-explosive operations. The building requires new Heating, Ventilation, and Air Conditioning (HVAC), control systems, and an electrical system upgrade. The insulation in the roof, the roof structure, and its membrane requires an engineering evaluation and then replacement of the deteriorated portions. This building could house the administrative operations and the Gas Lab functions. Rerouting the traffic through the building does reduce some of the congestion but it would not reduce the safety concern of transporting explosives through the non-explosive operating building. The explosive operations require a new facility sited a short distance from this area containing the same footprint as proposed for those operations in the new building. This is **not** a viable alternative.

**Temporary Facilities**

Explosive operations are not considered for temporary buildings. This project proposes permanent facilities to replace existing facilities. The Gas Lab and explosive NDE operations will continue at Pantex indefinitely. This is **not** a viable alternative.

**Use Other Plants or Contractors**

The Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management, page S-52, published by the United States Department of Energy and dated September 1996 stated that Pantex is to supply the HE fabrication activities for the nuclear weapons complex. Moving this activity away from Pantex Plant violates the Record of Decision. This is **not** a viable alternative.

**New Construction**

A new facility has the following advantages:

- The design for a new facility will incorporate safety and security enhancements into the facility to eliminate administrative controls and provide flexibility for future requirements.
- The design of the facility will eliminate the concern of material compatibility containers.
- Traffic control problems will be eliminated.
- The new facility site will eliminate the major explosive corridor through the facility.
- Appropriate explosive limits for each area of the building will be designed into the facility, increasing productivity by eliminating off-shift work due to administrative controls.
- The building will be designed to protect personnel from an accidental explosive event at other buildings.
- The design of the X-ray bays will eliminate the use of hazardous materials, such as lead.



**Non-Destructive Evaluation and Gas Laboratory Replacement – continued**

- The building design will eliminate both administrative controls for personnel and the requirement to work off shift and weekends in order to comply with explosive limits.
- The design will minimize transporting explosives to and from buildings.
- The new facility design will accommodate the appropriate environmental control for laboratory operations.
- A vault will provide adequate storing of one-of-a-kind X-rays.
- Administrative areas will meet Pantex Plant and the General Services Administration (GSA) guidelines.
- The new facility design accommodates appropriate laboratory controls to eliminate contaminated or switched samples.

This is a viable alternative.

**Do Nothing**

This alternative will not improve operations or personnel safety by replacing administrative controls with engineered controls. The following constraints will remain:

- Explosive limits have been reduced to the point that the staging bay has an explosive limit of 10 pounds. The operating NDE X-ray bays have such a small explosive limit that their operations are performed on swing shift when other operations are shutdown and personnel are not in the area.
- Much of the expensive Gas Lab gas chromatographs and mass spectrometers are installed in what used to be the building corridor.
- Support equipment for the gas chromatographs is in a hallway of the building.
- Radiography operations do not meet current radiation or explosive design requirements and must use administrative controls to protect personnel.

This is **not** a viable Alternative.

**Proposed Funding Profile (\$ x 1000):**

Category	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
OPC	\$12,000		\$500	\$2,500	\$800	\$800	\$500	\$700	\$2,000	\$4,200
PE&D	\$7,800				\$4,200	\$3,600				
LI	\$84,300							\$25,000	\$59,300	
<b>Total (TPC)</b>	<b>\$104,100</b>		<b>\$500</b>	<b>\$2,500</b>	<b>\$5,000</b>	<b>\$4,400</b>	<b>\$500</b>	<b>\$25,700</b>	<b>\$61,300</b>	<b>\$4,200</b>

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

The projected annual operating costs are not expected to significantly change from the current costs; however, by consolidating operations, additional work output is anticipated.

**Project Site/Facility Space Utilization:**

This project will move non-destructive evaluation operations out of 49,700 square feet and a new building is estimated to require 48,000 square feet. This is a reduction of 1,700 square feet required for NDE/Gas Lab functions.

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**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** Operations Systems Development & Integration Project (Non-Facility & Infrastructure Project)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

James B. Bynum Federal Program Director  
BWXT Pantex Program Manager

**Federal and Contractor Project Manager(s):**

Gary H. Watson, BWXT Pantex Project Manager

**Project Description:**

The MRP II software technology used at Pantex is now more than 25 years old and is obsolete, thus limiting the ability to technically support this system.

In addition to providing the MRP II functionality for Pantex, several other production-related systems have been custom written in the CAS (Computer Associates Software). Those systems include:

- Record of Assembly/Record of Disassembly (ROA/ROD) Data Collection – This is the method used to collect information for Record of Assembly and Record of Disassembly that is then transmitted to the Sandia National Laboratory database.
- Variables Data Collection – Weapons data collection and transmittal to meet Design Agency reporting requirements.
- Non-Conform System – Currently, this system identifies, documents, and dispositions Non-Conforming materials from assembly, disassembly, or material operations.
- Move Right System – This system is the material control system that identifies facility material limits, carries part characteristics, and implements Technical Safety Requirements associated with the movement of materials at the Pantex Plant.
- Tooling System – The tooling inventory system provides life cycle management of production tooling including expiration dates and requirements for inspection, maintenance, and calibration.

These production-related systems will have to be transitioned to other software as well.

This project, although software driven, is not solely to replace software and go about business as usual. New software will require changes to how the business is done, such as changes to processes. Some of the functions may be able to be transitioned into other systems already in place at BWXT Pantex. This transition will require changes to procedures as well as training to all involved personnel, whether the move is to new or existing software. Procedures, Software Quality Analysis, and training will be a large portion of the time, cost, and scope of this project.

In order to meet the production requirements of 2030, it is essential that the production activities be supported by a state of the art technology including advanced planning and integrated scheduling. In order to meet this need, the production systems must be transitioned from CAS into other software.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2007
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2008
Critical Decision -2 (CD-2) Approval	TBD
Critical Decision -3 (CD-3) Approval	TBD
Critical Decision -4 (CD-4) Approval	TBD

**Project Justification (Program Requirements):**

The Pantex Plant is a key site in the Nuclear Weapons Complex with the primary challenge of maintaining an aging stockpile. The U. S. Department of Energy (DOE) Strategic Plan identifies an objective to "maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing." This objective is realized through the efforts and accomplishments of the DOE Stockpile Stewardship and Management Program (SSMP). Processes to compensate for the absence of nuclear explosives testing are being developed by the design agencies, and BWXT Pantex is working with them to provide the required data. This project improves the administrative efficiency of Pantex by providing a complex computing system that absorbs data and then provides it to the administrative personnel for improved decision making capability. An updated system is necessary to continue maintaining this plant for today and for the Complex 2030 Vision.



**Operations Systems Development & Integration Project - continued**

The CAS software is where all of that required data is captured and maintained. It is critical that the data be accurate and available to the design agencies as needed. Maintaining this type of data with old technology increases the risk of lost data limits and the ability for enhanced data mining. Additionally, the increased efficiencies of a modern software program and the enhancements allowed for processes are critical to obtaining the most from our production resources.

**Alternatives Developed/Available to Meet Program Requirements:**

The following three alternative were considered in addition to the proposed project and were judged to be either not feasible or not acceptable based on cost and risk.

No Action/Run to Failure

The "Do Nothing" alternative is not acceptable because, due to the age of the current software, the vendor of the current software will announce it will no longer be supported. Waiting until that announcement will not allow adequate time to transition properly to new software, and places Pantex at a higher risk of failure.

The current software could be used for an unknown period of time without vendor support if required. However, because production must be stopped if the software is down, running to failure could conceivably cause extended production delays. The age of the software and the fact that its language is obsolete would consistently increase the cost of support within BWXT Pantex and from outside sources – if it were available at all.

Loss of site subject matter experts would also increase the risk of running an unsupported system, and they would be increasingly hard to replace. Additionally, having multiple systems in the same software increases the time to transition to new software – each system must be transitioned independently, yet integrated into the new software. Replacement of the IBM Mainframe hardware during FY06/07 will provide the necessary time for this project and the transition of the systems into the new environment.

This option would not involve any costs at this time, but in the event of system failure due to vendor non-support, or loss of site subject matter experts, the recovery costs would have to include the cost of non-production time, causing missing deliverables. Even though hard to estimate, this cost could be extremely high.

Out-Sourcing System

The possibility of utilizing the software system from another site in the complex was investigated; however, it was determined the systems at the other sites would not meet the requirements for Pantex. The fact that Pantex has increased security and safety requirements would indicate that the only possibility of a complex-wide system implementation would be with Pantex as the host environment. This would greatly extend the cost and scope of this project.

Force Required Functionality Into Existing Software

The possibility of utilizing only software available at BWXT Pantex was considered as a back-up position. This possibility would require force-fitting functionality into software that was not designed to handle it. It would require more on-site subject matter experts and would mean that normal upgrades to the software packages used would be impossible due to customizations. Additionally, this alternative would not provide any enhancements that would benefit the Pantex Plant for scheduling, support of increased through put, or the elimination of redundancy – even actually increasing the effort required for these functions.

**Proposed Funding Profile (\$ x 1000):**

Activity	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
OPC	\$6,000		\$1,500	\$1,500	\$1,500	\$1,500									
PE&D															
LI	\$23,500		\$5,000	\$7,000	\$7,000	\$4,500									
<b>Total</b>	<b>\$29,500</b>		<b>\$6,500</b>	<b>\$8,500</b>	<b>\$8,500</b>	<b>\$6,000</b>									

***Operations Systems Development & Integration Project – continued***

**Projected Annual Operating Costs:**

This project will initially increase operating costs during implementation by the cost of the project. Once implemented, operating costs will decrease due to a more efficient system. It is estimated that maintenance costs for the system(s) will decrease by \$250,000 or more per year.

**Project Site/Facility Space Utilization:**

This project does not add square footage to the site.

### NNSA Integrated Construction Program Proposed Line Item Construction Project Information Sheet Pantex Plant

**Project Title/Site:** Protective Force Facilities Upgrade and Enhancement Project (S&S)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

This project provides for upgrades and enhancements to the infrastructure support facilities at BWXT Pantex for the Protective Force operations today and into the 2030 Vision of NNSA. These upgrades and enhancements will allow Protective Force personnel the opportunity to plan for and train to the new threats as identified in the new Design Basis Threat Document while complying with the DOE Orders, Manuals, and Standards, and meet the protection programs as identified in the site approved SSSP. Since the terrorist attack in the United States on 11 September 2001, the Protective Force must have support facilities that address the increased requirements.

Engagement Simulations Systems (ESS) Facility

Construct a 4,000 square foot pre-fabricated metal building with 10' ceiling for staging, maintenance, issue, and return of multiple integrated laser engagement systems, dye-marking cartridge systems, and other such systems. This facility requires two 10' x 15' offices, restroom facilities for men and women, a small 12' x 20' x 10' armory (12" concrete walls and roof and a class VI vault door with combination lock) capable of handling 150 ESS firearms, a small 12' x 20' secure staging area for blank ammunition, and alarmed doors throughout the facility.

Physical Fitness Obstacle Course Building

Construct a 10,100 square foot addition to the Physical Training Facility (b)(2)High using same type of construction materials. This addition will include the following:

- 8,300 square foot addition for an indoor physical fitness obstacle course
- 1,150 square foot addition for an aerobics workout room
- 650 square foot equipment room

New Towers in Zone 4 and 12

(b)(2)High

Construct five new security towers to replace Station (b)(2)High (Building (b)(2)High), Station (b)(2)High (Building (b)(2)High), Station (b)(2)High (Building (b)(2)High), Station (b)(2)High (Building (b)(2)High), and Station (b)(2)High (Building (b)(2)High). These towers have reached their useful life and need replacing. These new towers will be approximately 500 square feet each and will have the latest enhancements similar to the towers developed and installed at the BWX Facility in Lynchburg, VA.

Building (b)(2)High Upgrade (fire fighter's drill tower)

Upgrade the fireman's drill tower (Building (b)(2)High) to optimize observation and provide cover/protection against small arms. Upgrades to this facility include adding ballistic and armor plating attachments with gun ports to railing on each side and re-enforcing the railing on top of the building.

**Protective Force Facilities Upgrade and Enhancement Project - continued****Vulnerability Assessment Lab**

Construct a 7,520 square foot pre-fabricated metal building with 10' ceiling to accommodate classified and unclassified security computer modeling. This facility will include the following:

- 2,400 square foot classified room with a vault type door with four internal rooms:
  1. Room one to have 16 standalone classified work stations
  2. Room two to have 7 standalone classified work stations
  3. Room three to have a standalone classified work station with room for operator and four observers
  4. Room four to have a big screen monitor (50") and space for up to 10 observers
- 600 square foot classified room with a vault type door to house ASSESS computer model system
  1. Work space for three standalone classified systems and three (42") big screen monitors
- 1,200 square foot unclassified, controlled room to house tactical operations training (sand tables) and up to 30 observers
- 900 square foot office space for four full time personnel
- 420 square foot male and female restrooms
- 240 square foot storage area
- 240 square foot refreshment/break room area
- 300 square foot equipment room

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2009
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2010
Critical Decision -2 (CD-2) Approval	4 <sup>th</sup> Quarter FY 2012
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2013
Critical Decision -4 (CD-4) Approval	3 <sup>rd</sup> Quarter FY 2016

**Project Justification (Program Requirements):**

These projects will fulfill requirements described in DOE M 470.1, DOE M 470.2, DOE M 470.4-2 Change 1, DOE M 470.4-3 Change 1, the Pantex SSS0, and DOE O. 470.3A Design Basis Threat (DBT). These upgrades and enhancements will allow Protective Force personnel the opportunity to plan for and train to the new threat as identified in the new Design Basis Threat while complying with the DOE Orders, Manuals, and Standards, and the meet the protection programs as identified in the site approved SSSP. New terrorists weapons and tactics now require Protective Force personnel that are better armed, equipped, and trained to protect the nation's nuclear weapons stockpile. These upgrades/enhancements are consistent with the Energy Secretary's strategic initiatives to:

- Upgrade security at key facilities;
- Identify, hire, and train specialized security contingents to guard Pantex' high-priority nuclear assets;
- Ensure a modern, efficient force that meets future threats; and
- Provide programs that train the Protective Force and test their readiness to respond to any threat to the site.

**Alternatives Developed/Available to Meet Program Requirements:**

Continue Protective Force operations with facilities designed to handle pre 9/11 threats and staffing. Lease modular facilities to support operations that require recurring lease costs.





**Protective Force Facilities Upgrade and Enhancement Project - continued**

**Proposed Funding Profile (\$ x 1000):**

Category	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
OPC	\$9,500			\$300	\$2,000	\$800	\$800	\$400	\$1,600	\$1,600	\$2,000	
PE&D	\$11,600					\$7,500	\$4,100					
LI	\$93,100								\$50,000	\$43,100		
<b>Total</b>	<b>\$114,200</b>			<b>\$300</b>	<b>\$2,000</b>	<b>\$8,300</b>	<b>\$4,900</b>	<b>\$400</b>	<b>\$51,600</b>	<b>\$44,700</b>	<b>\$2,000</b>	

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

The completion of this project will increase operating, maintenance, and utility costs due to the addition of new facilities by about \$230,000 per year.

**Project Site/Facility Space Utilization:**

This project will have a net increase in the plant square footage by an estimated 22,245 square feet. This project will free up 1,875 square feet and require an additional 24,120 square feet. Pantex assumes equalizing the reduction of excess facilities associated with new construction will be balanced by disposal of excess square footage at other NNSA sites as approved by NNSA. BWXT Pantex assumes NNSA will act a broker based on priority of new square footage to meet the NNSA mission.

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**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** Protective Force Live Fire Ranges Upgrades and Enhancement Project (S&S)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

This project provides for upgrades and enhancements to the live fire ranges at Pantex so that they can be maintained in good condition up through the Complex 2030 Vision. The project will allow BWXT Pantex Protective Force and Office of Safeguards Transportation (OST) personnel to have adequate training facilities for the new firearms' and detection equipment added for implementation of new Design Basis Threat. Since the attack in the United States on 11 September 2001, the Protective Force and Office of Safeguards Transportation have adding enhanced firearms and detection systems to counter the new threat. The following upgrades and enhancements address the infrastructure needs of the range complexes.

Building      - Range 1

•

(b)(2)High

Range 3

•

(b)(2)High

Building      Firearms Training & Tactics Facilities Ranges 4 -9

•

(b)(2)High

All live fire ranges are joint usage between the BWXT Pantex Protective Force and the Office of Safeguards Transportation Couriers.

**Protective Force Live Fire Ranges Upgrades and Enhancement Project - continued**

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2009
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2010
Critical Decision -2 (CD-2) Approval	4 <sup>th</sup> Quarter FY 2011
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2012
Critical Decision -4 (CD-4) Approval	3 <sup>rd</sup> Quarter FY 2015

**Project Justification (Program Requirements):**

This project will fulfill requirements described in DOE M 470.1, DOE M 470.2, DOE M 470.4-2 Change 1, DOE M 470.4-3 Change 1, the Pantex SSSP, and DOE O 470.3A Design Basis Threat (DBT). These upgrades and enhancements will allow Protective Force and Courier personnel the opportunity to train to the new threat as identified in the new Design Basis Threat while complying with the DOE Orders, Manuals, and Standards, and the meet the protection programs as identified in the site approved SSSP. New terrorists weapons and tactics now require Protective Force personnel that are better armed, equipped, and trained to protect the nation's nuclear weapons stockpile. These upgrades/enhancements are consistent with the Energy Secretary's strategic initiatives to:

- Upgrade security at key facilities
- Identify, hire, and train specialized security contingents to guard Pantex' high-priority nuclear assets
- Ensure a modern, efficient force that meets future threats
- Provide programs that train the Protective Force and test their readiness to respond to any threat to the site

**Alternatives Developed/Available to Meet Program Requirements:**

Continue training in classrooms that are inadequate to support SPO/Courier personnel. Also, continue training in and on ranges that preclude personnel from realistic training required to defeat the new threat.

**Proposed Funding Profile (\$ x 1000):**

Funding Type	Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
OPC	\$5,800			\$400	\$1,000	\$700	\$400	\$600	\$1,100	\$1,600				
PE&D	\$3,450					\$3,450								
LI	\$27,250							\$16,400	\$10,850					
<b>Total OPC</b>	<b>\$36,500</b>			<b>\$400</b>	<b>\$1,000</b>	<b>\$4,150</b>	<b>\$400</b>	<b>\$17,000</b>	<b>\$11,950</b>	<b>\$1,600</b>				

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

The completion of this project will increase operating, maintenance, and utility costs due to the addition of new facilities by about \$55,000 per year.

**Project Site/Facility Space Utilization:**

This project will increase the plant square footage by an estimated 3,600 square feet. BWXT Pantex assumes equalizing the reduction of excess facilities associated with new construction will be balanced by disposal of excess square footage at other NNSA sites as approved by NNSA. BWXT Pantex assumes NNSA will act as broker based on priority of new square footage to meet the NNSA mission.

**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** Protective Force Portal Upgrade and Enhancement Project (S&S)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Director

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

This project provides for upgrades and enhancements to the access/egress Protective Force Stations/Portals at Pantex to maintain an effective security operation today and into the Complex 2030 Vision. The project allows BWXT Pantex Protective Force personnel to have adequate facilities and equipment to control personnel during entry/exit, conduct contraband searches, and house new equipment to enhance both personnel and search activities. This project will also include life-cycle replacement of access control equipment. Since the attack in the United States on 11 September 2001, the Protective Force has implemented enhanced access control and search procedures to address new requirements as specified in the new Design Basis Threat Document. These upgrades and enhancements address the infrastructure improvement to implement additional risk reducing measure and reduce manpower costs.

Alternate Security Station for 12 South MAA

Construct a 2,500 square foot alternate security station identical to Station (b)(2)High capable of handling personnel, including x-ray capability, and vehicle traffic, including gamma monitors. Proposed location is at security gate MN-17 (northeast corner of Zone 12 South).

Alternate Security Station for Zone 4

Construct a 700 square foot alternate security station identical to Station (b)(2)High capable of handling personnel, including x-ray capability, and vehicle traffic, including gamma monitors. Proposed location is on the east side of Zone 4 West.

Replace Security Station (b)(2)High Building (b)(2)High

Construct a 1,200 square foot security station identical to Station (b)(2)High with the same operating capabilities including new x-ray screening system. This facility must also be capable of handling vehicle traffic, including the use of gamma monitors.

Neutron Monitors

Install drive-through neutron monitors at Stations (b)(2)High

Portal Upgrade for Station (b)(2)High and Station (b)(2)High - X-ray

Using similar type construction as station (b)(2)High construct an additional 120 sq. ft. for the installation of a new x-ray screening system at station (b)(2)High. Using similar type construction as station (b)(2)High Building (b)(2)High, add an additional 240 sq. ft. for the installation of a new x-ray screening system at station (b)(2)High

Limited Area Positive Personnel Identification Verification (PPIV)

This project consists of the upgrade of existing PPIV booths and high security booths, Argus enrollment stations, installation of new booths and exit turnstiles at security stations that are currently manned by Protective Force personnel, and all associated networks and equipment.

The project includes replacement of all PPIV booths and associated equipment such as Remote Access Panels (RAPs), biometric devices, metal detectors, Portal Monitoring and Control System (PMCS) consoles, Staff Badge Readers, and related networking equipment located at stations (b)(2)High. The Gamma radiation monitors will be replaced at all PA and MAA stations. The high security booths and associated equipment will be replaced at (b)(2)High station (b)(2)High and (b)(2)High

**Protective Force Portal Upgrade and Enhancement Project - continued**

Replace Station (b)(2)High

Construct a 180 square foot hardened guard station located on the west side of the current BN5A Argus Access Control Booth. This new station will have a vehicle trap on the west side with the operating controls identical to the controls in Station (b)(2)High. This new facility will house the Security Police Officers inspecting vehicles entering/exiting Zone 12 North. The roadway through the station requires modifications to allow oversized vehicle to enter/exit the station without posing safety concerns to the station operator, pedestrians, and other vehicles.

West Gate Entrance (Building )

(b)(2)High

East Gate Entrance (Building )

(b)(2)High

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2009
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2010
Critical Decision -2 (CD-2) Approval	4 <sup>th</sup> Quarter FY 2012
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2013
Critical Decision -4 (CD-4) Approval	3 <sup>rd</sup> Quarter FY 2016



**Protective Force Portal Upgrade and Enhancement Project - continued**

**Project Justification (Program Requirements):**

This project will fulfill requirements described in DOE M 470.4-2, the Pantex SSSP, and DOE O 470.3A Design Basis Threat (DBT). These upgrades and enhancements will allow Protective Force personnel the opportunity to better search for and detect special nuclear material; search for and detect contraband; and provide alternate access to critical areas during security and safety emergencies. New terrorists weapons and tactics now require Protective Force personnel to be more proficient in detecting threats and responding to subsequent security emergencies. These upgrades/enhancements provide for the Energy Secretary's strategic initiatives to:

- Upgrade security at key facilities;
- Identify, hire, and train specialized security contingents to guard Pantex' high-priority nuclear assets;
- Ensure a modern, efficient force that meets future threats; and
- Provide programs that train the Protective Force and test their readiness to respond to any threat to the site.

**Alternatives Developed/Available to Meet Program Requirements:**

Continue operations with facilities/portals that were designed to meet pre-9/11 threats. If security system equipment or operations are impaired in any manner, the appropriate compensatory measures are employed. This is manpower intensive.

**Proposed Funding Profile (\$ x 1000):**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
OPC	\$10,100			\$300	\$1,600	\$1,000	\$1,000	\$850	\$1,200	\$1,750	\$2,400	
PE&D	\$7,100					\$4,100	\$3,000					
LI	\$71,000								\$43,000	\$28,000		
<b>Total</b>	<b>\$88,200</b>			<b>\$300</b>	<b>\$1,600</b>	<b>\$5,100</b>	<b>\$4,000</b>	<b>\$850</b>	<b>\$44,200</b>	<b>\$29,750</b>	<b>\$2,400</b>	

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

The completion of this project will increase operating, maintenance, and utility costs due to the addition of new facilities by about \$90,000 per year.

**Project Site/Facility Space Utilization:**

This project will have a net increase in the plant square footage by an estimated 4,965 square feet. This project will free up 775 square feet and require an additional 5,740 square feet. BWXT Pantex assumes equalizing the reduction of excess facilities associated with new construction will be balanced by disposal of excess square footage at other NNSA sites as approved by NNSA.

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**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

(b)(2)High

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**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** Security Perimeter Intrusion Detection & Assessment System (PIDAS) Upgrade (S&S)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

This information sheet is provided to support the additional funding requirements above the current Integrated Construction Program Plan (ICPP) (11/06) as noted in the Proposed Project section of this document.

(b)(2)High



*Security Perimeter Intrusion Detection & Assessment System (PIDAS) Upgrade - continued*

(b)(2)High



**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** Sewer Collection System Manhole Refurbishment (RTBF)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

This project will survey approximately 70 manholes in the sewer collection system and refurbish as needed. This project also includes plugging approximately 10 deteriorated manholes with crushed rock or filler and using topsoil to cover older abandoned sewer lines.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2008
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2009
Critical Decision -2 (CD-2) Approval	4 <sup>th</sup> Quarter FY 2011
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2012
Critical Decision -4 (CD-4) Approval	2 <sup>nd</sup> Quarter FY 2014

**Project Justification (Program Requirements):**

This project will survey approximately 70 manholes that have exceeded their design life and refurbish the manholes to excellent condition. The replacement of the manholes is required to maintain personnel safety. The deteriorated manholes create a hazard for personnel, including Texas Tech farmers who maintain operations on leased land. This project assist in maintaining the Pantex Plant in good condition and striving to maintain this plant into Complex 2030.

Current and projected Plant missions from the Ten Year Site Plan (TYSP), NNSA Stockpile Stewardship Program, and the Utilities 20 Year Plan identified the program requirements. Program requirements are not expected to change or be impacted by upcoming activities or decisions.

**Alternatives Developed/Available to Meet Program Requirements:**

Do Nothing

This project is required to sustain an asset nearing the end of its service life. There is no municipal sewer system available; therefore, the Pantex Plant sewer system must remain operational and safe. This is **not** a viable option.

**Proposed Funding Profile (\$ x 1000):**

Funding Type	Total	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
OPC	\$2,310		\$375	\$375	\$250	\$110	\$400	\$600	\$200			
PE&D	\$1,575				\$1,000	\$575						
LI	\$7,800							\$7,800				
<b>Total (OPC)</b>	<b>\$11,685</b>		<b>\$375</b>	<b>\$375</b>	<b>\$1,250</b>	<b>\$685</b>	<b>\$400</b>	<b>\$8,400</b>	<b>\$200</b>			

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

This project is a rehabilitation of an existing asset; therefore, there is no expected change to operating costs.

**Project Site/Facility Space Utilization:**

This project does not change the site square footage.

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## NNSA Integrated Construction Program Proposed Line Item Construction Project Information Sheet Pantex Plant

**Project Title/Site:** Sewer Equipment Refurbishment (RTBF)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

This project will design and install a replacement for the chlorination system for Building 13-47 and replace twelve sewer lift station pumps and system controls and data acquisitions that are at the end of their service life or are in poor repair. These actions will reduce the risk of Texas Commission on Environmental Quality (TCEQ) discharge permit violations and improve the conservation of water. To provide NNSA a plant infrastructure in good condition in 2030, projects like this one must continue to receive the support on the NNSA.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2008
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2009
Critical Decision -2 (CD-2) Approval	4 <sup>th</sup> Quarter FY 2011
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2012
Critical Decision -4 (CD-4) Approval	4 <sup>th</sup> Quarter FY 2013

**Project Justification (Program Requirements):**

Chlorination System – newer technology is available that generates a “mixed oxidant” solution as the disinfecting medium in lieu of chlorine. It has much better operating characteristics than chlorine and is safer. A design option is to pipe this solution from the water treatment plant, thus creating a more efficient operation.

Sewer Lift Stations – Pantex has fourteen sewer lift stations. Two operate well, and the remaining twelve suffer operating problems to varying degrees. A sewer lift station failure could result in an un-authorized discharge of wastewater that will result in a TCEQ permit violation and a possible fine. In addition, buildings affiliated with a failed sewer lift station will lose restroom facilities.

**Alternatives Developed/Available to Meet Program Requirements:**

No other alternatives have been developed to refurbish or upgrade the sewer system equipment.

**Proposed Funding Profile (\$ x 1000):**

Category	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
OPC	\$1,575		\$375	\$375	\$125	\$100	\$125	\$475					
PE&D	\$1,500				\$1,000	\$500							
LI	\$7,500							\$7,500					
<b>Total</b>	<b>\$10,575</b>		<b>\$375</b>	<b>\$375</b>	<b>\$1,125</b>	<b>\$600</b>	<b>\$125</b>	<b>\$7,975</b>					

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

This project is a rehabilitation of an existing asset; therefore, there is no expected change to operating costs.

**Project Site/Facility Space Utilization:**

This is a utility type project and does not affect the site square footage.

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**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** Steam Distribution System Upgrade (RTBF)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description**

This project will upgrade the steam distribution system at the Pantex Plant. Distribution system refurbishment replaces all valves, expansion joints, steam trap stations, support structures, support hardware, system and facility pressure reducing stations, pressure relief valves, insulation, and lagging. All condensate return units require replacement with pressure powered type pumps. All non-process steam traps will be piped to condensate return units. To achieve the 2030 vision, Pantex must maintain its steam distribution system in good condition today as well as in 2030.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2010
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2011
Critical Decision -2 (CD-2) Approval	4 <sup>th</sup> Quarter FY 2013
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2014
Critical Decision -4 (CD-4) Approval	2 <sup>nd</sup> Quarter FY 2017

**Project Justification (Program Requirements):**

Upgrade to the steam distribution system will enhance the safety of the system with more precise process control, will maintain the integrity of the pressurized systems, and reduce burn potentials with correction of insulation deficiencies. The upgrade will minimize air emissions, reduce energy consumption, reclaim natural resources (water), and will maintain highly reliable steam service to the plant programmatic and mission demands.

Program requirements were identified based upon the current and projected plant missions identified in the Ten-Year Site Plan (TYSP) and NNSA Stockpile Stewardship Program. Changes in plant mission, site infrastructure, regulatory requirements, funding, and policies all depend on the program requirements and project development. Condition Assessment Surveys, expected life cycle data, historical maintenance data, current and expected air quality and water conservation permits and policies, and changes in regulatory requirements for industrial and storm water discharge permits also affect program requirements and project development.

Projected increases in programmatic activities will place additional demands and requirements on the existing system. In addition, future regulatory constraints for air emissions and condensate discharge will limit the capacity of steam production. Failure of this mission essential support system will have a detrimental impact to programmatic activities.

**Alternatives Developed/Available to Meet Program Requirements:**

Do Nothing

Steam is required to support operations and no other source exists at the Pantex plant. There is no municipal facility nearby. The steam plant and distribution system requires a life cycle upgrade to remediate degradation due to aging and to upgrade technology for energy efficient operations. This is **not** a viable alternative.



**Steam Distribution System Upgrade - continued**

**Proposed Funding Profile (\$ x 1000):**

Funding Type	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
OPC	\$7,150				\$400	\$1,500	\$450	\$525	\$300	\$625	\$3,000	\$350
PE&D	\$4,700						\$2,500	\$2,200				
LI	\$41,900									\$20,800	\$21,100	
<b>Total (TPC)</b>	<b>\$53,750</b>				<b>\$400</b>	<b>\$1,500</b>	<b>\$2,950</b>	<b>\$2,725</b>	<b>\$300</b>	<b>\$21,425</b>	<b>\$24,100</b>	<b>\$350</b>

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

Modernizing ongoing operations will result in a projected 7.5 percent reduction or \$150,000/year in fuel, water, and electrical cost based on current pricing.

**Project Site/Facility Space Utilization:**

This project does not affect the site square footage.

**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** Steam Production Facility Upgrade (RTBF)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description**

This project will refurbish and upgrade the steam production facility at the Pantex Plant, including the following:

- Architectural refurbishment of the steam production facility requires painting of all deteriorated surfaces (interior and exterior) including tanks, piping, floors, equipment, panels, support structures, and restrooms. Corroded doors and the steel structure in the water treatment area of the facility require replacement. All doors and supporting hardware require replacement. Replacement of the built-up roof for three levels along with new curb flashings for roof mounted and penetrating equipment and piping is required. Facility guttering and heat trace requires replacement. The third floor requires the addition of a fire suppression system, second means of egress, and replacement of the non-fire rated glass in the control room to meet current code requirements.
- Electrical system refurbishment includes replacement of the UPS system, all breakers and switches associated with the load center, motor control centers, emergency generator, and electrical panels. All disconnects, starters, receptacles, and switches require replacement.
- Mechanical system refurbishment for the facility includes replacement of all pumps, motors, control valves, safety relief valves, compressed air, fuel gas, fuel oil, nitrogen system, domestic water, fire suppression system, and boiler blow down. All pressure vessels (including boilers) require inspection and testing and inadequate results from the testing will require repair or replacement. Boiler burners require replacement with latest technology for low NOX emissions. Variable speed controls will be utilized for burner air control. Upgrade heating, ventilation, and air conditioning (HVAC) equipment, controls, and registers to the latest energy efficiency technology.
- Instrumentation refurbishment includes replacement of all field devices and control interfaces.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2009
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2010
Critical Decision -2 (CD-2) Approval	3 <sup>rd</sup> Quarter FY 2011
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2013
Critical Decision -4 (CD-4) Approval	2 <sup>nd</sup> Quarter FY 2015

**Project Justification (Program Requirements):**

Upgrade to the steam production and distribution system will enhance the safety of the system with more precise process control, will maintain the integrity of the pressurized systems, and reduce burn potentials with correction of insulation deficiencies. The upgrade will minimize air emissions, reduce energy consumption, reclaim natural resources (water), and will maintain highly reliable steam service to the plant programmatic and mission demands.

Program requirements were identified based upon the current and projected plant missions identified in the Ten-Year Site Plan (TYSI) and NNSA Stockpile Stewardship Program. Changes in plant mission, site infrastructure, regulatory requirements, funding, and policies all depend on the program requirements and project development. Condition Assessment Surveys, expected life cycle data, historical maintenance data, current and expected air quality and water conservation permits and policies, and changes in regulatory requirements for industrial and storm water discharge permits also affect program requirements and project development.

Projected increases in programmatic activities will place additional demands and requirements on the existing system. In addition, future regulatory constraints for air emissions and condensate discharge will limit the capacity of steam production. Failure of this mission essential support system will have a detrimental impact to programmatic activities and make it very difficult to continue the plant in good condition for today and for 2030.

**Steam Production Facility Upgrade - continued**

**Alternatives Developed/Available to Meet Program Requirements:**

Do Nothing

Steam is required to support operations and no other source exists at the Pantex plant. There is no municipal facility nearby. The steam plant and distribution system requires a life cycle upgrade to remediate degradation due to aging and to upgrade technology for energy efficient operations. This is **not** a viable alternative.

**Proposed Funding Profile (\$ x 1000):**

Funding Type	Total	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
OPC	\$5,200			\$300	\$910	\$400	\$420	\$920	\$2,000	\$250		
PE&D	\$2,200					\$2,200						
LI	\$11,900								\$11,900			
<b>Total (OPC)</b>	<b>\$19,300</b>			<b>\$300</b>	<b>\$910</b>	<b>\$2,600</b>	<b>\$420</b>	<b>\$920</b>	<b>\$13,900</b>	<b>\$250</b>		

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

Modernizing ongoing operations will result in a projected 7.5 percent reduction or \$150,000/year in fuel, water, and electrical cost based on current pricing.

**Project Site/Facility Space Utilization:**

This project does not affect the site square footage.

**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** Ultraviolet (UV) to Infrared (IR) Detector Upgrade (RTBF)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

This project replaces the existing Ultraviolet (UV) flame detection systems (including controllers) in Buildings (b)(2)High (b)(2)High with new controllers and Multi-Spectrum Infrared (IR) detectors. It also replaces the control equipment for the flame detection releasing system in Building (b)(2)High. In addition, it provides for an evaluation of the flame detection systems (including detectors and controllers) in Buildings (b)(2)High to determine the appropriate flame detection system (IR or UV) for facility operations.

The project will include the development of system design documentation, safety basis documentation, and Authorization Basis documentation revisions. The project also includes all associated readiness and start-up activities.

**Relationship to other projects:**

This project and the Fire Alarm System Replacement project both use the fire alarm control panels installed by the Fire Alarm System Replacement project to monitor the flame detection releasing systems. The existing fire alarm control panels will monitor any new flame detection releasing system installed by dry contacts in the same manner as the existing systems. In addition, the IR detectors installed by the Infrared Deluge Fire Alarm Upgrade Project for Building (b)(2)High are reusable.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2007
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2008
Critical Decision -2 (CD-2) Approval	4 <sup>th</sup> Quarter FY 2010
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2011
Critical Decision -4 (CD-4) Approval	2 <sup>nd</sup> Quarter FY 2014

**Project Justification (Program Requirements):**

The existing UV detectors in the Material Access Areas (MAA) are only capable of detecting Moderate Heat Release Rate (HRR) categories of fire. In addition, obstructions caused by process equipment and material block the coverage provided by the UV detectors in the MAA facilities. BWXT Pantex Fire Protection Engineering evaluated the current IR detector performance and documented the performance in EJC-01-19, X3300/X3301/R Detection System Performance. The evaluation concluded that the capabilities of the IR detection system had superior advantages over UV detection system based on the ability of IR detectors to detect low HRR categories of fire. An IR detection system reduces the unattended combustible stand off distance from the bay walls from 6.5 feet to 3 feet, allowing a 3.5 foot increase in work area on each side of the bay. Additionally, the IR detectors have a greater cone of coverage based on the detection distance, which results in reduced loss of coverage due to shadows.

In addition to the enhanced performance, Detector Electronics Corporation (Det-Tronics) announced in May 2002 current modular based UV controllers will be phased out of production. Det-Tronics indicated that the drastically revised 2003 flame detection Factory Mutual approval standards for controller modules, such as in use at Pantex, will not meet Factory Mutual approval as required by NFPA 72, *National Fire Alarm Code*. Det-Tronics will retain manufacturing capability for new components not approved by NFPA 72 for approximately five years. Additionally, Det-Tronics indicated they have ample quantities of sub-component parts able to service and repair existing components for ten years. The manufacturer of the existing UV detection system at Pantex has supported the system for approximately 20 years; however, a fire alarm programmatic vulnerability will exist if not addressed in a timely manner.

**Ultraviolet (UV) to Infrared (IR) Detector Upgrade - continued**

A letter received from Randy Durick, Detector Electronics Corporation, to BWXT Pantex, dated January 28, 2002 resulted in a review of current safety basis and authorization basis documentation. The review identified and derived the program requirements for a system replacement based on product availability. The project must be complete before FY2012 when replacement parts become unavailable or the manufacturer's ability to repair antiquated components no longer exists.

There is a moderate risk for the program requirements to change or increase scope based on continuous improvement and growth of requirements and expectations with respect to quality, authorization basis, manufacturing, and system engineering. Examples include recent plans or actions taken in the following: Software Quality Assurance Program requirements, Multi-Unit Processing in bays/cells, Safety Class Design Descriptions, Readiness/Start Up activities, development of Authorization Basis requirements for explosives facilities, etc.

The flame detection system is a safety class system. The operability of the flame detection system is required for operations to continue based on current Authorization Basis requirements, or Process Safety requirements. If the systems cannot be maintained operable then manufacturing operations could be interrupted or cease. These modifications are necessary to provide parts availability to maintain the system and to continue to maintain the infrastructure at Pantex in good condition to support the Complex 2030 Vision.

**Alternatives Developed/Available to Meet Program Requirements:**

There are no alternatives identified to maintain the level of protection of current requirements for affected operations.

**Proposed Funding Profile (\$ x 1000):**

Category	Total	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
OPC	\$6,425	\$200	\$2,700	\$800	\$600	\$325	\$400	\$650	\$750			
PE&D	\$13,284			\$7,500	\$5,784							
LI	\$107,091						\$57,000	\$50,091				
<b>Total (TBC)</b>	<b>\$126,800</b>	<b>\$200</b>	<b>\$2,700</b>	<b>\$8,300</b>	<b>\$6,384</b>	<b>\$325</b>	<b>\$57,400</b>	<b>\$50,741</b>	<b>\$750</b>			

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

This project is a modernization of an existing system; therefore, there is no net change in operating costs.

**Project Site/Facility Space Utilization:**

This project does not affect the site square footage.



## NNSA Integrated Construction Program Proposed Line Item Construction Project Information Sheet Pantex Plant

**Project Title/Site:** Water Secondary Distribution Upgrade (RTBF)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

This project will refurbish the secondary water distribution system, including replacement of 33 miles of distribution line and components, upgrade Plant water metering to the latest technology, and upgrade backflow prevention devices. To achieve Complex 2030 Vision, upgrade of the Pantex secondary water distribution system is required.

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2009
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2010
Critical Decision -2 (CD-2) Approval	3 <sup>rd</sup> Quarter FY 2012
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2013
Critical Decision -4 (CD-4) Approval	4 <sup>th</sup> Quarter FY 2017

**Project Justification (Program Requirements):**

Upgrade to the secondary water distribution system will enhance the safety of the system with more precise control, reduction of leaks and improved metering.

**Alternatives Developed/Available to Meet Program Requirements:**

No other alternatives have been developed to refurbish or upgrade the water secondary distribution system.

**Proposed Funding Profile (\$ x 1000):**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
OPC	\$7,400			\$300	\$2,000	\$1,075	\$325	\$300	\$1,000	\$1,000	\$1,000	\$1,000	\$400
PE&D	\$6,900					\$6,900							
LI	\$58,800								\$18,000	\$15,000	\$25,800		
<b>Total (OPC)</b>	<b>\$73,100</b>			<b>\$300</b>	<b>\$2,000</b>	<b>\$7,975</b>	<b>\$325</b>	<b>\$300</b>	<b>\$19,000</b>	<b>\$16,000</b>	<b>\$26,800</b>		<b>\$400</b>

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

This project is a modernization of an existing system; therefore, there is no expected change to operating costs.

**Project Site/Facility Space Utilization:**

This is a utility type project and does not affect the site square footage.

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**NNSA Integrated Construction Program  
Proposed Line Item Construction Project Information Sheet  
Pantex Plant**

**Project Title/Site:** Zone 4 Richmond Magazine Upgrade (6) (MD)

**Federal and Contractor Program Manager(s) or Sponsor(s):**

Johnnie F. Guelker, Federal Project Director  
Robert D. Cole, BWXT Pantex Project Manager

**Federal and Contractor Project Manager(s):**

To Be Determined

**Project Description:**

This project will replace six Richmond magazines with six new Modified Richmond magazines in the Zone 4 MAA. The six magazines are required to increase production staging capacities. In order to provide fully functional magazines, this project includes provisions for fire protection systems and security systems.

(b)(2)High

**Current Proposed/Actual Project Schedule:**

Critical Decision -0 (CD-0) Approval	4 <sup>th</sup> Quarter FY 2008
Critical Decision -1 (CD-1) Approval	4 <sup>th</sup> Quarter FY 2009
Critical Decision -2 (CD-2) Approval	4 <sup>th</sup> Quarter FY 2011
Critical Decision -3 (CD-3) Approval	4 <sup>th</sup> Quarter FY 2012
Critical Decision -4 (CD-4) Approval	3 <sup>rd</sup> Quarter FY 2015

**Project Justification (Program Requirements):**

Based on an analysis completed in August 2006, additional production staging capacity is required. The additional production staging magazines will allow for logistics planning for surge capacity, OST scheduling efficiencies, storage alternatives for enhancing safety and security, and additional component staging capacity. Originally constructed in 1944, these six magazines are considered structurally inadequate to meet the requirements identified for the required production materials. Continued maintenance of the infrastructure at Pantex is necessary for achieving the Complex 2030 Vision.

**Alternatives Developed/Available to Meet Program Requirements:**

**Proposed Funding Profile (\$ x 1000):**

Category	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
OPC	\$6,590	\$300	\$1,300	\$500	\$500	\$400	\$1,000	\$1,500	\$1,090			
PE&D	\$11,150			\$7,000	\$4,150							
LI	\$52,560						\$35,000	\$17,560				
<b>Total</b>	<b>\$70,300</b>	<b>\$300</b>	<b>\$1,300</b>	<b>\$7,500</b>	<b>\$4,650</b>	<b>\$400</b>	<b>\$36,000</b>	<b>\$19,060</b>	<b>\$1,090</b>			

\*Parametric planning estimate only. Numbers do not constitute baseline.

**Projected Annual Operating Costs:**

No change in annual operating costs is expected.

**Project Site/Facility Space Utilization:**

The location of these magazines is the Zone 4 MAA. No change in square footage is expected.

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## Project Descriptions (Alphabetical Order)

### (b)(2)High **Production Storage Facility Replacement**

Project constructs Building (b)(2)High replacement. Building (b)(2)High is a warehouse constructed in 1942 using wood columns, trusses, and roof. The dry environment has made the timbers brittle, and termites continue to bore into the timbers. A new facility is the result of a responsive infrastructure replacing a facility to improve the operation of the Plant. This project improves the efficiency of Pantex Plant.

### (b)(2)High **Refurbishment**

This project refurbishes Building (b)(2)High, which includes interior painting, floor restoration, mechanical equipment (chillers, pumps, and dehumidifiers), electrical lighting and panel boards. Maintaining the Pantex Plant provides a responsive infrastructure to support operations of the plant.

### (b)(2)High **Cafeteria Remodel**

This project refurbishes vacated cafeteria and provides usable space for user offices and break area.

### (b)(2)High **Facility Upgrades**

This project refurbishes Building (b)(2)High, which includes painting, carpeting, replacing windows, sealing exterior, and upgrading conference rooms. Building was constructed in 1953 and requires upgrades for administrative personnel.

### (b)(2)High **Central Computer Facility UPS Upgrade**

Project installs backup power system for the Central Computing Facility. Continuous power backup allows for continued operation of all production computer and communication systems, preventing data loss, hardware damage, and reduced recovery time.

### (b)(2)High **Argus Access Booth**

This project provides for automated access control for Fire Department and Emergency Operations Center personnel. Access will reduce the response time of critical personnel for Operations Center drills and incident response operations.

### (b)(2)High **Deferred Maintenance (DM) Reduction**

Project corrects deferred maintenance deficiencies within this mission critical facility. This facility supports DSW mission.

### (b)(2)High **Deferred Maintenance (DM) Reductions**

This project corrects \$250,000 in deferred maintenance deficiencies within these buildings. This project corrects deficiencies in the machine that support production.

## Project Descriptions (Alphabetical Order)

(b)(2)High **Outdoor Lighting Modification**

The project addresses lighting of exterior walkways around Building (b)(2)High

(b)(2)High **Protective Force Renovation Project**

The renovation of (b)(2)High directly supports the 05 DBT Implementation Plan. It consolidates several of the Security functions, thereby allowing Security to vacate facilities currently planned for demolition.

(b)(2)High **Roof Repairs**

This mission critical facility incurred storm related roof damage. Maintaining this facility supports the DSW mission.

(b)(2)High **Chiller Replacement**

An existing chiller associated with production facilities will be replaced to improve reliability and capacity as well as reducing the deferred maintenance backlog by \$574,000. Projects like this one provide a responsive infrastructure by upgrading facilities to support the energy savings for the plant.

(b)(2)High **Door Modifications**

Automated door openers will be installed on the cargo doors in this building to address safety concerns. The door openers will enhance safety.

(b)(2)High

This system maximizes storage capacity in this facility while reducing personnel exposures to radiation.

(b)(2)High **Humidity Control**

Environmental sensitive operations in this facility have been impacted by humidity variances. This project will address climate variances to support operations.

(b)(2)High **Physical Training Facility Expansion**

The Protective Force has out grown the existing physical fitness training area. With personnel growth due to the terrorist attacks of 9/11 and the implementation of the 05 Design Basis Threat, the facility is not longer capable of handling the numbers of people who must meet the fitness standards associated with the respective Code of Federal Regulations and DOE Orders. With the implementation of the Elite Force initiative from Secretary Bodman, security police officers must also meet a higher level of fitness. The current facility, in conjunction with the increased number of people, creates unsafe work out conditions. This expansion is necessary for safety concerns and to support new protection requirements for the national security interests at Pantex.

## Project Descriptions (Alphabetical Order)

(b)(2)High **Fire Station Repairs**

The fire station is experiencing structural failure. This project will conduct an investigation to determine the cause of the failure and recommend repairs and corrective actions.

(b)(2)High **Security Locker Facility**

This project provides construction of a new Locker Room Facility required to support the increase in Protective Force personnel as a result of 05 DBT requirements.

(b)(2)High **Security Operations Facility**

This project provides construction of a Protective Force Muster Room, Armory and administrative offices required to support the increase in Protective Force personnel as a result of 05 DBT requirements.

(b)(2)High **Replace Deareators**

The deareators on the central steam distribution systems at Pantex Plant are past their useful life and need replacing. This project replaces the deareators removing oxygen from the make-up water.

(b)(2)High

(b)(2)High **Range Facility Equipment Storage Expansion**

The current (b)(2)High equipment storage facilities are insufficient to handle the support equipment for training and provide proper protection. This expansion will provide the storage necessary to house the training equipment and supplies for the new firearms and related equipment to support the 05 DBT and the new DOE Orders.

**Administrative Support Facility**

To achieve the Nuclear Weapon Complex of the future, many Pantex administrative facilities require replacing. Administrative facilities are quickly becoming antiquated and have reached or are nearing the end of their useful life. Office facilities are currently located throughout Zone 12 North. Operational efficiencies are expected with the construction of the Administrative Support Facility.

## Project Descriptions (Alphabetical Order)

### Applied Technology Facility

This project provides for the consolidation of office space in Zone 11. This consolidation will facilitate the disposition of the following buildings: (b)(2)High

### Building

(b)(2)High

To handle the workload of the future and be a responsive plant for the future, the Pantex Plant facilities need to be maintained and ready for changing weapon design.

### Building

(b)(2)High

### Building<sup>(b)(2)High</sup> Pipe Shop Exterior

Project provides for the removal and replacement of the exterior building element of Building<sup>(b)(2)High</sup>. The replacement will reduce energy consumption. This is an infrastructure improvement to help extend the useful life of this facility.

### Building<sup>(b)(2)High</sup> Roof Replacement

Project is proposed to be executed under the FIRP Program NWC Roof Asset Management program. Project replaces the deteriorated roof membrane.

### Central Command Federal Agent Facility

This facility, funded by the Office of Secure Transportation (OST), is planned to be located west of the existing facility. The one-story building will office up to 200 personnel. Building<sup>(b)(2)High</sup> will be converted into a training facility to permit the user additional training area in the existing building and administrative area in the

## Project Descriptions (Alphabetical Order)

new facility. This project provides a permanent structure (50 year life) to support the OST operations.

### **Central Computing Facility Foundation Repairs**

The Central Computing Facility requires foundation repairs in order to protect the safety and health of personnel and critical network equipment for both the classified and unclassified networks. Water from rain and melted snow seeps through the foundation of the Central Computing Facility and into the sub-floor, where numerous live power cables, power receptacles, and signal cables are located. This has the potential to cause power outages and plant-wide inability to access computer-based information.

### **Closed Circuit Television (CCTV) Enhancement Project**

This project provides for installation of a CCTV system in all bays and cells inside Zone 12 MAA. The video output of the system will be monitored at the CAS/SAS. The consoles may require modifications to accommodate the monitors. These upgrades are in support of the DBT, as well as DOE Orders.

### **Compliance Plan Well(s) Installation**

Project provides well(s) to comply with environmental requirements.

### **Component Evaluation Facility (CEF)**

This project is to construct a new facility that increases capability and capacity of existing technologies and provides space for new technologies required for surveillance of weapons and components into the Complex 2030 vision. The CEF is a 75,000 sq. ft. bay complex with an adjoining ramp. The proposed CEF includes 7 evaluation bays for High Energy Linac, Computed Tomography, Mass Properties, and other weapon evaluation tests. This facility supports weapon programs currently in the stockpile and the future RRW program.

### **Compressed Air Refurbishment**

This project will replace primary and backup air compressors, mainline piping systems, and driers that have exceeded life expectancy. The Pantex utility compressed air system is vital to support future weapons workload.

### **Construction Gate SS-15**

A security station will be installed in Zone 11 to facilitate construction contractor access to secured areas.

### **Corrective Measures Design & Construction – In-Situ Bioremediation for Perched Groundwater**

This project is to design and construct an irrigation system and ponds such that no water escapes from the Pantex property.

## Project Descriptions

(Alphabetical Order)

### **Corrective Measures Design & Construction – Irrigation System and Retention Ponds**

This project is to design and construct a system to return the Perched groundwater to the natural state.

### **Corrective Measures Design & Construction – Perched Aquifer Dewatering by Playa 1**

This project designs and constructs a system to address environmental concerns.

### **Data Center HVAC Upgrade**

The HVAC system in the data center is over 30 years old and has exceeded its design life expectancy. This project upgrades the HVAC system for the current heat loads and distributions.

### **Deferred Maintenance (DM) Mechanical Task 1 & 2 – Phase 1**

Scope includes equipment such as compressors, condensate return units, air handling and condenser units, and heat pumps. This helps bring the infrastructure of the plant into good condition and continue to keep it maintained in good condition throughout its useful life.

### **Deferred Maintenance (DM) Mechanical Task 1 & 2 – Phase 2**

In Phase 2, Pantex Plant will replace mechanical equipment in the following facilities: 11-28, 11-38, and 11-51. The project will address compressors, condensate return units, air handling and condenser units, and heat pumps. This is to help bring the infrastructure of the plant into good condition for the Complex 2030 vision.

### **Demolish Building 10-2**

This project provides for the demolition of Building 10-2. The demolition of this building reduces footprint at Pantex.

### **Demolish Building 11-30**

This project provides for the demolition of Building 11-30. The demolition of this building reduces maintenance costs of an aged facility.

### **Demolish Building 12-24E**

This project provides for the demolition of Building 12-24E. The demolition of this building reduces maintenance cost and improves operating efficiencies.

### **Demolition of 11-7**

This project provides for the demolition of 11-7. The demolition of this building reduces maintenance cost and improves safety.

## Project Descriptions (Alphabetical Order)

### **Demolition of 11-10 & 11-26**

This project provides for the demolition of Buildings 11-10 and 11-26. The demolition of these buildings reduces maintenance costs, plant footprint, and deferred maintenance.

### **Demolition of 11-27, 11-29, 11-54, 11-54A, 12-2B, 12-75A**

Demolition of 11-27, 11-29, 11-54, 11-54A, 12-2B, and 12-75A is funded with this project. The demolition of these buildings reduces maintenance costs, plant footprint, and deferred maintenance.

### **Demolition of 12-3, 12-3L, 12-R-3**

This project provides for the demolition of 12-3, 12-3L, 12-R-3. The demolition of these buildings reduces maintenance costs, plant footprint, and deferred maintenance.

### **Demolition of Building 12-9**

This project provides for the demolition of Building 12-9. Preparation and Design was performed by RTBF. The demolition of this building reduces maintenance costs, plant footprint, and deferred maintenance.

### **Demolition of Building 12-9A**

This project provides for the demolition of Building 12-9A. The demolition of this building reduces maintenance costs, plant footprint, and deferred maintenance.

### **Demolition of Building 12-R-9A**

This project provides for the demolition of Building 12-R-9A. The demolition of this building reduces maintenance costs, plant footprint, and deferred maintenance.

### **Demolition of Building 12-14**

This project provides for the demolition of Buildings 12-14. The demolition of this building reduces maintenance costs, plant footprint, and deferred maintenance.

### **Demolition of Buildings 12-97 & 9-3**

This project provides for the demolition of Buildings 12-97, & 9-3. The demolition of these buildings reduces maintenance costs, plant footprint, and deferred maintenance.

### **DIAMONDS FOLAN**

This project installs classified computer drops in various locations to support transition to this system. The DIAMONDS system will be used to transmit and share weapons data between the NNSA and the DOD.

## **Project Descriptions**

### **(Alphabetical Order)**

#### **Electrical Distribution System Upgrade**

This project addresses areas of the electrical distribution system that are of questionable reliability due to potential code non-compliance, aging, and/or unavailability of spare parts. This project includes upgrades to substations and equipment with potential National Electrical Code violations to provide protection from ground faults and line surges. This upgrade also replaces deteriorating overhead electrical power lines, and replaces a few essential facility generators that have operational and maintenance problems due to their age, obsolescence, and difficulty in obtaining replacement parts.

#### **Electrical Task Part 2**

The objective of this project is to provide for the replacement of transformers and electrical primary and secondary feed, and automatic transfer switches that have exceeded their design life and require replacement.

#### **Elite Force Training Facility (EFTF) Expansion**

The current EFTF has allowed Pantex to conduct basic training in areas that cannot be replicated in the real world. With the implementation of Secretary Bodman's Elite Force initiative and the new DOE Manuals, training and qualifications have become more stringent and intense. Protective Force Personnel (PFP) must become more aggressive and enhance their training and tactics. An expansion to the existing facility provides a location where security police officers can train 24/7 without impacts from inclement weather. The security police officers train with realistic simulated firearms reducing the risks associated with duty firearms and ammunition. Realistic training is conducted in a more cost effective, and much safer environment.

#### **Emergency Lights**

Project provides for an upgrade to the emergency lights in production areas of the plant.

#### **Energy Savings Performance Contract (FY07, FY08) Support**

Project supports construction activities associated with Energy Savings Performance Contract (ESPC). The ESPC provides enhanced engineered controls and equipment to conserve energy. Energy-saving measures include: installation of new energy-efficient lighting, control systems in heating and air-conditioning systems, and repair of steam systems.

#### **Environmental Controls Upgrade – Mechanical**

This project provides for the replacement of existing environmental equipment used to control the temperature and humidity standards for production equipment and tooling calibration. These modifications will eliminate recurring problems with maintaining temperature and humidity levels required calibrated tooling and equipment used for production activities.

## Project Descriptions

(Alphabetical Order)

### **Environmental Controls Upgrade – Module laboratory**

This project is required to improve productivity and reliability by upgrading the environmental controls in the Module Metrology Laboratory.

### **FICAM Equipment Replacement**

The objective of this project will provide a state-of-the-art replacement for the existing Facility-Installed Continuous Air Monitoring (FICAM) equipment at the Pantex Plant. This includes Alpha and Tritium continuous air monitoring equipment (CAMS), Radiation Alarm Monitoring System (RAMS), and support equipment serving multiple facilities. The CAMS are no longer supported by their manufacturers and if some components fail within the system they cannot be replaced through their manufacturer.

### **Fire Alarm Receiving System**

This project replaces an existing obsolete fire alarm receiving system and transitions fire alarm panels in high explosives processing facilities and nuclear facilities to the new system.

### **Fire Dept. Floor & HVAC Repair**

This project addresses concerns with structural and HVAC system.

### **Fire Station Upgrade**

Several Modifications and equipment replacements needed at the fire station are consolidated in this project. The scope includes the replacement of overhead doors, installation of truck bay heaters, and improvements to the truck bay ventilation system.

### **FS-21 Modifications**

The ability to perform high explosives skid testing will be established at FS-21. This allows consolidation of some testing operations, improves security, and improves community relations.

### **FY07 Fire Alarm Panel Replacement**

Initiative to replace obsolete fire alarm panels in non-critical buildings. The new panels will be connected to the newly installed Fire Alarm Receiving System. Installation of these panels also allows all fire alarm panels to communicate with a single receiving system.

### **FY08 & FY09 Miscellaneous DM Reduction Projects**

This project is to correct deficiencies within Pantex Plant. This keeps the infrastructure in good condition and lowers the deferred maintenance at Pantex. Specific deferred maintenance items are under consideration and the consolidation of specific items will make up projects to maximize value to the government.

## Project Descriptions

(Alphabetical Order)

### **FY08 & FY09 Miscellaneous Electrical Safety Enhancements**

The Short Circuit and Coordination Study has identified electrical safety issues that need to be corrected.

### **FY08 Fire Alarm Panels Replacement**

This is to replace obsolete fire alarm panels in non-critical buildings. The new panels will be connected to the newly installed Fire Alarm Receiving System. Installation of these panels also allows all fire alarm panels to communicate with a single receiving system.

### **FY09 Fire Alarm Panels Replacement**

Project replaces obsolete fire alarm panels in non-critical buildings. The new panels will be connected to the newly installed Fire Alarm Receiving System. Installation of these panels also allows all fire alarm panels to communicate with a single receiving system.

### **FY09 Miscellaneous Environment Protection Enhancements**

Project performs emerging small construction projects to enhance protection of the environment. Examples include projects to reduce water consumption, install solar powered equipment, minimize waste, and reduce emissions.

### **FY09 Miscellaneous Infrastructure Modifications**

This initiative supports emerging small construction projects to repair or modify infrastructure to improve productivity and reliability.

### **FY09 Miscellaneous Safety Enhancements**

This project performs emerging small construction projects for non-critical enhancements to safety. Examples include projects to install catwalks, prevent ice flow and improve outside lighting. This improves the Plants infrastructure and keeps the plant in good condition.

### **Gas Laboratory Uninterrupted Power Supply (UPS) Upgrade**

The existing UPS system is old and unreliable. On May 19, 2004 the Gas Lab had a power outage that shut the mass spectrometers down with no warning. Vacuum pumps, electronic instrumentation and gages are sometimes damaged as well as contamination (oil back feeds into instrument) of the stainless steel piping. This project replaces the UPS system with a reliable new system.

### **Gas Main and Distribution Lines Upgrade**

The existing gas distribution system was installed in the 1940s. This project addresses those areas of the gas main and distribution system that are of questionable reliability due to aging and use of old technologies. Steel/metal pipelines where failures are occurring will be replaced with high-density polyethylene plastic pipe. Instrumentation required to regulate and meter the natural gas flow from the supplier will be upgraded with the latest technological

## Project Descriptions

### (Alphabetical Order)

devices, and cathodic protection for the valves and connection rings will be installed on new pipeline.

#### **HE Pressing Facility**

This project will provide a new facility that will replace the existing aging pressing facilities. This facility will allow Pantex to meet the future requirements to support changing weapon complexity, projected workload, and LEP activities. This project provides a modern non-nuclear facility for the manufacturing, testing, and qualification of nuclear weapons explosives and explosive components. This facility includes contact and remote manufacturing operations as well as destructive testing, non-destructive testing, inspection, and acceptance of explosive components. This facility is essential to support the LEPs and provides responsive infrastructure for the future.

#### **High Explosive Component Fabrication & Qualification**

This project provides a modern non-nuclear facility for the manufacturing, testing, and qualification of nuclear weapons explosives and explosive components. This facility includes contact and remote manufacturing operations as well as destructive testing, non-destructive testing, inspection, and acceptance of explosive components. This facility is essential to support the LEPs and the Complex 2030. This new facility combines Physical Properties Testing including: HE & non-HE, sensitivity, aging, conditioning, universal testing using various speeds, creep testing, friction testing, and fabrication of hardware, electronics and welding.

#### **High Explosive Formulation Facility**

This project consists of the design and construction of a new High Explosives Formulation Facility (HEFF). The HEFF will be located on the Northwest side of Zone 11 next to the High Explosive Pressing Facility. This facility will develop and manufacture high explosives for the DOE weapons complex and mock explosives for specialty projects. This facility will provide Pantex with large batch synthesis production up to 10,000 pounds and all formulation production capabilities for main charge explosives up to 10,000 pounds per year in support of continuing stockpile weapons programs and future programs.

#### **High Pressure Fire Loop - Zone 12 South MAA**

The High Pressure Fire Loop piping in the Zone 12 South Material Access Area will be replaced with high-density polyethylene pipe as needed. Cathodic protection will be installed on all ferrous material in contact with soil. This project will reduce production downtime related to HPFL failures and improve the reliability of the fire loop.

#### **High Pressure Fire Loop (HPFL) Storage Tanks & Pumps**

The purpose of the HPFL Storage Tanks & Pumps replacement project is to provide a reliable water supply for the fire protection system. This system

## Project Descriptions (Alphabetical Order)

supports Weapons Operational Facilities, HE Manufacturing and Infrastructure operations. This project will replace the (b)(2)High HPFL storage tanks, pumps and pump houses ( (b)(2)High ). These water storage tanks supply water to the fire suppression system to mitigate the consequence of a fire and thereby prevent fires from progressing to more severe events. Demolition of the existing tanks and associated buildings is part of this project.

### High Pressure Fire Loop (HPFL) – Zone 11

The purpose of the HPFL project is to provide a reliable fire protection system to support HE Manufacturing and Infrastructure operations to and beyond the Complex 2030 vision. The Critical Safety function of the HPFL is to support the fire suppression systems to mitigate the consequence of a fire event and thereby prevent fires from progressing to more severe events. Supplying the necessary amount of water to the fire suppression systems performs this function. Through this project, DOE will minimize risks associated with system failures and maintenance. This project will reduce production downtime related to HPFL failures and improve the reliability of the fire loop.

### HPFL Lead-in Replacement Projects

These projects are to increase the reliability and confidence in production and production support facility fire protection lead-ins piping. The lead-ins supply the deluge and fire suppression system within the buildings and production bays affected by this project. These projects will replace lead-in piping from the post indicator valve (PIV) to the riser inside the various production and production support buildings. Due to aging, failures, inadequate cathodic protection, and inadequate maintenance, these lead-ins are of questionable reliability. Without a reliable fire protection water supply, the facilities affected by this project cannot meet the nuclear safety requirements necessary to operate.

### HPFL Pipe Replacement – Buildings

This replaces the pipe from the fire loop to buildings (b)(2)High . The pipes are in deteriorated condition and replacement is necessary to improve the reliability of the HPFL system.

### HPFL Pipe Replacement – Building (b)(2)High

The high pressure fire loop has experienced a number of leaks in recent years. This project replaces the pipe leading from the main to the riser in Building (b)(2)High with high density polyethylene pipe.

### HPFL Pipe Replacement – Building (b)(2)High

The high pressure fire loop has experienced a number of leaks in recent years. This project replaces the pipe leading from the main to the riser in Building (b)(2)High with high density polyethylene pipe. The plant fire systems require upgrade from time to time to assure the system stays reliable.

## Project Descriptions (Alphabetical Order)

### **HPFL Pipe Replacement – Building (b)(2)High**

The high pressure fire loop has experienced a number of leaks in recent years. This project replaces the pipe leading from the main to the riser in Building (b)(2)High with high density polyethylene pipe.

### **Install Sidewalks Group 2 & 3**

Additional sidewalks are being constructed in several locations to improve employee safety. This project will improve plant safety.

### **Loading Dock Repair**

This project will replace the dock levelers and repair deteriorated concrete at a production stores warehouse loading dock.

### **Medical Facility Upgrade**

The medical facility is about 40 years old and in need of improvements. The asbestos in the building needs removal, the electrical system upgraded, non load bearing walls rearranged, an addition added to the west side of the building, fire wall penetrations (including installation of fire doors), and increased storage to free up the pre-operation/treatment areas.

### **Narrow Band Radio Facility Over-temperature Monitor And Alarm**

The over temperature monitor and alarm will provide 24 hour a day monitoring for the Narrow Band Radio System. To ensure that radio communications are not interrupted, and that expensive radio and computing equipment is not damaged or destroyed, a remotely monitored over temperature alarm system will be installed in the Narrow Band Radio Facility. Narrow band radio capability is required to maintain communications for Environmental Safety and Health, Maintenance, Security, and local area law enforcement and emergency services.

### **Narrow Band Radio System**

Upgrading the narrow band radio system will help to ensure that the Fire and Security organizations have the resources necessary to meet their business requirements, providing communications with area law enforcement and emergency agencies (DOE M 470-4-2). The upgrade, which is reliant on the completion of the Network and Telecommunications Upgrade, will add VHF repeaters to boost the signal between Pantex and off-site agencies.

### **NDE/Gas Laboratory**

This project is to provide a new facility for Non-destructive Evaluation (NDE), Gas Analysis Laboratory activities, and the materials compatibility testing functions. The existing WW II facilities need to be replaced to provide NDE and Gas Laboratory activities with energy efficient operations and HVAC controls that reduce downtime and improve laboratory equipment efficiency. The old facilities will be replaced by modern laboratory and x-ray operations. The current facility does not meet the intent of state-of-the-art secure facilities. The Gas Laboratory

## Project Descriptions

(Alphabetical Order)

is not in a laboratory environment and is inadequate for operations by modern safety criteria. The method of chemical handling is cumbersome and X-ray film is not provided the environmental requirements the manufacturer or the CFR recommends.

### **Network and Telecommunications Infrastructure Upgrade**

Project consists of a network of fiber, junction boxes, pedestals, and hardware devices providing classified and unclassified network services, voice communications services, and some fire alarm monitoring at the plant. The network and telephone cable upgrade will replace degraded cabling and provide assurance against hardware failures, lower maintenance costs, and heighten reliability of operations. The upgrade will help to assure that there is sufficient cable to support current capacity as well as expected growth, and accommodate the growth of technological advancement across the plant. Newer cable will provide current technology that is reliable and versatile.

### **North Electrical Substation**

This project is to evaluate this major substation at Pantex and perform the necessary maintenance to put the substation in good condition. This work is to maintain the substation to maintain a responsive infrastructure on the Pantex Plant.

### **NWC Ramp (Additional Support)**

The NWC Ramp project is a life extension program for facilities and infrastructure roofing systems. Facilities are selected in conjunction with NWC Roof Asset and Management prioritization of NNSA roofing assets. Funding within this project will be utilized for the site support of the construction activities at Pantex.

### **NWC Ramp Roofing Support (FY09)**

Project is a life extension program for facilities and infrastructure roofing systems. Facilities selected in conjunction with NWC Roof Asset Management prioritization of NNSA roofing assets. Funding within this project will be utilized for the site support of the construction activities at Pantex.

### **NWC Roofing (FY06)**

NWC roofing is to repair or replace roofing components as necessary on Pantex Plant structures. This project is related only to the Nuclear Weapons Complex (NWC) at the Pantex Plant. The roofs at Pantex must be kept in good repair to maintain buildings. The following are buildings targeted for roof maintenance with FY 2006 funding: Buildings 11-38, 12-R-40 and 11-17.

### **NWC Roofing (FY07)**

NWC roofing is to repair or replace roofing components as necessary on Pantex Plant structures. This project is related only to the Nuclear Weapons Complex (NWC) at the Pantex Plant. The roofs at Pantex must be kept in good repair to

## Project Descriptions

(Alphabetical Order)

maintain buildings. The following are buildings targeted for roof maintenance in FY 2007: Buildings 11-22, 11-R-8, 11-R-42, 12-1, 12-6, 12-52AE, 12-52E, 12-17B, 12-17F1-4, 12-19F1-4, 12-63A and 12-63E.

### **NWC Roofing (FY08)**

Project is a life extension program for facilities and infrastructure roofing systems. Facilities selected in conjunction with NWC Roof Asset Management prioritization of NNSA roofing assets. Funding within this project will be utilized for the site support of the construction activities at Pantex. The roofs at Pantex must be kept in good repair to help maintain buildings. Targeted Buildings are 12-121, 12-128, 11-R-8 and 11-R-13.

### **Operations Systems Development & Integration Project**

The Material Requirements Planning (MRP II) software technology used at BWXT Pantex is obsolete. This software is 25 years old thus technical support of the system is limited. This project not only purchases software but also some hardware, personnel training, procedure writing, and transitioning of some functions into other systems.

### **Paint Bay Modifications**

This project installs a hoist and catwalk in the paint bay. The installation will reduce operating costs for some JTA operations. It will also improve safety by providing easier access for maintenance of the paint booth.

### **Physical Training Facility**

This project is to provide a new facility to house a large classroom, CBT training, and offices to support additional personnel & training required as a result of 2005 DBT implementation. NNSA has contracted with the U.S. Army Corp of Engineers for construction of this facility.

### **Production Storage II**

This project supports construction of an office and small parts warehouse. This will replace Building 11-7; constructed in 1942 using wood columns, trusses, and roof. The dry environment has made the timbers brittle, and termites continue to bore into the timbers. A new facility will reduce operating costs.

### **Production Stores Warehouse Replacement**

This project replaces a 50 year old warehouse used by Production Stores.

### **Property Control Warehouse Replacement**

The existing warehouse is in a deteriorated WWII era structure. This project will replace the existing facility with one employing modern construction materials and technology. It will allow demolition of Building 10-9.

## Project Descriptions

(Alphabetical Order)

### **Protective Force Facilities Upgrade and Enhancements**

This project provides for upgrades and enhancements to Protective Force facilities. These upgrades enhance the capability of the Site to meet the DBT, support new DOE Orders and allow for lifecycle replacement of aging Security facilities.

### **Protective Force Live Fire Ranges Upgrades and Enhancement Project**

This project provides upgrades and enhancements to the live fire ranges. These upgrades provide the Protective Force personnel a safe environment for conducting realistic training in support of the DBT and new DOE Orders.

### **Protective Force Portal Upgrade and Enhancement**

This project provides for lifecycle upgrades and enhancements to the access/egress Protection Force Stations/Portals. Several critical security systems have been in place for approximately 15 years and are reaching the end of their service life. It allows Protective Force personnel adequate facilities and equipment to control personnel during entry/exit, conduct contraband searches, and house new equipment to enhance both personnel and search activities.

### **Rail System DM Reduction**

This project removes approximately 12 miles of rail no longer in service at Pantex. Historic rail cars on site are being distributed to the National Atomic Museum in Albuquerque, New Mexico and to the Amarillo Railroad Museum. Once the cars are removed, a contractor will remove the track. Construction cost will be offset by salvage value of steel and cross ties. Removing the Pantex rail system reduces the total deferred maintenance at Pantex by about \$31,800,000.

### **Rehab Roads**

Project will rehabilitate selected roads in Zone 11 and 12. Existing pavement is cracked and weathered allowing unwanted vegetation, and freeze / thaw accelerated deterioration of the road surface and road sub-base.

### **Remove Building 16-10B**

This project removes structure 16-10B and reduces the footprint.

### **Replace Aerators**

Aging aerators at the sewage treatment plant will be replaced with solar powered equipment.

### **Roof Repair Zone 12 Mission Support Phase 1**

This project is to fund miscellaneous roof repairs in Zone 12. Buildings currently planned for roof repair are: 12-5B, 12-5C and 12-5A.

## Project Descriptions (Alphabetical Order)

### Sealed Insert (SI) Line Relocation

The Sealed Insert Repackaging Line will be relocated to Building <sup>(b)(2)High</sup> to support continued repackaging and surveillance requirements for Pit repackaging. The move will improve efficiency by consolidating operations.

(b)(2)High

### Security PIDAS (Perimeter Intrusion Detection & Assessment System) Upgrade

This project provides for lifecycle replacement of outdated and obsolete PIDAS equipment and sensors with state of the art technology that will enhance the DBT posture and meet all new DOE Orders. Equipment shall meet or exceed all DOE requirements for delay, detection, assessment and response and the requirements in the Safeguards and Security Alarm Management and Control System (SAMACS) specifications for high-consequence applications.

### Sewer Collection System Manhole Refurbishment

This project will refurbish active manholes in the sewer collection system. Many of the manholes have exceeded their useful life. Old sewer lines have been abandoned in place and continue to wash out leaving large holes in unexpected locations, creating safety risks for personnel.

### Sewer Equipment Refurbishment

This project designs and installs a new chlorination system for Building <sup>(b)(2)High</sup> Sewer Control Facility for the Waste Water Treatment Facility to reduce the risk of Texas Commission on Environmental Quality discharge permit violations and improve the conservation of water. The project replaces 13 sewer lift stations to accomplish life cycle replacement of pumps, the system control, data acquisition equipment for system operations and monitoring is also planed for replacement. Ten of the thirteen lift stations have exceeded their design life. The sewer infrastructure systems and utilities are required to maintain the system integrity for operations.

### FY 2006 Sidewalks

Site initiative to address safe walking surfaces throughout the Plant.

### Site Wide Short Circuit Study

This study will analyze the plant's electrical system under normal operating and worst-case conditions. It will also include a field verification and summary of the plant's Service Entrance Arrester and Surge Capacitors for the Explosive

## Project Descriptions (Alphabetical Order)

facilities. The study will begin at the North and South Main Substations; continue through the plant's 12.47kV system, then through the 480V facility transformers to 480V or 208V power distribution panels, branch circuit panel boards, and motor control centers. This study will also include the 12.5kV overhead distribution lines. This study is to evaluate the Pantex electrical distribution system to insure electrical safety and operability to meet the site mission.

### **SNM Component Requalification Facility**

This project upgraded Building (b)(2)High to develop the capability to process pits through recertification and/or requalification. In total, approximately 350 pits per year will require either recertification or requalification to support stockpile maintenance, surveillance, and LEP activities and the production of the Reliable Replacement Warhead (RRW).

### **Station (b)(2)High High Security Booth**

This project provides for automated access control. Project is in direct support of the new DOE Orders and provides enhancements to the DBT posture.

### **Station (b)(2)High High Security Booth**

This project provides for automated access control. Project is in direct support of the new DOE Orders and provides enhancements to the DBT posture.

### **Station (b)(2)High Vehicle Inspection Traps**

This project extends the vehicle traps at the security stations to accommodate enhanced contraband detection techniques and inspection by the Security Force.

### **Station (b)(2)High Lighting Configuration**

This project will reconfigure the lighting to meet all lighting requirements and to provide enhanced lighting to conduct vehicle inspections.

### **Station (b)(2)High High Security Booth**

This project provides for automated access control. Project is in direct support of the new DOE Orders and provides enhancements to the DBT posture.

### **Station (b)(2)High High Security Booth**

This project provides for automated access control. Project is in direct support of the new DOE Orders and provides enhancements to the DBT posture.

### **Station (b)(2)High Security Camera Installation**

This project provides for installation of a CCTV system in stations (b)(2)High to enhance security. The CAS/SAS will monitor the video output of the system consoles.

### **Station (b)(2)High High Security Booth**

This project provides for automated access control. This project is in direct support of the new DOE Orders and provides enhancements to the DBT posture.

## Project Descriptions (Alphabetical Order)

### **Steam Distribution System Upgrade**

This project will refurbish and upgrade the steam distribution system. Upgrades will maintain highly reliable steam service to Plant programmatic and mission demands and will minimize air emissions, reduce energy consumption, and reclaim natural resources. The steam distribution infrastructure systems and utilities are required to maintain the system integrity for operations.

### **Steam Production Facility Upgrade**

This project will refurbish and upgrade the steam production facility. Upgrades will enhance the safety of the system with more precise process control, will maintain the integrity of the pressurized systems, and reduce burn potentials with correction of insulation deficiencies. The viability of mainline utility systems are required to meet Complex 2030 initiatives.

### **Storage Tank Inspections**

Petroleum storage tanks require inspection to determine their condition and any repairs needed. These inspections and the following corrective actions will ensure compliance with environmental protection criteria.

### **Surrogate Tactics and Training Facility (STTF)**

The Elite Force initiative issued by Secretary Bodman, the new Tactical Doctrine, and the new Protective Force Manual require more intensive training for protective force personnel to achieve higher skill levels for the site's protection strategy. In addition, these requirements documents recommend that this training be conducted in the production areas of the site. The documents also allow for the use of surrogate facilities in lieu of training in the production facilities. This project will provide a surrogate training facility where mockups of production bays, cells, and staging magazines can be replicated. This concept eliminates the operational impacts to production and the safety concerns associated with training in production or staging buildings.

### **Technical Support Facility**

This project constructed a new office facility in Zone 12 North. Construction has been completed allowing for footprint consolidation at Pantex.

### **Telephone Switch Replacement**

Replacement of the telephone switch will help to assure reliability of the telephone system, support the growth of communications technology, and provide capacity needed to accommodate emerging technologies. The telephone switch is the primary means of voice communications at the plant will exceed its anticipated life expectancy of fifteen years by FY 2009. Also as the equipment ages, maintenance costs increase, as does the risk of service outages.

## Project Descriptions (Alphabetical Order)

### Telephone System Power Upgrade

This project provides the equipment and electrical modifications to permit expansion of the private branch exchange (PBX) capacity now restricted by the present power system. Pantex is at risk for unplanned outages, resulting in loss of communication to the Operations Center, Security, and Fire Alarm Systems, which could result in shutdown of Plant operations. Mainline communication system must maintain operability and system integrity for mission operations.

### Terracing Project

Install terraces in two fields on the west side of the plant. These terraces are to reduce storm water erosion in these fields.

### Tester Design Facility Construction

This project constructed a new 14,000 square foot facility to consolidate Tester Design into one facility.

### Ultraviolet to Infrared Detector Upgrade

This project will replace existing UV detection systems in Buildings (b)(2)High with IR detection systems. The flame detection releasing system control equipment will be replaced in Building (b)(2)High. The UV detection system will be upgraded to a new UV or IR detection system as appropriate for the application in Buildings (b)(2)High. These modifications are to address an aging system and parts availability and reliability. Systems are required for operability in mission critical facilities.

### Water Chlorinator

Project to provide safety enhancements associated with the handling of chlorine gas at the water treatment facility.

### Water Secondary Distribution Upgrade

This project will refurbish the secondary water distribution system, including replacement of 33 miles of distribution line and 1,000 components, upgrade Plant water metering to the current system controls and monitoring technology, and upgrade backflow prevention devices.

### Water Valve & Pipeline Replacement

This project addresses identified leaks in the deteriorated lines and valves feeding Building (b)(2)High

### Wire Lines for Zone 11

To support paperless production operations for receiving and transmitting information throughout the Pantex Plant additional wire lines from Zone 12 to the facilities in Zone 11 are required. The Site is positioning their technologies for more cost-effective operation and aligns with the HE Center of Excellence in high explosive development, manufacturing, and testing to meet the DOE 2030 vision.

## Project Descriptions (Alphabetical Order)

### **Zone 4 Guard Tower Enhancements**

This project provides for lifecycle upgrades and enhancements to Buildings (b)(2)High at BWXT Pantex for the Protective Force operations. The resistance of the structures outside walls will be improved and all glass will be replaced with improved bulletproof glass. These upgrades and enhancements support the DBT and new DOE Orders.

### **Zone 4 Mission Dependent (Erosion Control and Approaches)**

Replacement of deteriorated and unsafe concrete magazine approaches as well as erosion control at additional magazines. This helps maintain the Pantex Plant and maintain it in good condition for the 2030 vision.

### **Zone 4 Mission Dependent – Replace Earth Overburdens**

This project replaces the earth overburden on the structures in Zone 4. This helps maintain the Pantex Plant for safe operations.

### **Zone 4 Replace Magazine Vent Piping and Caps**

This is to replace the vents and caps on the Zone 4 magazines where they are worn out.

### **Zone 4 Richmond Magazine Upgrade (6)**

This project consists of the design and construction to replace six Richmond Magazines (RM) in Zone 4 Material Access Area (MAA). This project also extends the fire protection into the magazines and upgrades the security system. The workload at the Pantex Plant is increasing the need for SAC weapon magazines and also additional SNM staging. Building these Modified Richmond Magazines will permit weapons to occupy the SAC magazines currently staging SNM and allow more efficient staging of SNM in the new Richmond Magazines. Relocating SNM into the new Richmond Magazines improves the capacity for efficiently staging SNM components in Zone 4.

### **Zone 4 West Approaches & Door Modifications**

This project repairs or replaces the concrete approaches and upgrades structural doors and frames in the magazines in Zone 4.

### **Zone 11 Classified Wiring installation**

To support classified paperless production operations for receiving and transmitting information throughout the Pantex Plant additional wire lines from Zone 12 to the facilities in Zone 11 are required. The Site is positioning their technologies for more cost-effective operation and aligns with the HE Center of Excellence in high explosive development, manufacturing, and testing to meet the DOE 2030 vision.

## Project Descriptions (Alphabetical Order)

### Zone 12 Guard Tower Enhancements

This project provides for lifecycle upgrades and enhancements to the support facilities (b)(2)High for Protective Force operations. The resistance of the structures outside walls will be improved and all glass will be replaced with improved bulletproof glass. The enhancements address safety concerns and upgrade to support the DBT and new DOE Orders.

### Zone 12 Mission Dependent Phase I

This project provides for the mechanical and electrical replacement required to address functional obsolescence. Building (b)(2)High was constructed in the 1950's and the environmental systems have degraded. Interior finishes will be refurbished.

### Zone 12 Mission Dependent Phase III

Project replaces air-handling units in (b)(2)High. And will replace the steel roof on buildings (b)(2)High.

### Zone 12 Vehicle Entry Area Remodel

This project provides for upgrades and enhancements to the access/egress Protection Force Stations/Portals. Project supports modernization of inspection and detection systems. This provides the Protective Force personnel adequate facilities and equipment: to control personnel and vehicles during entry/exit, conduct contraband searches and house new equipment. This enhances both personnel and vehicle search activities.

Pantex Plant

**Attachment K - Requested Small Projects above FYNSP Targets  
NNSA Facilities and Infrastructure Cost Projection Spreadsheet  
RTBF/Operations of Facilities/Materials Disposition/Security Infrastructure for Pantex Plant  
(\$000s)**

Item #	Project Description	Category	Estimate	Target	Delta	Notes
1	HPFL Pipe Replacement - Building	E	2,500			
2	HPFL Pipe Replacement - Building	E	4,000			
3	HPFL Pipe Replacement - Building	E	4,000			
4	HPFL Fire Alarm Panel Replacement	E	5,000			
5	HPFL Fire Alarm Panel Replacement	E	2,000			
6	Facility Upgrades	E	TBD			
7	Facility Upgrades	E	6,000			
8	HPFL Lead-In Replacement Projects	E	3,000			
9	One Dupl Floor & HVAC Repair	E	1,000			
10	Install Sidewalks - Group 2	E	3,000			
11	FY08 Misc. DM Reduction Projects	E	1,250			
12	Demolish Building	E	250			
13	Remove Building	E	1,500			
14	FY08 Misc. Electrical Safety Enhancements	E	750			
15	Loading Dock Repair	E	1,000			
16	Install Sidewalks - Group 3	E	350			
17	Water Churnator	E	500			
18	Replace Anvils	E	700			
19	Paint Bay Modifications	E	250			
20	Central Computing Facility Foundation Repair	E	750			
21	Range 0 Build Trap Replacement	E	1,055			
22	Station 11 Vehicle Inspection Traps	E	215			
23	Station Security Camera Installation	E	75			
24	Station Lighting Configuration	E	377			
25	Station Lighting Modification	E	3,000			
26	F 100 Fire Alarm Panel Replacement	E	600			
27	Demolish Building	E	4,000			
28	Zone 11 Classified Wiring Installation	E	2,500			
29	Manufacturing Readiness Planning (MRP II) System Upgrade	E	8,000			
30	HPFL Lead-In Replacement Projects	E	4,000			
31	FY08 Fire Alarm Panel Replacement	E	1,500			
32	FY08 Misc. Electrical Safety Enhancements	E	3,000			
33	FY08 Misc. DM Reduction Projects	E	1,000			
34	FY08 Misc. Safety Enhancements	E	1,000			
35	FY08 Misc. Infrastructure Modifications	E	1,000			
36	FY08 Misc. Envz. Remediation Enhancements	E	750			
37	Demolish Building	E	TBD			
38	Narrow Band Radio System Upgrade	E	TBD			
39	Network and Telecommunications Infrastructure Upgrade	E	TBD			
40	Telephone Switch Replacement	E	TBD			
41	Plant Telephone System Upgrade	E	TBD			
42	Narrow Band Radio Facility Over-temperature Monitor and Alarm	E	8,000			
43	HPFL Lead-In Replacement Projects	E	4,000			
44	FY10 Fire Alarm Panel Replacement	E	1,500			
45	FY10 Misc. Electrical Safety Enhancements	E	3,000			
46	FY10 Misc. DM Reduction Projects	E	2,000			
47	FY10 Misc. Safety Enhancements	E	1,000			
48	FY10 Misc. Infrastructure Modifications	E	1,000			
49	FY10 Misc. Envz. Remediation Enhancements	E	1,000			
50	Demolish Building	E	2,000			
51	HPFL Lead-In Replacement Projects	E	8,000			
52	FY11 Fire Alarm Panel Replacement	E	4,000			
53	FY11 Misc. Electrical Safety Enhancements	E	1,500			
54	FY11 Misc. DM Reduction Projects	E	3,000			
55	FY11 Misc. Safety Enhancements	E	2,000			

\* Estimate based on Security budget request.  
Note all estimates are Rough Order of Magnitude

Attachment K





Pantlex Plant

FY 2008 TYSP

**Attachment K - Requested Small Projects above FYNSP Targets  
NNSA Facilities and Infrastructure Cost Projection Spreadsheet  
RTBE/Operations of Facilities/Materials Disposition/Security Infrastructure for Pantlex Plant  
(\$000s)**

Item	Category	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total	
1	Infrastructure Capital Equipment																									
2	Special Tooling Capital Equipment																									
3	Replace Non-Destructive Test Equipment																									
4	Information Technology Capital Equipment																									
5	Other Capital Equipment																									
6	Special Purpose Vehicles																									
	GPE Subtotal	14,400	13,100	13,300	13,100	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000
<b>TOTAL ABOVE FYNSP</b>		35,600	102,992	49,550	52,100	64,711	64,500	66,300	50,500	50,500	50,500	50,500	50,500	50,500	50,500	50,500	50,500	50,500	50,500	50,500	50,500	50,500	50,500	50,500	50,500	50,500

Attachment K









**Pantex Plant Building List**

Building ID	Year	Value
	1994	79
	1994	79
	1994	182
	1994	182
	1994	236
	1994	90
	1994	90
	1994	160
	1994	77
	1994	127
	1994	75
	1994	223
	1994	76
	1994	236
	1994	223
	1994	154
	1998	436
	1998	436
	1998	97
	1997	118
	1996	118
	1997	489
	1997	489
	1996	158
	1998	235
	1990	116
	1995	138
	2001	160
	2001	160
	2003	1,442
	2004	19,086
	2004	630
	2005	239
	2005	160
	2006	160
	2006	391
	2006	669
	2006	669
	2007	859
	2007	165
	2007	165
	2007	165
	1944	4,558
	1942	16,524
	1986	638
	1942	18,766
	1942	10,516
	1942	9,446
	1942	33,700
	1942	922
	1942	7,675
	1942	140
	1942	5,960
	1967	2,334
	1985	43

(b)(2)High



Pantex Plant Building List

Building	Year	Area
	1942	431
	1942	9,371
	1970	1,028
	1988	43
	1988	91
	1942	1,538
	1942	1,014
	1942	17,086
	1942	453
	1942	403
	1942	140
	1942	1,122
	1942	1,140
	1961	861
	1942	7,004
	1971	5,138
	1970	1,843
	1971	4,315
	1975	2,222
	1950	2,018
	1945	7,210
	1978	121
	1966	3,217
	1966	52
	1965	1,029
	1945	101
	1966	119
	1966	4,019
	1966	102
	1966	169
	1984	30,978
	1981	12,021
	2002	8,982
	1981	265
	1983	3,130
	1984	3,595
	1998	15,182
	1999	579
	1999	263
	2000	2,509
	2005	31,819
	2005	344
	1942	2,480
	1942	1,639
	1942	4,605
	1942	4,326
	1942	3,492
	1942	948
	1942	4,674
	1942	2,300
	1942	267
	1945	7,015
	1945	2,016
	1944	3,895
	1984	3,776

(b)(2)High



Pantex Plant Building List

Building ID	Year	Area
	1984	2,575
	1999	2,095
	1945	28,526
	1952	3,519
	1970	11,516
	1979	1,793
	1983	3,181
	1945	2,062
	1945	87
	1945	78,042
	1961	8,281
	1963	4,618
	1964	22,718
	1964	957
	1983	493
	1983	2,270
	1983	36
	1988	58
	1945	18,719
	1945	958
	1969	6,470
	1945	571
	1945	32
	1945	2,799
	2002	495
	1945	18,382
	1955	3,083
	1945	491
	1961	2,877
	1966	5,934
	1945	764
	1945	837
	1971	17,095
	1993	24,453
	1972	5,352
	1984	837
	1985	508
	1985	96
	1945	28,481
	1959	3,838
	1961	1,000
	1952	7,462
	1945	1,974
	1945	963
	1994	963
	1945	498
	1945	86
	1984	64
	1984	64
	1953	838
	1945	33
	1970	1,947
	1945	28,255
	1952	7,462
	1945	1,974

(b)(2)High



Pantex Plant Building List

Building ID	Year	Value
	1944	969
	1945	969
	1945	969
	1945	86
	1945	138
	1945	32
	1945	134
	1945	35,146
	1972	3,247
	1971	800
	1972	3,260
	1945	3,234
	1953	836
	1975	35,558
	1953	51,294
	1953	1,363
	1953	498
	1971	2,509
	1972	453
	1952	7,585
	1952	34
	1952	7,634
	1952	7,630
	1952	33
	1952	129
	1952	339
	1953	12,943
	1981	248
	1953	33,287
	1971	4,530
	1953	86
	1953	265
	1974	25,796
	1987	4,914
	1953	8,260
	1984	1,583
	1952	6,081
	1985	3,314
	1985	140
	1985	33
	1959	48,703
	1965	22,747
	1965	426
	1965	403
	1965	453
	1970	5,357
	1959	3,873
	1959	3,873
	1959	3,873
	1959	3,873
	1959	3,873
	1959	3,873
	1971	5,383
	1959	1,922
	1965	641

(b)(2)High



Pantex Plant Building List

Building No.	Year	Area
	1960	100
	1959	180
	1961	140
	1962	4,218
	1973	4,144
	1970	1,276
	1970	393
	1961	286
	1963	4,912
	1968	2,868
	1968	690
	1968	4,432
	1974	3,594
	1974	721
	1965	5,048
	1965	770
	1965	52
	1965	2,320
	1965	2,508
	1966	2,618
	1969	5,553
	1969	1,949
	1970	24,160
	1971	5,567
	1971	225
	1969	2,320
	1975	160
	1969	456
	1975	514
	1986	115
	1970	85,122
	1970	2,236
	1970	927
	1973	8,525
	1973	22,547
	1973	6,097
	1977	35,972
	1977	4,606
	1977	1,753
	1977	319
	1975	10,930
	1977	12,460
	1975	2,113
	1975	2,577
	1976	1,489
	1975	375
	1978	21,509
	1983	3,160
	1997	5,170
	1998	2,659
	1989	269
	1980	29,596
	1978	117
	1979	4,566
	1980	8,892

(b)(2)High



**Pantex Plant Building List**

	1986	12,077
	1985	59
	1984	115,191
	2003	224
	1984	5,792
	1987	49,707
	1978	375
	1978	375
	1978	375
	1979	120
	1991	2,051
	1986	889
	1980	303
	1986	5,733
	1984	2,579
	1984	5,788
	1983	9,896
	1986	5,839
	1986	5,839
	1986	5,839
	1986	5,839
	1986	2,327
	1986	2,324
	1986	64,449
	1984	4,372
	1984	5,398
	1984	5,823
	1989	20,848
	1988	99,984
	1992	75,716
	1988	200
	1988	201
	1986	480
	1986	5,448
	1988	12,724
	1986	10,058
	1987	1,825
	1989	982
	1988	7,970
	1988	7,439
	1988	6,571
	1990	2,231
	1993	1,372
	1994	48,015
	1993	6,239
	1990	18,310
	1989	855
	1988	229
	1991	2,321
	1993	49,159
	1991	7,147
	1992	2,023
	1998	558
	1991	127
	1997	12,104

(b)(2)High



**Pantex Plant Building List**

Ex	Year	Value
	1996	3,297
	1996	564
	1993	9,589
	1993	497
	1993	497
	1996	26,279
	1995	3,736
	1995	10,152
	1994	3,540
	1997	442
	2005	9,837
	2005	3,243
	2004	3,528
	2006	18,279
	2007	14,096
	2006	13,462
	1945	8,858
	1970	5,604
	1944	588
	1972	7,759
	1961	793
	1945	11,429
	1953	1,408
	1961	1,844
	1945	5,208
	1953	5,754
	1953	300
	1945	6,026
	1953	4,143
	1953	4,076
	1953	3,151
	1953	4,091
	1953	3,691
	1953	5,304
	1953	6,373
	1953	2,607
	1964	4,291
	1952	1,825
	1953	1,281
	1974	3,196
	1962	3,221
	1953	5,534
	1957	16,356
	1966	5,361
	1962	6,021
	1970	2,634
	1965	336
	1965	1,135
	1966	2,666
	1969	3,672
	1971	8,391
	1969	2,321
	1975	2,055
	1973	6,932
	1973	7,098

(b)(2)High



**Pantex Plant Building List**

	1977	2,047
	1987	12,904
	1984	2,556
	1985	85
	1984	23,957
	1988	7,373
	1998	2,002
	1983	3,482
	1987	8,136
	1992	6,817
	1993	6,277
	2007	1,231
	1987	347
	2001	531
	2004	613
	2004	613
	1998	640
	1973	839
	1973	824
	1987	578
	1987	2,320
	1987	168
	1997	640
	1980	55,038
	1979	19,979
	1979	121
	1980	6,100
	1980	245
	1977	2,640
	1978	1,309
	1988	295
	1980	2,285
	1980	286
	1995	799
	1980	657
	1988	289
	1989	30,227
	1988	13,565
	1989	137
	1989	926
	1997	17,759
	2000	21,644
	2000	541
	1993	44,815
	1993	441
	1994	358
	1993	544
	1993	7,875
	1997	13,798
	1997	3,682
	1997	3,846
	1997	858
	1997	304
	1997	304
	1997	859

(b)(2)High



**Pantex Plant Building List**

Building ID	Year	Area
	2000	7,858
	1997	5,537
	2001	173
	2002	96
	2002	96
	2005	768
	2005	16,127
	1955	7,218
	1955	6,169
	1993	204
	1998	1,271
	1998	2,551
	1998	15,000
	1953	437
	1953	100
	1953	100
	1953	100
	1997	100
	1952	4,001
	1983	1,608
	1952	86
	1952	75
	1953	256
	1953	100
	1953	792
	1953	37
	1962	1,358
	1962	559
	1962	82
	1962	78
	1962	613
	1978	4,148
	1975	8
	1962	1,642
	1969	2,111
	1969	78
	1972	1,801
	1982	358
	1982	325
	1988	2,002
	1987	6,991
	1987	499

(b)(2)High

## Appendix 1, Pantex Funding Targets

PANTEX FUNDING TARGETS (\$ x 1,000) <sup>1</sup>							
PROGRAM	2007	2008	2009	2010	2011	2012	2013
<b>DSW</b>							
LIFE EXTENSION PROGRAMS	43,594	29,758	29,651	27,874	26,849	27,250	27,931
STOCKPILE SYSTEMS	25,594	34,749	31,472	32,750	33,650	34,582	35,445
RETIRED WEAPONS SYSTEMS	29,180	23,358	19,720	19,721	15,648	15,900	16,298
STOCKPILE SERVICES/ PRODUCT. SUPPORT / RRW	69,364	79,155	81,819	85,970	84,526	86,154	88,308
<b>DSW TOTAL</b>	<b>167,732</b>	<b>167,020</b>	<b>162,662</b>	<b>166,315</b>	<b>160,673</b>	<b>163,886</b>	<b>167,982</b>
<b>CAMPAIGNS</b>							
HE/ASSEMBLY READINESS	17,188	8,263	9,258	8,857	13,606	10,109	10,361
ADAPT	2,457	700	1,883	1,922	1,973	1,976	2,025
ENHANCED SURVEILLANCE	2,995	2,831	2,877	2,818	2,841	2,900	2,973
<b>CAMPAIGNS TOTAL</b>	<b>22,640</b>	<b>11,794</b>	<b>14,018</b>	<b>13,597</b>	<b>18,420</b>	<b>14,985</b>	<b>15,359</b>
<b>RTBF</b>							
OPERATIONS OF FACILITIES	96,124	95,012	99,191	101,493	104,587	106,652	109,319
PROGRAM READINESS	4,618	4,238	4,741	4,872	5,084	5,185	5,314
CONTAINERS	4,860	4,885	4,947	5,084	5,264	5,367	5,502
STORAGE	8,515	8,560	8,827	9,066	9,373	9,557	9,796
LINE ITEM CONSTRUCTION	6,551	39,300	35,000	45,482	30,000	0	0
<b>RTBF TOTAL</b>	<b>120,668</b>	<b>151,995</b>	<b>152,706</b>	<b>165,997</b>	<b>154,308</b>	<b>126,761</b>	<b>129,931</b>
FIRP	25,937	35,110	34,509	39,977	40,986	42,056	43,024
FIRP LINE ITEM	9,574	4,400	4,000	0	0	0	0
SECURITY (CYBER & PHYSICAL)	126,468	154,775	136,089	148,156	163,938	180,896	185,057
SECURITY LINE ITEM	0	0	1,500	6,000	4,175	0	0
OTHER DP (WIR & OST)	7,391	6,561	6,761	6,709	6,924	7,077	7,401
REIMBURSABLE	4,000	4,000	4,000	4,000	4,000	4,000	4,000
MD	5,000	6,000	6,000	6,000	6,000	6,000	6,000
EM (ER + D&D) <sup>2</sup>	23,726	12,411	0	0	0	0	0
EM (RTBF LTS) <sup>2</sup>			4,481	4,575	4,672	4,779	4,889
<b>GRAND TOTAL</b>	<b>513,136</b>	<b>554,066</b>	<b>526,726</b>	<b>561,326</b>	<b>564,096</b>	<b>550,440</b>	<b>563,643</b>

<sup>1</sup> Budget data for DSW, Campaigns, RTBF, FIRP, Other DP, Security, and MD (including Line Item targets) are consistent with the site splits distributed by NA133 February 9, 2007. The site split is based on FY 2008 Congressional Budget adjusted for the 3% HQ reserve. Current Work Authorization for RTBF Ops of Facilities is \$104,500, and is reflected in this TYSP. Current Work Authorization for FIRP is \$19,287, and is reflected in this TYSP.

<sup>2</sup> EM program is scheduled to transfer to Long Term Stewardship in FY 2008. Beginning in FY 2009, Long Term Stewardship (LTS) responsibilities will rest with the site landlord.

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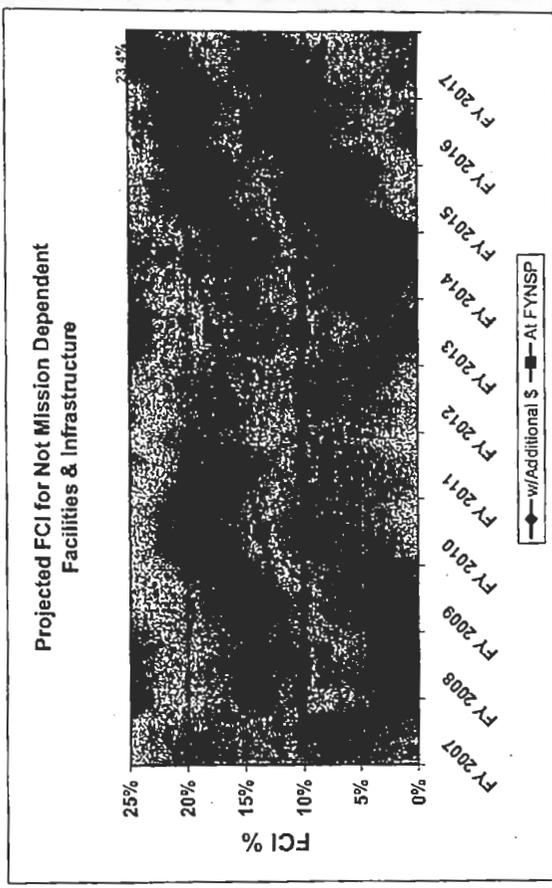
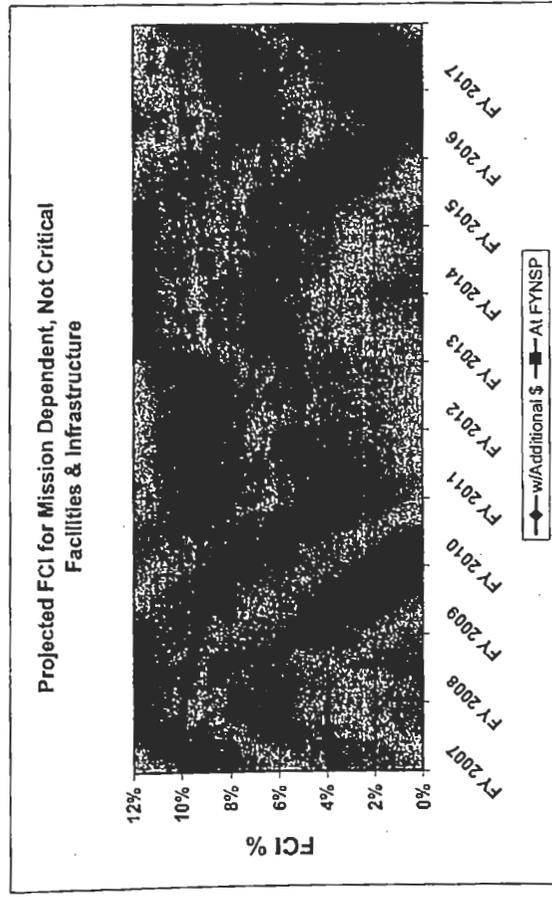
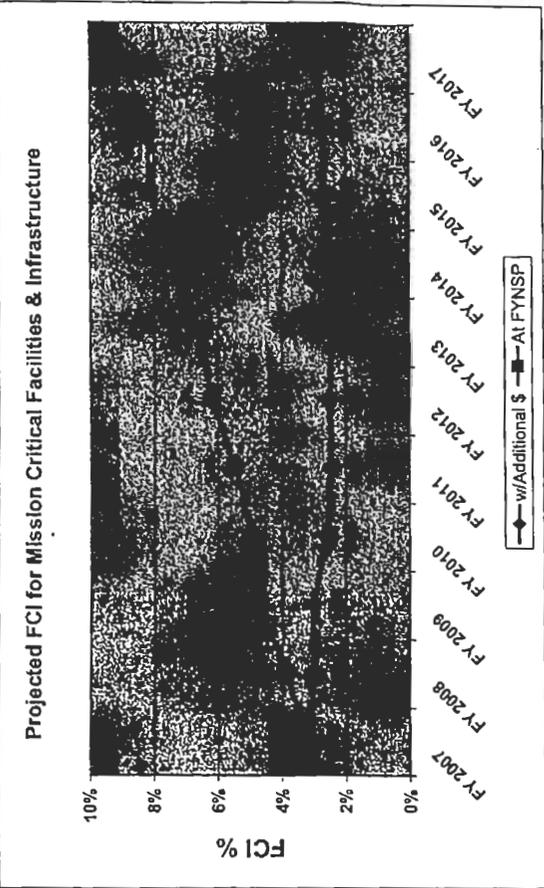
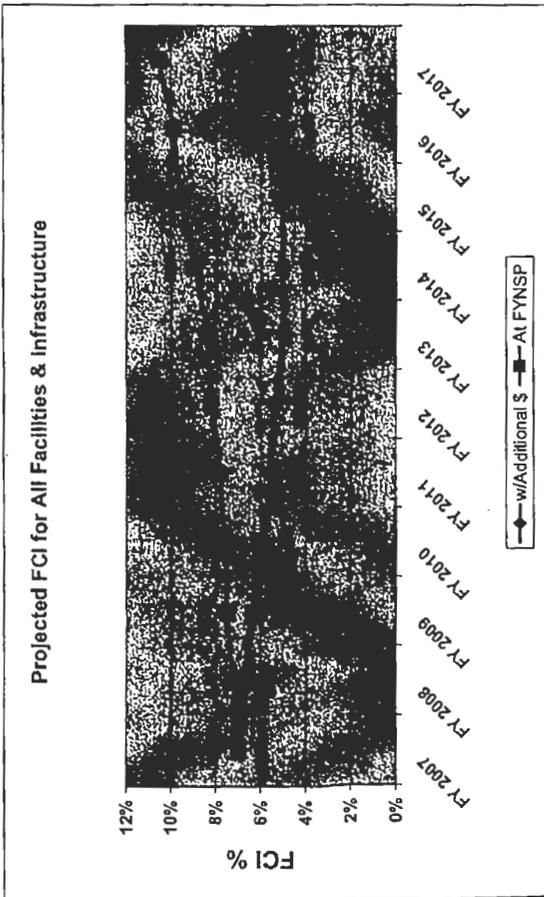
## Appendix 2, FIRP Planning Target Guidance 02/07/2007

FY 2008-2017 Ten-Year Site Plan (TYSP) Guidance Facilities and Infrastructure Recapitalization Program (FIRP) Updated Site Planning Targets (February 2007) (\$ X 1,000)							
Site	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2008- FY 2012 Total
KCP	2,000	0	0	0	0	0	0
LANL	57,460	56,965	55,523	57,640	59,095	60,637	289,860
LLNL	35,839	35,354	34,459	35,772	36,676	37,633	179,894
NTS	25,147	24,807	24,179	25,101	25,734	26,406	126,227
PX	39,479	39,510	38,509	39,977	40,986	42,056	201,038
SNL	33,439	32,986	32,151	33,377	34,219	35,113	167,846
SRS	0	0	0	0	0	0	0
Y-12	79,381	79,434	77,422	80,374	82,403	84,555	404,188
<b>Total</b>	<b>291,218</b>	<b>293,743</b>	<b>286,572</b>	<b>297,096</b>	<b>304,330</b>	<b>312,000</b>	<b>1,493,741</b>

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FY 2008 TYSP

Projected FCI w/Additional Required Maintenance Funding



Pantex Plant

### Projected FCI w/Additional Required Maintenance Funding

