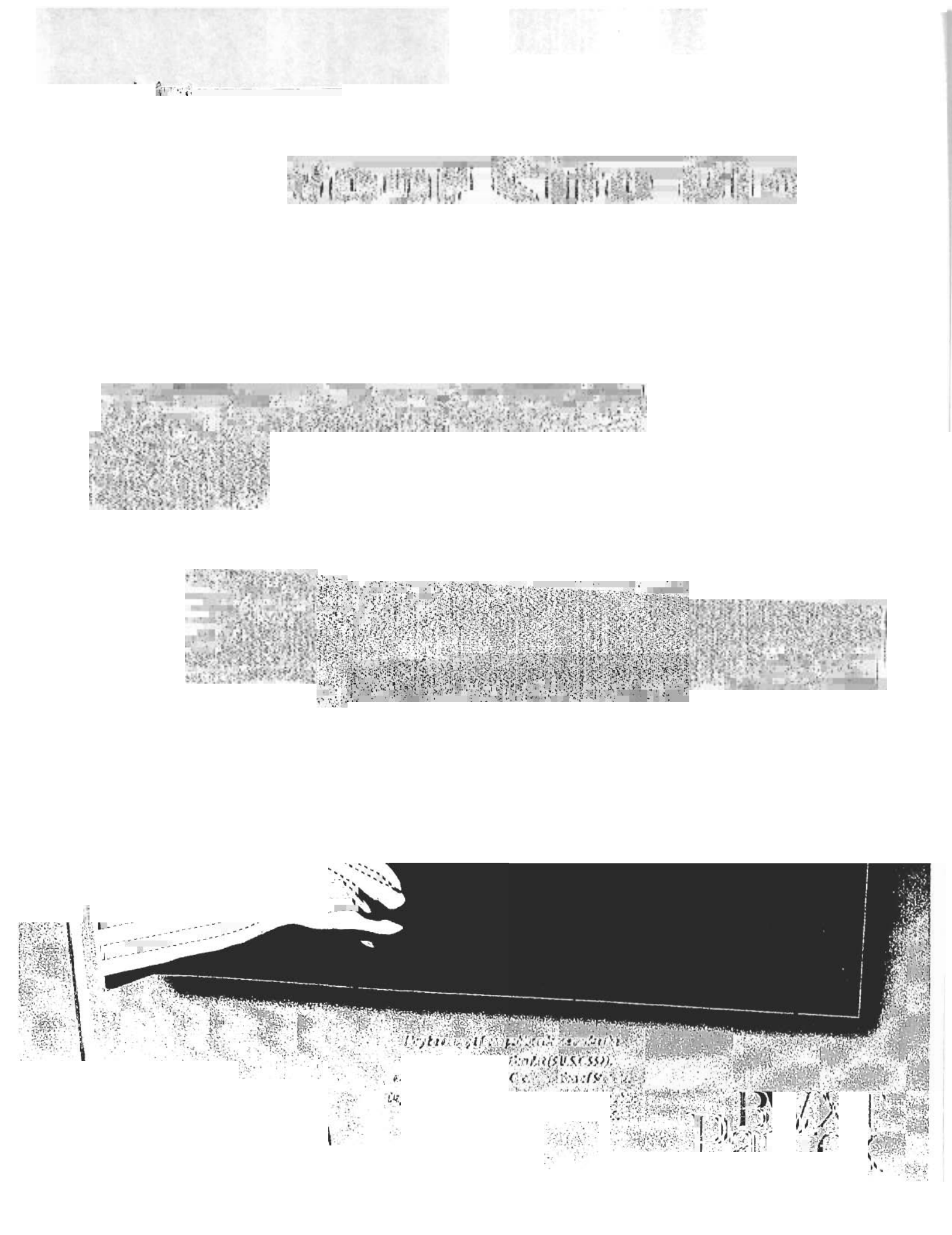

Pantex Plant

FY 2007 - 2016

TEN-YEAR SITE PLAN

Approved by:

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High Pressure Fire Loop (HPFL) Storage Tanks & Pumps I-25
High Pressure Fire Loop (HPFL) Zone 11 ..... I-27
Non-Destructive Evaluation and Gas Laboratory Replacement I-29
Perimeter Intrusion Detection & Assessment System (PIDAS) Upgrade and Enhancement I-33
Protective Force Facilities Upgrade and Enhancement Project I-35
Protective Force Live Fire Ranges Upgrades and Enhancement Project I-39
Protective Force Portal Upgrade and Enhancement Project I-41
Sewer Collection System Manhole Refurbishment I-45
Sewer Equipment Refurbishment I-47
Steam Distribution System Upgrade I-49
Steam Production Facility Upgrade I-51
Ultraviolet (UV) to Infrared (IR) Detector Upgrade I-53
Water Secondary Distribution Upgrade I-55

J Not Used

K Requested Small Projects above FYNSP Targets K-1

Appendices

Appendix 1 Pantex FYNSP Funding Targets (FY 2006 - 2011) 1-1
Appendix 2 Appropriate Level of Maintenance Funding FCI Charts 1-2

FYNSP	Future Years Nuclear Security Program
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
IAEA	International Atomic Energy Agency
ICPP	Integrated Construction Program Plan
IDEM	Integrated Design, Engineering, and Manufacturing
IEP	Interactive Electronic Procedure
IIP	Integrated Implementation Plan
IR	Infrared
ISM	Integrated Safety Management
ISMS	Integrated Safety Management System
ITM	Information Technology Management
IWAP	Integrated Weapons Activity Plan
JTA	Joint Test Assembly
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
LTOP	Long-Term Operating Plan
LTS	Long-Term Stewardship
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, Department of Energy
MTE	Major Technical Effort
NDE	Non-Destructive Evaluation
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NNSA	National Nuclear Security Administration
NPR	Nuclear Posture Review
NSA	National Security Asset
NWC	Nuclear Weapons Complex
OPC	Other Project Costs
OSF	Other Structures and Facilities
OST	Office of Secure Transportation
P&PD	Production and Planning Directive
PA/CRMP	Programmatic Agreement & Cultural Resource Management Plan
PCD	Program Control Document
PCP&I	Production Control, Planning & Integration
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 Evaluation System
PPIV	Positive Personnel Identification Verification
PSIG	Pounds per Square Inch Gauge
PXSO	Pantex Site Office
QER	Quality Evaluation Report
QET	Quality Evaluation Test
R&D	Research and Development
RAMS	Radiation Alarm Monitoring System
RCM	Reliability Centered Maintenance
RIK	Replacement-In-Kind
RPV	Replacement Plant Value
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
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
SR	Strategic Reserve
SS-21	Seamless Safety - 21st Century
SSC	Structures, Systems, and Components
SSSP	Site Safeguards and Security Plan
SST	Safe Secure Trailer
TBP	Technical Business Practice
TEC	Total Estimated Cost
TPC	Total Project Cost
TPV	Total Plant Value
TSR	Technical Safety Requirement
TYSP	Ten-Year Site Plan
U.S.	United States
UV	Ultraviolet
WETL	Weapons Evaluation Test Laboratory
WR	War Reserve
WFO	Work for Other
XTX	Extrudable Explosive

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

Acronyms and Abbreviations

AB	Authorization Basis
ADAPT	Advanced Design and Production Technologies
AL	Action Levels
AL-R8/SI	AL-R8 Sealed Insert
ARIES	Advanced Recovery and Integrated Extraction System
ATR	Applied Technology Roadmap
BBS	Behavior Based Safety
BIO	Basis for Interim Operations
BNA	Baseline Needs Assessment
BWXT	BWXT Pantex, LLC
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
CFR	Code of Federal Regulations
CPDS	Construction Project Data Sheet
CREM	Classified Removable Electronic Media
CSA	Canned Subassembly
D&D	Deactivation and Decommissioning
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
ES&H	Environment, Safety, and Health
ESPC	Energy Savings Performance Contracts
F&I	Facilities and Infrastructure
FAA	Federal Aviation Administration
FASR	Fire Alarm System Replacement
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

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ve its productivity over the past two years. The increased productivity was achieved without romise to safety or security. Productivity improvements were the result of adequate Plant ıg and the sheer determination of a mature and high performance management team – both T Pantex and NNSA/Pantex Site Office (PXSO).

d on Pantex's proven performance over the past several years, appropriately and consistently ıg Pantex is central to NNSA achieving its objectives. Appropriately funded, Pantex will lish a reliable and responsive infrastructure for the near and long-term NNSA mission, ıue to have an unparalleled safety program, and successfully implement the 2003 and 2004 n Basis Threat (DBT) security milestones. A continued and sustained investment in Pantex ecure NNSA's Stockpile Stewardship goals and objectives.

to Meet Corporate Goals

ex continues to make progress toward NNSA's Mission Essential (ME) Facility Condition Index corporate goal of 5% or better by FY2009. Pantex will have bought down approximately $93 ı in DM by the end of FY 2006. A year-end FCI of 6.48% is projected in FY 2006 for ME es. The NNSA FY 2006 goal is 7.0%. BWXT Pantex and NNSA/PXSO made a strategic ion in FY 2006 to preserve their commitment to FIRP, even though Pantex's FY 2006 FIRP ıg was reduced by approximately 50%. The plant prioritized and utilized FY 2006 ressional Plus-Up to execute FIRP projects that were no longer funded at the reduced ıg level. This decision provided continuity to Pantex's overall DM reduction initiative and ıitment to meet NNSA's FCI. Assuming Pantex receives its full FIRP and required Operations cilities funding in (approximately $120 million) FY 2007, the plant will meet the FCI corporate by FY2009, for both Mission Essential and Mission Support facilities. All Pantex "mission ıtial" facilities were placed in the "mission critical" category per NNSA guidance issued in FY Revised mission dependency guidance was issued on February 22, 2006 by the Offices of ties Management and Environmental, Safety and Health Support and Operations and truction Management. Re-evaluation of Pantex facilities for mission dependency assignment ıeduled for later this year.

dition to buying down DM, Pantex performed a thorough review of the current DM backlog eplacement plant value (RPV). This effort was led by BWXT Pantex's appointed senior level Manager. The focus of this review was to assure the completeness of the Site's facilities and tructure data being reported, and ultimately the FCI calculation. Results of the review fied assets previously reported as deferred, based on life cycle only, however the condition of assets was good/excellent and they were not in need of repair or replacement. A joint T and PXSO management decision was made to update the condition assessment database lect the status of "Not Deferred" for the identified assets. These items will be re-evaluated as of the 3 year Condition Assessment Survey (CAS) inspection cycle. Continual evaluation and e to the DM backlog ensures funding allocations are addressing true deficiencies. The s of this review are reflected in Attachments F-1 through F-5.

' 2006, Pantex has allocated approximately $51 million of Operations of Facilities funding d real property maintenance. This equates to approximately 38% of the total Operations of ties budget and 1.7% of RPV. An analysis of the required annual funding to sustain enance and prevent new growth of DM shows that $13.5 million additional investment, above ıinimum program requirement of $107 million, is required annually to support real property enance. This increase represents approximately $4 million in labor, principally for the enance Division, and $9.5 million for facility component renewal and replacement projects. e maintenance projects will be executed by either BWXT Pantex self-performing the work or gh construction contracts. As a result of Pantex's assessment in FY 2006, which included ımarking of other NWC sites, it was identified that Operations of Facilities costs associated

Capacity/Capability:
- (b)(2)High Phase II (b)(2)High
- Production Bays Upgrade
- High Explosive Pressing Facility
- Component Evaluation Facility (CEF)

Reliable/Robust Infrastructure (FIRP Projects):
- 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. Many core infrastructure projects are not optional, for example the Zone 12 HPFL will eventually have to be replaced. Assessment of this system has identified significant deterioration. The same is true of the plant's aging natural gas and electrical distribution systems, they must be revitalized. Considering the need for the CEF, this facility provides for additional mass properties and radiography capacity and capability to meet currently projected Stockpile Stewardship workload beginning in FY 2012. The additional operational bays provided by CEF support NNSA's vision of a responsive infrastructure and the NWC of 2030 and beyond. Additional HE infrastructure enhancements 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.

2 Assumptions

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

Budget Assumptions

Budget data for DSW, Campaigns, and RTBF are based on NA-10 Programmatic and Resource Call Guidance for FY 2008 - 2012 dated 3/6/2006. All other NNSA funding, including FIRP, Other Defense Programs (DP), and Material Disposition (MD) are consistent with the FY2007 Congressional Budget Request published by NA-10 for FY2006-FY2011 (February 2006). The budget data are shown in Appendix 1. Variations in funding levels occur in DSW for changes in the workload. LI and FIRP construction projects funding fluctuations are the result of the different projects in various phases of execution. 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 2012, the core DP targets come from the budget guidance, but all other (Security, MD, Work for Others (WFO), Office of Secure Transportation (OST), etc.) targets are field estimates and based on an escalation factor of 2.5%.

Safeguards and Security (S&S) funding is based on the FY 2007 Congressional Budget request provided by Headquarters (February 2006). The FY 2007 and out year targets does not provide adequate resources to achieve full implementation of the FY 2004 DBT. Additionally FY 2008 and out year funding targets do not provide adequate funding to sustain the FY 2003 DBT baseline requirements. Consequently, infrastructure requirements associated with DBT may not be fully

funded and lifecycle replacement may remain unfunded. Some of these projects are funded and identified in Attachment A-6(a). Unfunded projects are identified in Attachment A-6(b).

The ICPP process used by NNSA evaluates and selects LI construction projects to satisfy program requirements and funding constraints identified in the FYNSP. Attachments A-1 and E-2 are consistent with the Construction Project Data Sheets (CPDS) submitted in the FY 2007 President Budget for FY 2007 – FY 2011. Additional candidate RTBF and S&S LI projects requested for inclusion in the out years of the ICPP are shown in Attachment A-2. Attachment G provides projected funding profiles for approved LI projects above the Presidential Budget and ICPP targets.

Responsibility for the Environmental Restoration Program is expected to transition to NNSA in the outyears; however, the date is unknown at this time. Funding in FY 2009 – FY 2011 is inadequate to support the Long Term Stewardship program requirements. The required funding level is approximately $7 million annually.

Operations of Facilities programs have been significantly impacted by increased requirements in safety authorization basis, increased site utility cost, and additional funding required to sustain maintenance. Operations of Facilities base program shortfalls and GPP and Expense projects have been principally covered by Congressional Plus-Up. Pending a FY 2007 Plus-Up or alternative funding strategy, Pantex's RTBF Operations of Facilities budget is approximately $25 million below overall program requirements. The appropriate level of funding required by Pantex for Operations of Facilities to support DM and Maintenance Program goals, such that a Congressional Plus-Up would not be required, is approximately $120 million in FY 2007, and appropriately escalated in FY 2008 and beyond, reference Appendix 2.

All funding at Pantex is directed to the appropriate B&R code authorized by NNSA.

Pantex revised Attachment E in the FY 2007 TYSP to reflect FIRP disposition funding ending in FY 2009 and any additional disposition activities funded from other sources.

Workload Assumptions

The ten-year weapons workload was derived from the Production and Planning Directive (P&PD), issue 2006-0. 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. P&PD 2006-0 provides the long-term plans to support the new NPR stockpile.

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. The investment in technology projects will allow BWXT Pantex to establish a more responsive infrastructure, which is the key to performing more work with a constrained headcount in FY 2007 through FY 2011.

Future Facility Conditions / Operating Space Assumptions

The operating space at Pantex is projected to expand in the future. Pantex facility utilization in FY 2005 was 98.4% and is projected to increase to over 99% in FY 2006. Older facilities being replaced with newer facilities are lowering the DM and improving the energy efficiency of the Plant. 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 will occur in the future use of

some facilities and plant square footage reduction will be less than depicted in this TYSP.

The FY 2006 square footage in Attachment E reflects the corrected square footage. Projected square footage is anticipated to grow from 2,964,202 square feet in FY 2006 to 3,096,922 square feet in FY 2016 as shown in Attachment E. This square footage includes all anticipated new construction and disposition of facilities currently supported.

Facilities Information Management System (FIMS) is updated when construction of a new facility is substantially complete and Beneficial Occupancy is taken. Square footage reduction credit is taken in FIMS when a facility has been torn down at least to the slab.

Facilities that were designed and/or approved prior to FY 2003 are considered grandfathered and square footage is not included in the balance of banked square footage.

Pantex has prepared and submitted a square footage transfer request that will reallocate buildings demolished under the EM program at Pantex to DP. This transfer will minimize the impact of any future square footage waiver.

The CEF and proposed security LI projects will require NNSA to allocate "banked" square footage eliminated from other sites to support mission driven growth and modernization at Pantex. A waiver is being developed requesting a square footage transfer and is anticipated to be submitted in the 3rd quarter of FY 2006.

Security Assumptions

Due to changes in the site's security posture as a result of terrorist acts within the United States, the site will continue to pursue upgrades and enhancements to continuously improve the security of the site in accordance with the Site Safeguards and Security Plan (SSSP) and to meet the new DBT. Currently, implementation of the DBT and approved SSSP has minimum impact to non-security facilities.

Security has identified several expense, general plant, and LI projects to meet requirements associated with security enhancements. Three of these projects are funded in FY 2006. Current FY 2007 and FY 2008 targets do not provide adequate funding to support the security infrastructure program. Unfunded projects are identified in Attachment A-6(b).

As part of the continual assessment of site security effectiveness, additional site facility requirements could be identified over the next few years.

General Assumptions

Waste treatment, disposal, and off-site shipments will continue as currently managed in accordance with applicable laws and regulations.

RPV reported in this TYSP does not include land owned by DOE, land leased from Texas Tech University, mobile equipment, personal property, or programmatic capital equipment in accordance with guidance from NA-52. DM reported in this TYSP also excludes these items.

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. Pantex RPV is based on estimates generated by the FY 2005

3 Weapons Workload

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. P&PD 2006-0 provides the long-term plans to support the new NPR stockpile. The workload projected for Pantex is changing in significant ways that impact planning for funding, personnel, and facilities. Figure ES-1shows the weapons workload based P&PD 2006-0 and reflects the workload increasing rapidly beginning in FY 2007 through FY 2009, with a slight decrease during FY 2010 and FY 2011, then another rise in FY 2013 until it reaches a peak in FY 2014. Revised workload charts, are shown in Figure ES-2.

Figure ES-1

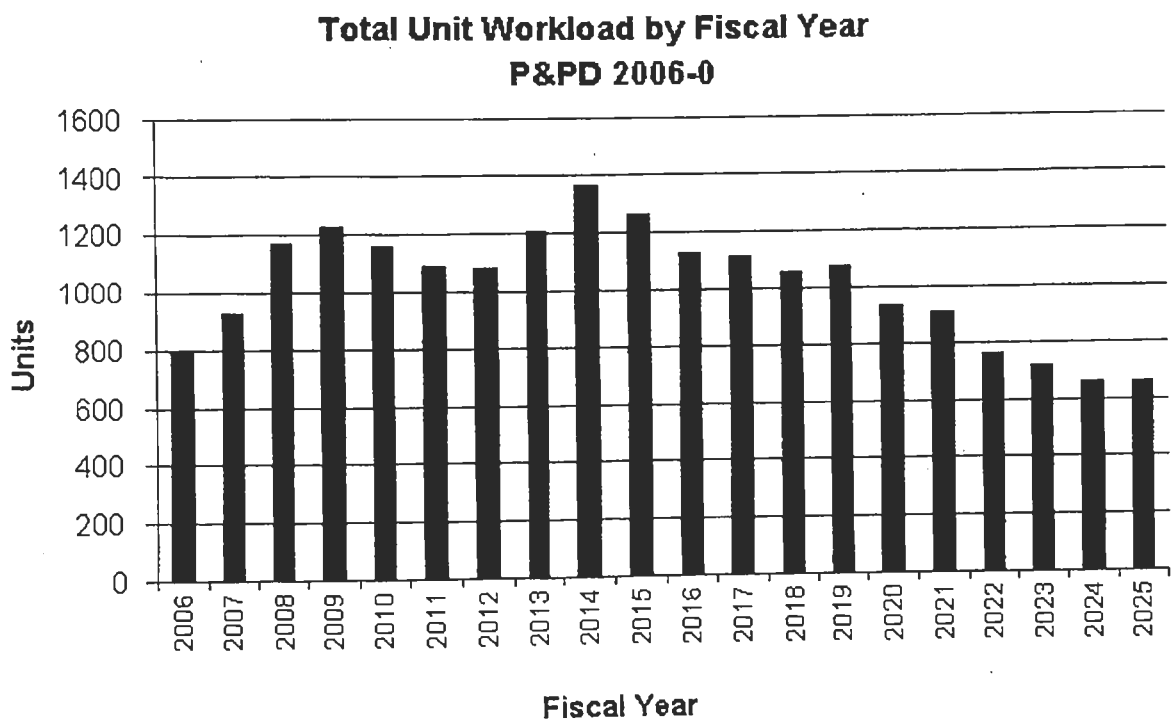
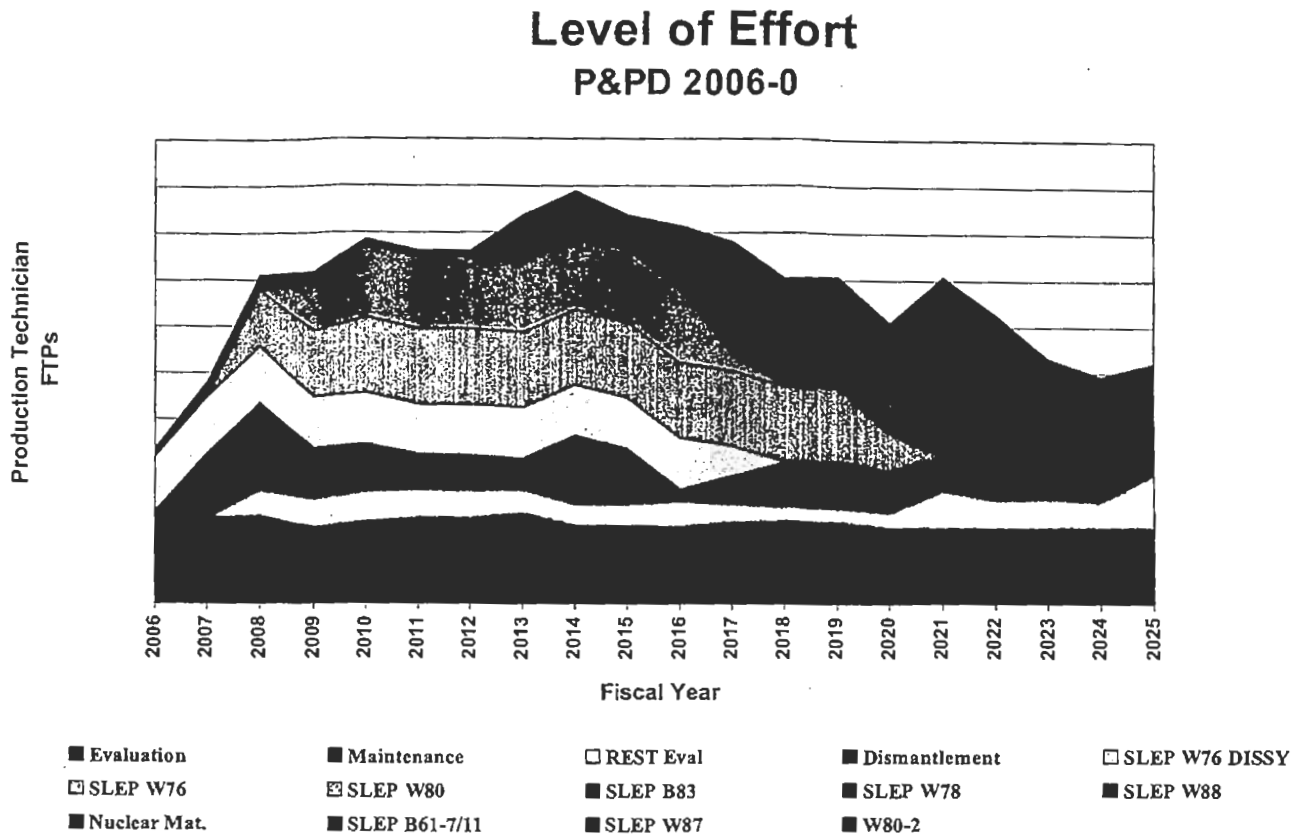


Figure ES-2



SCALE NOT PROVIDED DUE TO CLASSIFICATION

4 Integrated Site Technology

BWXT Pantex created a new division to emphasize the importance of implementing technology and weapons projects focused on improving the production throughput and technical capabilities.

Several on-going initiatives to improve high explosives continue to be developed. These initiatives include interconnection with the Laboratories and secure video conferencing, which have allowed manufacturing issues to be expeditiously resolved. Technology enabled capabilities that reduce costs, improve efficiency and effectiveness, and make the overall complex more responsive must be deployed at Pantex.

Pantex Plant is responsible for the High Explosive production and the final weapon assembly/disassembly activities. To meet expectations for these two mission areas, Pantex must interface with all other complex sites and functions. The complex of the future requires these interfaces to be seamless and activities to be integrated from concept through product delivery.

Affordable technologies that enable complex-wide capabilities and make the execution of the Stockpile Stewardship program more efficient, effective, and responsive must be targeted. Complex-wide commitment is necessary for identification, selection, maturation, demonstration, insertion and deployment of the right technologies. These technologies must improve the capability

for the complex and allow the complex to go from concept to product delivery in a much shorter time. The complex must be more agile and flexible enabling "small lot" builds and a common solution for similar activities. These technologies must be integrated with facility and infrastructure programs to support deployment for all operations. Finally the technologies must be affordable, providing cost benefits that result in a return on investment, and long range sustaining reduction in operating costs.

BWXT Pantex continues to implement the electronic procedures and SS-21 technologies into the production methods and several infrastructure systems have been identified as approaching technical obsolescence and require replacement. Examples of systems requiring replacement include the 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. The high explosives machining controllers, which were replaced last year, are an example of the need to update the infrastructure due to technical obsolescence.

5 Changes from the FY 2006 Ten-Year Comprehensive Site Plan

FIMS Changes

The FIMS Mission Essential field has been modified from a binary yes/no to a three-value field, consistent with the Federal Real Property Council (FRPC) guidance. The definitions of the three fields are as follows:

> **Mission Critical** – Land or constructed assets deemed necessary to perform the primary missions assigned to a particular Site. This would encompass any facility or infrastructure predominantly used to perform scientific, production, environmental restoration or stockpile stewardship and without which operations would be disrupted or placed at risk.
>
> **Mission Dependent, Not Critical** – Land or constructed assets that play a supporting role in meeting the primary missions assigned to a particular Site. Loss of Mission Dependent, Not Critical assets would not immediately disrupt operations and can be reasonably restored or otherwise addressed prior to impacting operations.
>
> **Not Mission Dependent** – Land or constructed assets that are not in support of the primary missions assigned to a particular Site but support secondary missions and/or quality of workplace initiatives. Loss of a Not Mission Dependent asset results in inconvenience and indirectly impacts operations if unavailable for an extended period. Further, assets determined to be excess to the site mission fall under this category.

All Pantex "mission essential" facilities were placed in the "mission critical" category per NNSA guidance in FY 2005. The Offices of Facilities Management and Environmental, Safety and Health Support and Operations and Construction Management issued revised mission dependency guidance on February 22, 2006. Re-evaluation of Pantex facilities for mission dependency assignment is scheduled for later this year.

Replacement Plant Value (RPV)

BWXT Pantex has reviewed the *RS Means* Cell and Bay models and performed a ground up estimate of each, for both construction in a "green field" and at Pantex. These estimates are being reviewed with *RS Means* in order to validate the model used in determining the RPV for these types of facilities. The Pantex RPV, as reported in FIMS, is $3.0 billion. This value represents the

addition of buildings (b)(2)High and the elimination of building (b)(2)High to the FIMS database since the FY 2006 Ten-Year Comprehensive Site Plan (TYCSP).

DM / FCI Goal

NNSA published a corporate commitment to reduce DM throughout the NWC on January 23, 2003. Through NNSA's commitment of resources, Pantex has made progress in reducing the DM backlog. BWXT Pantex utilizes all funding sources for reduction of DM, with special focus on "Mission Critical" facilities. In FY 2006, Pantex is receiving FIRP and Congressional Plus Up funding to repair roofs, demolish excess facilities, initiate replacement of facilities, and perform vital repairs and modifications. By the end of FY 2006, total DM reduction will be approximately $84M.

With FIRP funding at current FYNSP levels and the appropriate level of Operations of Facilities funding, Pantex federal and M&O management have committed to meet the NNSA Corporate goals as follows:

By the end of FY 2009 NNSA will:

- Aggressively reduce deferred maintenance within industry standards;
- Return facility conditions, for mission critical facilities and infrastructure, to an assessment level of "good" to "excellent" (deferred maintenance/replacement plant value less than 5%)
- Target the ratio for non-mission dependent facility FCI to be 10% or less; and
- Have institutionalized responsible and accountable facility management processes, including budgetary ones, so that the condition of NNSA facilities and infrastructure is maintained equal to or better than industry standards

The FY 2006 end of year DM backlog is projected to be $219 million. Projected FCI the end of FY 2006 for all facilities and infrastructure is 7.2%. Based on current Operations of Facilities FYNSP targets, it is projected that the plant FCI will trend upward, after the FIRP Program ends in FY 2011. Refer to Attachment F for DM and FCI projections. The projected FY 2006 FCI for mission critical facilities and infrastructure is 6.5%.

Pantex's ability to achieve the FY 2009 FCI goal is dependent on: a) receipt of planned out-year (FY2007 and beyond) FIRP funds and, b) receipt of sufficient Operations of Facilities funding in FY 2007 and beyond. Sufficient Operations of Facilities funding of approximately $120 million (in FY 2007, with appropriate escalation in the outyears) represents an appropriate level of funding required by Pantex to sustain maintenance and improve the overall condition of the Site's facility portfolio, such that Congressional Plus-Up would not be required, reference Appendix 2.

If planned FIRP along with adequate Operations of Facilities funding for FY 2007 and beyond is received, then the FY 2009 Corporate FCI goals will be achievable.

Maintenance Funding Target of 2% RPV

The DOE/NNSA expectation for maintenance and sustainment of NNSA facilities and infrastructure was outlined in the Defense Programs memorandum, *Maintenance of the NNSA Facilities and Infrastructure,* dated July 18, 2005, from Thomas D'Agostino: "I expect each site to fund maintenance of its facilities and infrastructure at the level determined to be appropriate by the site, with approval of NNSA Headquarters, from within the total funds allocated to the site" and further goes on to state " ...annual maintenance funding should be at least at the minimum industry standard level of 2-4% of RPV ....unless historical data suggests that a different standard has been successful in meeting expenditures and has resulted in an FCI of 5% or better...".

dismantlement quantities and component disposition activities will be significantly reduced, and Responsive Infrastructure (RI) and Reliable Replacement Warhead (RRW) projects will be delayed at the site. It is estimated that a labor reduction of 4% will result in a reduction of approximately 200 weapon units per year due to reduced direct and support personnel required to support daily production activities. For the longer term, loss of technical capability will result in a decline in the usability, reliability, and maintainability of essential Plant information systems and structures. Loss of technical competencies would require a minimum of 2-3 years to recover. Additional time would be required to gain the experience required to achieve maximum productivity.

The investment in technology projects will allow BWXT Pantex to establish a more responsive infrastructure, which is the key to performing more work with a constrained headcount in FY 2007 through FY 2011.

Recent activities including the NNSA Strategic Plan for 2030, the Congressional Evaluation Assessment Board, and Responsive Infrastructure planning indicate the complex of the future will be dramatically smaller (consolidated reduced footprint), more efficient and effective (reduced operating cost and lower manpower requirements), and have agile and improved capabilities (responsive to current and future customer needs). Pantex strategic planning focuses on the integration of technology enabled capabilities with facilities and infrastructure that assures Pantex Plant will deliver expected results in support of the Stockpile Stewardship Program.

Technology enabled capabilities that reduce costs, improve efficiency and effectiveness, and make the overall complex more responsive must be deployed at Pantex. Pantex Plant is responsible for High Explosive production and final weapon assembly/disassembly activities. To meet expectations for these two mission areas, Pantex must interface with all NWC sites and functions. The complex of the future requires these interfaces to be seamless and activities to be integrated from concept through product delivery. Technology enabled capabilities serve an important role in affecting change to become more efficient, effective and responsive.

Affordable technologies that enable complex-wide capabilities and make execution of the Stockpile Stewardship program more efficient, effective, and responsive must be targeted. Complex-wide commitment is necessary for identification, selection, maturation, demonstration, insertion and deployment of the right technologies. These technologies must improve the capability for the complex. They must allow the complex to go from concept to product delivery in a much shorter time. They must be more agile and flexible enabling "small lot" builds and a common solution for similar activities. They must be integrated with facility and infrastructure programs to support deployment for all operations. Finally they must be affordable, providing cost benefits that result in a return on investment, and long range sustaining reduction in operating costs.

7 Energy Savings

The Energy Savings Performance Contract (ESPC) Phase II project contract was signed December 23, 2005. Under the contract, energy-saving measures include: installation of new energy-efficient lighting systems and control systems to reduce waste in heating and air-conditioning systems, repair of leaks in the steam systems, installation of energy-efficient cooling systems and replacement of dehumidifiers needed for industrial operations. This effort will retire approximately $10 million in DM.

"The Pantex Plant plays an important role in America's national security, but by further improving energy efficiency, we will also increase our energy security," said Linton Brooks, Administrator of

National Nuclear Security Administration. "The energy improvements at Pantex will serve as a model for using less energy and significantly reducing energy costs."

Other energy saving initiatives at Pantex include installation of solar panels on Building (b)(2)High energy saving Delta Control Systems, energy efficient T-12 lighting, elimination of portable space heaters, training for facility managers and Pantex personnel to be more energy conscious (turn off lights when not there, use task lighting, turn off fans when not needed, thermostats set at same temperature and automatically setting back after hours), and prototype lighting control to turn off lights in large areas (after predetermined time).

Under the FIRP program, Pantex has implemented several energy saving initiatives including installation of reflective roofing and energy efficient chillers, steam shut down to office facilities during summer months, replacement of condensate return units, perform testing and balancing of air handlers to optimize heating and cooling, and replacement of inefficient lighting while reducing the DM.

8 Facilities and Infrastructure Recapitalization Program (FIRP)

BWXT Pantex continues to be a good steward of the funding authorized under the FIRP program. BWXT Pantex costed $38.5 million or 69.8% of the available funding in FY 2005, exceeding the FY 2004 achievement of 64.6%. Program projections for FY 2006 reflect a cost and commitment of 88% of available funds and demonstrate sustained commitment of resources and focus to the FIRP Program.

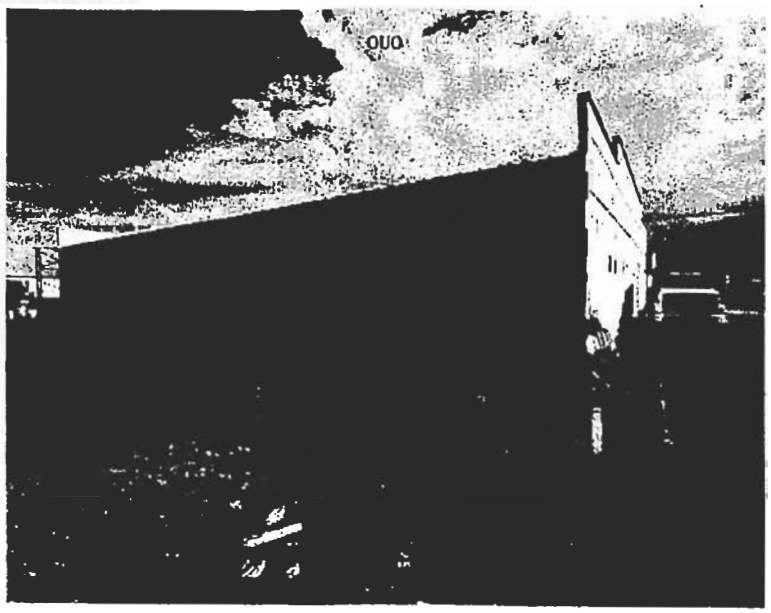
FIRP is a vital link to the success of the Pantex mission. This effort is essential to prevent interruption of operations in mission critical facilities supporting the development, testing and fabricating chemical and explosive components and nuclear weapons operations.

The FIRP Program is both the lead and principal program at Pantex structured to stabilize DM. The FIRP Program reduced the FY 2003 DM baseline by $11 million in FY 2005. Projected DM reduction from the FY 2003 baseline by FIRP in FY 2006 is $28 million.

Critical Decision milestones are scheduled in late FY 2006 for two FIRP Utility LI projects, Electrical Distribution System Upgrade and Gas Main and Distribution System Upgrade. Pantex will execute construction for both line item projects as Federal Small Business contracts.

FIRP Program completed two new facilities in FY 2006, the Records Storage Facility and the Administration Facility. The Records Storage Facility meets 36CFR1228 National Archive and Records Administration (NARA) requirements for critical record storage. The completion of these structures demonstrates the importance of the FIRP program to Pantex and are the first administrative related facilities to be constructed at Pantex within the past thirteen years.

Ribbon Cutting at the new Records Storage Facility



Technical Support Facility Construction

BWXT Pantex is scheduled to complete two additional facilities in FY 2006, Technical Support Facility and the Tester Design Facility. The modernization effort provides the Site with more energy efficient facilities and facilitates the demolition of seven DM laden, energy porous structures in FY 2007.

The FIRP Facility Disposition program demolished four buildings in FY 2005 (Buildings (b)(2)High (b)(2)High and eliminated 21,981 square feet of excess facilities. FY 2006 Facility Disposition activities were not supported within FIRP FY 2006 funding targets. BWXT is utilizing FY 2006 Congressional plus-up funding to complete preparation and design activities in support of FIRP Facility Disposition activities scheduled for FY 2007.

Pantex continues to be a strong supporter of the NWC Roof Asset Management Program (RAMP). The life extension program to repair and replace roofing at the Site continues to address facility safety concerns and decrease unplanned facility down time resulting from roof leaks. In FY 2005 and FY 2006, Pantex requested the use of FIRP Recapitalization under-runs to support roof replacements on Buildings (b)(2)High and repair the roof on Building (b)(2)High These facilities support the mission at Pantex and their roof replacement will address $1,200,000 in FY 2003 baseline DM.

9 Security Projects

Table A-6(a) and A-6(b) identify brick and mortar security infrastructure projects both funded and unfunded. In FY 2006, Pantex received funding for three facility construction projects on Table A-6(a). These projects are required to support implementation of the DBT at Pantex.

10 Environmental Management

ER Program is currently working with the State of Texas and the Environmental Protection Agency in reviews of Human Health and Ecological Risk Assessment Reports. Acceptance of these reports will allow Pantex to continue towards the implementation of corrective remedies in areas that could pose a current or future risk to human health or the environment. To date eight facility investigation reports for chemical constituents and a radionuclide report have been approved by the regulatory agencies allowing the program to move towards meeting the FY 2008 date for transition to Long Term Environmental Stewardship. Activities that could impact Pantex's 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 high risk areas
  - Implement corrective measures construction for sites requiring mitigation of environmental risk.

- Groundwater Program
  - Perched Aquifer
    - Implement interim stabilization measures to reduce risk
    - Maintain an effective Pump and Treat System to remove contaminants
    - 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.
  - Perform characterization and stabilization activities on excess facilities prior to dismantlement

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.

ER program completion is scheduled for FY 2008. Beginning in FY 2009, LTS responsibilities will rest with the site landlord and are not expected to be EM funded. Estimated funding requirements at $7 million per year starting in FY 2009 will need to be planned in plant funding requests. This will cover the cost of Operations and Maintenance, for operating corrective remedies, monitoring well maintenance, permit requirements from the compliance plan, sampling and analysis costs, and general management to cover these operations. Planning for the transition of ER program responsibilities has not yet been completed. Long Term Stewardship and Future Environmental Liabilities resources needed for LTS and future environmental liabilities that are not included in current EM baselines.

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 additional funding will need to be included in future RTBF budget projections.

critical decisions both locally and at Headquarters. The following additional information is provided to support the FY 2007 TYSP.

- Table E-4(b) and the associated chart are not required since it would be a duplication of E-4(a).
- Attachment G provides projected funding profiles for approved LI projects above the Construction Project Data Sheets (CPDS) submitted in the FY 2007 President Budget for FY 2007 – FY 2011 and unfunded LI projects.
- Attachment I provides the Proposed LI Project Information Sheets.
- Attachment K provides a list of unfunded expense, General Plant, and capital equipment projects. This additional relevant information is provided to accurately portray the needs at Pantex.

12 Conclusion

Pantex is committed to meet NNSA's near and long-term Stockpile Stewardship mission workload. With a sizable increase in the Stockpile Stewardship mission over the next 20 years, it is vitally important that Pantex's mission-critical facilities and infrastructure be reliable and robust. It's equally important that Pantex maintain an outstanding safety and security posture, as well as a well-trained workforce to meet the future challenges and workload. In partnership with NNSA's commitment to appropriately and consistently resource the plant, Pantex will meet or exceed the Stockpile Stewardship objectives.

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Attachment A-1
Facilities and Infrastructure Cost Projection Spreadsheet
Line Item Projects for Pantex Plant
($000s)

B. Facilities and Infrastructure Recapitalization Program (FIRP) Line Items																					
1	Electrical Distribution System Upgrade[7]	05-D-160-03	05-D-160 3	Y	2,970		OPC	1,125	700	225	100	50	50								
							PE&D	1,587		1,587											
							LI	10,389			3,960	6,429									
2	Gas Main and Distribution Lines Upgrade	05-D-160-04	05-D-160 4	Y	2,800		OPC	920	425	100	100	100	195								
							PE&D	1,091		1,091											
							LI	6,808			3,663	3,145									
3	High Pressure Fire Loop - Zone 12 South MAA[8]	06-D-160-01	05-DM-650-02	Y	562		OPC	753	65	349	289	20	10	10	10						
							PE&D	1,686			1,686										
							LI	16,042				8,000	8,042								
FIRP Subtotal								40,401	1,190	3,352	9,798	17,744	8,297	10	10	-	-	-	-	-	-

[7] Electrical Distribution System Upgrade proposed funding provided in ATT G.
[8] Project supported by FIRP funding through design only at this time.

C. Safeguards & Security (S&S) Line Items																					
							OPC	-													
							PE&D	-													
							LI	-													
S&S Subtotal								-													
							Total Costs for All NNSA Site Line Items	256,535	35,518	47,519	28,166	27,739	48,423	35,760	30,410	400	2,600	-	-	-	-

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

A. Readiness in Technical Base and Facilities (RTBF) Line Items

1	Ultraviolet (UV) to Infrared (IR) Detector Upgrade						OPC	5,240	2,400	700	500	200	200	300	440	500			
							PE&D	9,151		5,000	4,151								
							LI	65,467					30,000	25,467	10,000				
2	Building Production Cell Upgrade (Cell 1)			Y	8		OPC	3,056	1,200	400	140	130	140	646	400				
							PE&D	2,785		1,500	1,285								
							LI	16,962					12,962	4,000					
3	Building Production Cell Upgrade (Cell 8)			Y	228		OPC	3,164	1,100	425	130	130	140	889	350				
							PE&D	2,786		1,500	1,286								
							LI	16,125					12,125	4,000					
4	FICAM Equipment Replacement						OPC	3,796	400	800	100	113	100	350	933	1,000			
							PE&D	4,000			3,000	1,000							
							LI	45,250						25,000	20,250				
5	Fire Protection Building Lead-in Replacement			Y			OPC	7,520	600	1,500	900	520	1,000	2,000	1,000				
							PE&D	6,700		2,000	4,700								
							LI	31,070					15,000	16,070					
6	HE Component Fabrication & Qualification Facility			Y		+32,000	OPC[1]	14,000		1,250	2,500	500	500	200	600	650	1,800	6,000	
							PE&D	8,500				4,400	4,100						
							LI	100,100							25,000	50,000	25,100		
7	Sewer Collection System Manhole Refurbishment		P-OM-840-02	Y	415		OPC	2,200		375	375	250	100	400	700				
							PE&D	1,000				1,000							
							LI	7,400						7,400					
8	Sewer Equipment Refurbishment		P-OM-840-01	Y	TBD		OPC	1,500		375	375	125	100	125	400				
							PE&D	1,000				1,000							
							LI	7,100						7,100					

(b)(2)High

(b)(2)High

[1] OPC funded by Campaigns.

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

9	High Pressure Fire Loop - Zone 11		P-DM-650-04	Y	481		OPC	13,800		1,500	2,500	1,000	300	2,500	3,000	3,000			
							PE&D	6,500				6,500							
							LI	48,900						20,000	18,900	10,000			
10	Water Secondary Distribution Upgrade		P-DM-650-06	Y	17,000		OPC	7,000			425	2,000	1,075	200	1,300	1,000	1,000		
							PE&D	6,500					6,500						
							LI	56,000							15,000	15,000	26,000		
11	Steam Production Facility Upgrade			Y	TBD		OPC	4,950			600	710	400	320	920	2,000			
							PE&D	2,100					2,100						
							LI	11,300							11,300				
12	Steam Distribution System Upgrade			Y	4,600		OPC	6,800				425	1,500	450	500	300	625	3,000	
							PE&D	4,400						2,000	2,400				
							LI	39,900									18,800	21,100	
13	Compressed Air Refurbishment				TBD		OPC	1,700				375	375	200	100	200	450		
							PE&D	650						650					
							LI	7,650								7,650			
14	HPFL Storage Tanks and Pumps		P-DM-650-08	Y	1,730		OPC	6,200					1,000	1,000	500	200	1,500	2,000	
							PE&D	3,500							3,500				
							LI	21,000									21,000		
RTBF Subtotal								**614,722**	**5,700**	**17,325**	**22,967**	**20,378**	**89,717**	**121,267**	**117,493**	**91,500**	**96,275**	**32,100**	**-**

,000	1,000	1,200
,000	20,200	

Attachment A-3
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
RTBF/Operations of Facilities for Pantex Plant
($000s)

Note 1	Building Emergency Operations Center Dispatcher Relocation		Y			E	1,468	228	535	703										
Note 1	Building Telephone System Refurbishment		Y			E	2,200		84	2,116										
Note 1	Building Seismic Modifications	2004-023	Y			E	53	5	48											
Note 1	Mass Properties Surge Suppression Building 1 Bay) and 1 Bay)	2004-064	Y			E	138		138											
Note 1	HPFL Pipe Replacement - Building 1 (Design Only)	2002-168	Y			E	400		14	386										
Note 1	HPFL Pipe Replacement - Buildings and (Design Only)	2002-168	Y			E	700		10	690										
Note 1	HPFL Pipe Replacement - Building (Design Only)	2002-168	Y				1		1											
Note 1	HPFL Pipe Replacement - Building (Construction) [2]		Y	19			4,500		400	4,100										
Note 1	Electrostatic Discharge (ESD) Flooring Installation [2]	2004-007	Y	6		E	2,804		304	2,500										
Note 1	Removal of Temporary Buildings		N	1	-1,702	E	400			400										
Note 1	Personnel Safety Enhancements		N			E	895		159	536										
Note 1	Mission Critical Infrastructure Modifications		Y			E	385		56	328										
Note 1	Site Wide Short Circuit Study		Y			E	2,800		555	2,245										
Note 1	Temporary Office		N			E	171		171											
Note 1	PIOAS Upgrade OPC		Y			E	240		240											
Note 1	Bunker Project OPC		Y			E	562		562											
Note 1	Sewer Treatment Quality Upgrade OPC					E	56		56											
Note 1	Cell 1 Upgrade OPC [2]		Y			E	627		227	400										
Note 1	Cell 8 Upgrade OPC		Y			E	191		191											
Note 1	UPIR OPC [2]					E	1,066		216	850										
Note 1	Environmental Controls					E	80		80											
Note 1	Cell 8 RAMS Upgrade [2]		Y			E	1,000		38	962										
Note 1	Construct Cage		N			E	10		10											
Note 1	Fire Alarm Receiving System [2]					E	4,500			4,500										
Note 1	ESPC II [2]		Y	500		E	1,000			1,000										
Note 1	Construction Gate SS-15 [2]		Y			E	3,000			3,000										
Note 1	Roof Repair Zone 12 MS 12-5B/12-R-5 [2]		N	75		E	400			400										
Note 1	Prop & Design for FY 2007 D&D [2]		N			E	800			800										
Note 1	DM Reduction Zone 12 ME [2]		Y	2,354		E	3,500			3,500										
Note 1	Misc. Deferred Maintenance Projects [2]			1,411		E	3,000			3,000										
Note 1	FICAM OPC [2]		Y			E	250			250										
	Expense Subtotal						36,795	233	4,098	32,484	-	-	-	-	-	-	-	-	-	-

Note 1: Ongoing projects that are not prioritized.

[2] Projects utilize FY 2005 funding. Depending on the final amount Pantex receives, the amount could be reduced or removed.

Attachment A-4
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Facilities and Infrastructure Recapitalization Program (FIRP) for Pantex Plant
($000s)

92	Zone 12 Mission Support Phase 2	55		P-DNM-MZ-28	N	1,000		E	3,000								3,000
93	Zone 11 Mission Essential	55		P-DM-11-01	N	1,600		E	4,780								4,780
94	Zone 12 Mission Essential Phase 7	55		P-DM-12M-02	N	1,351		E	4,400								4,400
95	Zone 12 Mission Support Phase 4	55		P-DNM-MZ12-29	N	1,351		E	4,400								4,400
96	Zone 12 Mission Support Phase 4	55		P-DNM-MZ12-29	N	1,231		E	4,010								4,010
97	Roof Replacement	60		P-DNM-MZ-12-20		1,165			3,493								3,493
	Adjustment										(288)	(6,180)					
									Grand Total	**46,809**	**35,897**	**18,089**	**35,511**	**37,088**	**40,661**	**44,223**	**47,802**

Attachment A-5
Other Facilities and Infrastructure Cost Projection Spreadsheet
For Pantex Plant
($000s)

NNSA Facilities and Infrastructure Cost Projection Spreadsheet (Security Operating)																				
1	Protective Force Muster Room/Armory Facility		Y		+11,000	GPP	4,999			4,999										
2	Protective Force Locker Room Facility		Y		+13,356	GPP	4,999			4,999										
3	Physical Training Facility		N		+13,356	GPP	4,999			4,999										
NNSA Facilities and Infrastructure Cost Projection Spreadsheet (Program B)																				
Non-NNSA Facilities and Infrastructure Cost Projection Spreadsheet (Program C)																				
Non-NNSA Facilities and Infrastructure Cost Projection Spreadsheet (Program D)																				

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Attachment A-7
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Other Facilities and Infrastructure Recapitalization Program (FIRP) Projects for Pantex Plant
($000s)

49	DM Reduction	65		P-DM-MZ12-13	Y	550		E	1,650		1,650				
50	Zone 6 Replace Magazine Vent Piping and Caps	65		P-DM-MZ4-11	Y	82		E	246			246			
51	DM Reduction	65		P-DM-MZ12-14	Y	210		E	630			630			
52	Zone 4 ME - Replace Earth Overburden	65		P-DM-MZ4-11	Y	351		E	1,053			1,053			
53	Replace Deareators	60		P-DM645-01	Y	2,000		E	4,990				4,990		

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Attachment E-1
Excess Facilities Footprint Elimination Plan
Pantex Plant

FIRP	(b)(2)High	Chemistry Laboratory Annex	N/A	N/A	626	FY 2004	FY 2004	873	18	2	No	No	No
FIRP		Chemistry Laboratory Annex	N/A	N/A	7,215	FY 2004	FY 2004	with	247	7	No	No	No
FIRP		Equipment Room	N/A	N/A	600	FY 2004	FY 2004	with	146	1	No	No	No
FIRP		Valve Building	N/A	N/A	36	FY 2004	FY 2004	with	-	1	No	No	No
FIRP		Ramp from	N/A	N/A	3,000	FY 2004	FY 2004	with	5	4	No	No	No
FIRP		Ramp from	N/A	N/A	545	FY 2004	FY 2004	with	2	1	No	No	No
FIRP		Explosives and Inert Storage	N/A	N/A	640	FY 2004	FY 2004	2,208	-	2	No	No	No
FIRP		Inert Storage	N/A	N/A	640	FY 2004	FY 2004	with	-	2	No	No	No
FIRP		Acid Storage	N/A	N/A	668	FY 2004	FY 2004	with	10	1	No	No	No
FIRP		Explosives Synthesis	N/A	N/A	5,138	FY 2004	FY 2004	with	137	9	No	No	Eligible for inclusion in the National Register of Historic Places.
FIRP		Shade Structure	N/A	N/A	793	FY 2004	FY 2004	with	-	1	No	No	No
FIRP		Flammable Liquid Storage	N/A	N/A	1,000	FY 2004	FY 2004	with	15	2	No	No	No
FIRP		Shade Structure	N/A	N/A	102	FY 2004	FY 2004	with	1	1	No	No	No
FIRP		Ramp from	N/A	N/A	1,140	FY 2004	FY 2004	with	-	2	No	No	No
FIRP		Ramp from	N/A	N/A	1,140	FY 2004	FY 2004	with	35	2	No	No	No
FIRP		Ramp from	N/A	N/A	209	FY 2004	FY 2004	with	2	1	No	No	No
FIRP		Generator Building	N/A	N/A	88	FY 2004	FY 2004	17	32	1	No	No	No
FIRP		Ramp from	N/A	N/A	960	FY 2004	FY 2004	With FY 2005 FIRP Demolition	-	1	No	No	No
FIRP	FY 04 TOTAL				24,540			3,098	650	41			
FIRP	(b)(2)High	Hazardous Waste Storage	N/A	N/A	17,192	FY 2005	FY 2005	1,301	1,193	13	No	Yes	Small spot of fixed rad. Contamination
FIRP		Potable Water Well and Building	N/A	N/A	200	FY 2005	FY 2005	76	75	1	No	No	No
FIRP		NDE Storage	N/A	N/A	3,541	FY 2005	FY 2005	756	77	3	No	No	Eligible for inclusion in the National Register of Historic Places.
FIRP	FY 05 TOTAL				20,933			2,133	1,345	17			
FIRP	(b)(2)High	Office Building	52	1	1,572	FY 2007	FY 2007	800	-	1	No	No	No
FIRP		Office Building	52	1	5,934	FY 2007	FY 2007	with	149	6	No	No	No
FIRP		Office Building	52	1	9,896	FY 2007	FY 2007	with	385	6	No	No	No
FIRP		35 Account Support and Tester Design	52	2	18,571	FY 2007	FY 2007	999	444	20	No	No	No
FIRP		Tester Design and Robotics Laboratory	52	2	3,126	FY 2007	FY 2007	with	86	4	No	No	No
FIRP		Ramp from	52	2	1,408	FY 2007	FY 2007	with	-	3	No	No	No
FIRP		Ramp from	52	2	1,844	FY 2007	FY 2007	with	-	3	No	No	No
FIRP	FY 07 TOTAL				42,351			6,799	1,064	43			

Attachment E-1
Excess Facilities Footprint Elimination Plan
Pantex Plant

EM	(b)(2)High	Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	9,800	1950's	FY 2004	2,200	-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	9,200	1950's	FY 2004	with (b)(2)High	-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	16,032	1950's	FY 2004	with	-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM		Zone 10 Ruins	N/A	N/A	0	1950's	FY 2004		-	-	No	No	Note 2
EM	FY 04 TOTAL				35,032			2,200	-	-			
EM	(b)(2)High	Shutdown Chemical Storage	N/A	N/A	200	FY 2005	FY 2005	2,250	-	1	No	No	No
EM		Tooling Storage	N/A	N/A	900	FY 2005	FY 2005	with (b)(2)High	26	1	No	No	No
EM		Fire Station Storage	N/A	N/A	2,704	FY 2005	FY 2005	with	53	2	No	No	No
EM		Ramp from 12-024 South to 12-025	N/A	N/A	525	FY 2005	FY 2005	with	-	1	No	No	No
EM		Shutdown Office Building	N/A	N/A	1,200	FY 2005	FY 2005	with	19	1	No	No	No
EM	FY 05 TOTAL				5,529			2,250	98	6			
EM	(b)(2)High	Shutdown Explosives Machining	N/A	N/A	45,747	1990's	FY 2006	5,150	10,780	21	No	Yes	Mixed contamination and Beryllium Eligible for inclusion in the National Register of Historic Places.
EM		Shutdown Demilitarization and Staging	N/A	N/A	with (b)(2)High Non	1990's	FY 2006	with (b)(2)High	with (b)(2)High	with (b)(2)High (b)(2)High	No	Yes	Mixed contamination and Beryllium Eligible for inclusion in the National Register of Historic Places.
EM	FY 06 TOTAL				45,747			5,150	10,780	21			

[2] 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

(b)(2)High

(b)(2)High

Attachment E-1
Excess Facilities Footprint Elimination Plan
Pantex Plant

RTBF		CNG Fueling Station	N/A	N/A	128	FY 2002	FY 2002	N/A		1	No	No	FY 2002 demolitions have unknown deferred maintenance since the projects were demolished prior to establishment of the DM baseline.
RTBF		Shutdown Explosives Filter	N/A	N/A	2,118	FY 2003	FY 2003	N/A	40	-	No	No	No
RTBF	(b)(2)High	Office Building	N/A	N/A	1,540	FY 2006	FY 2006	400	-	1	No	No	No
RTBF	(b)(2)High	Temporary Guard Station	N/A	N/A	90	FY 2006	FY 2006	with (b)(2)High	-	1	No	No	No
RTBF	(b)(2)High	Temporary Guard Station	N/A	N/A	90	FY 2006	FY 2006	with (b)(2)High	-	1	No	No	No
RTBF	(b)(2)High	Temporary Guard Tower	N/A	N/A	90	FY 2006	FY 2006	with (b)(2)High	-	1	No	No	No
RTBF	(b)(2)High	Temporary Guard Station	N/A	N/A	90	FY 2006	FY 2006	with (b)(2)High	-	1	No	No	No
RTBF	(b)(2)High	Temporary Guard Tower	N/A	N/A	90	FY 2006	FY 2006	with (b)(2)High	-	1	No	No	No
RTBF	(b)(2)High	Temporary Guard Station	N/A	N/A	64	FY 2006	FY 2006	with (b)(2)High	-	1	No	No	No
RTBF	(b)(2)High	Class Room	N/A	N/A	614	FY 2006	FY 2006	with (b)(2)High	-	1	No	No	No
RTBF	(b)(2)High	Security Support	N/A	N/A	196	FY 2006	FY 2006	with (b)(2)High	-	1	No	No	No
RTBF	(b)(2)High	Security Support	N/A	N/A	194	FY 2006	FY 2006	with (b)(2)High	1	1	No	No	No
RTBF	(b)(2)High	Inert Storage	N/A	N/A	67	FY 2006	FY 2006	with (b)(2)High	-	1	No	No	No
RTBF	(b)(2)High	Storage Building	N/A	N/A	117	FY 2006	FY 2006	with (b)(2)High	-	1	No	No	No
RTBF		Uncleared Personnel Office	N/A	N/A	592	FY 2006	FY 2006	-	-	-	No	No	Archived 12-5-03. NNSA did not credit to bank in FY2004.
RTBF	FY 06 TOTAL				3,834			400	1	12			

Attachment E-1
Excess Facilities Footprint Elimination Plan
Pantex Plant

TBD	(b)(2)High	Office Building	N/A	1	3,160	FY 2009	FY 2009	800	13	4	No	No	Numbers not included in totals.
TBD	(b)(2)High	Inert Storage	N/A	2	2,062	FY 2009	FY 2009	750	27	3	No	No	Numbers not included in totals.
TBD	(b)(2)High	Ramp from (b)(2)High	N/A	2	588	FY 2009	FY 2009	with (b)(2)High	1	1	No	No	Numbers not included in totals.
TBD	(b)(2)High	Generator Building	N/A	2	87	FY 2009	FY 2009	with	-	-	No	No	Numbers not included in totals.
TBD	(b)(2)High	Classified Incinerator Facility	N/A	3	764	FY 2009	FY 2009	200	9	2	No	No	Numbers not included in totals. Eligible for inclusion in the National Register of Historic Places.
TBD	FY 09 TOTAL				0			1,750	-	-			
TBD	(b)(2)High	Inactive Elms Press	N/A	1	5,960	FY 2010	FY 2010	5,000	17	8	No	No	Eligible for inclusion in the National Register of Historic Places.
TBD	(b)(2)High	Ramp from (b)(2)High	N/A	2	5,048	FY 2010	FY 2010	4,000	76	4	No	No	No
TBD	FY 10 TOTAL				11,008			9,000	93	12			

[1] The square feet for these facilities are not included in totals. D&D is either tied to a nonapproved construction project, or facility D&D is being reevaluated based on workload and future requirement

SUMMARY	FIRP		187,770		26,904	6,172	208	
	EM		86,308		9,600	10,878	27	
	RTBF		6,080		400	41	13	
	TBD		11,008		10,750	93	12	
SUMMARY TOTAL			291,166		47,654	17,184	260	Totals from FY 2002 through FY 2016.

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Attachment E-3
GRANDFATHERED Footprint Added
Pantex Plant

RTBF	94-D-128	Analytical Laboratory	LI	8,982	2002	
RTBF	N/A	Rapid Prototype Facility	GPP	495	2002	
S&S	N/A	Supplemental Security Post	GPP	96	2002	
S&S	N/A	Supplemental Security Post	GPP	96	2002	
RTBF	N/A	Equipment Building	GPP	138	2002	
RTBF	96-D-122	Main Filter Building	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	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	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.

b)(2)High b)(2)High b)(2)High b)(2)High b)(2)High b)(2)High

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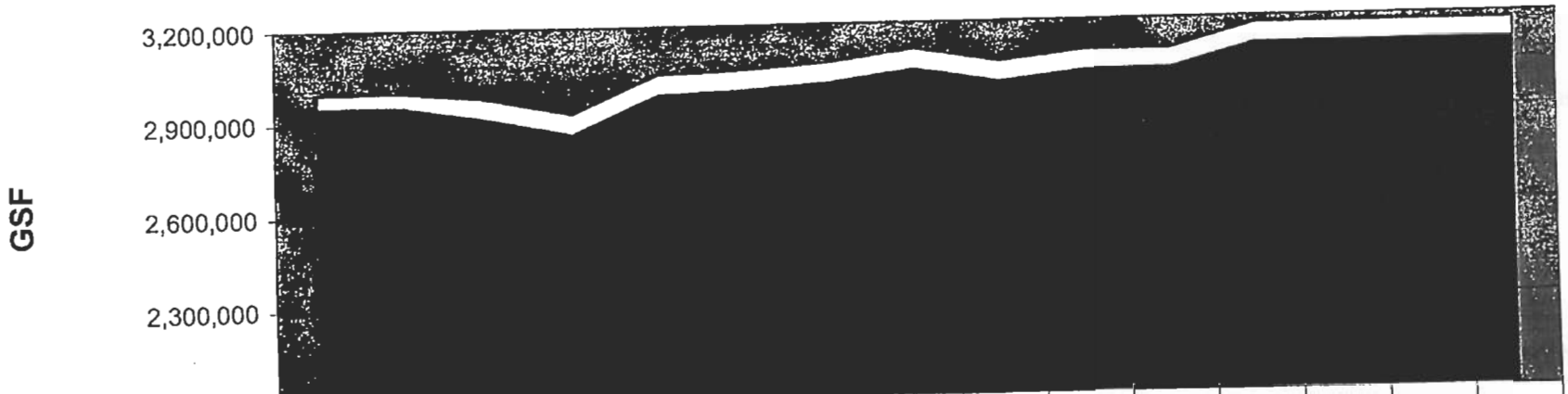
ATTACHMENT E-4(a)
RIVER GRAPH
Pantex Plant Space Tracking Summary - NNSA



	FY 2002 Actual	FY 2003 Actual	FY 2004 Actual	FY 2005 Actual	FY 20061	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
NNSA Leased Space (10)	45,121	48,563	65,649	65,649	65,649	65,649	65,649	65,649	65,649	65,649	65,649	65,649	65,649	65,649	65,649
Cumulative "Grandfathered" Footprint Added (gsf) (8a)	9,807	9,807	11,033	14,276	14,276	14,278	14,276	14,276	14,276	14,276	14,276	14,276	14,276	14,276	14,276
Beginning Site Footprint (gsf) (2)	2,942,259	2,942,131	2,897,982	2,842,578	2,964,202	2,974,517	2,995,253	3,033,853	2,989,518	3,021,322	3,021,322	3,096,922	3,096,922	3,096,922	3,096,922

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Attachment E-4 (b)
FOOTPRINT SUMMARY SPREADSHEET
Pantex Plant Footprint Tracking Summary - SITE WIDE

FY 2002 Actual	0	0	0	0	0	0	0	0	
FY 2003 Actual	0	0	0	0	0	0	0	0	
FY 2004 Actual	0	0	0	0	0	0	0	0	
FY 2005 Actual	0	0	0	0	0	0	0	0	
FY 2006	0	0	0	0	0	0	0	0	0
FY 2007	0	0	0	0	0	0	0	0	0
FY 2008	0	0	0	0	0	0	0	0	0
FY 2009	0	0	0	0	0	0	0	0	0
FY 2010	0	0	0	0	0	0	0	0	0
FY 2011	0	0	0	0	0	0	0	0	0
FY 2012	0	0	0	0	0	0	0	0	0
FY 2013	0	0	0	0	0	0	0	0	0
FY 2014	0	0	0	0	0	0	0	0	0
FY 2015	0	0	0	0	0	0	0	0	0
FY 2016	0	0	0	0	0	0	0	0	0

NOTE: All Pantex information is included in ATT E4a.

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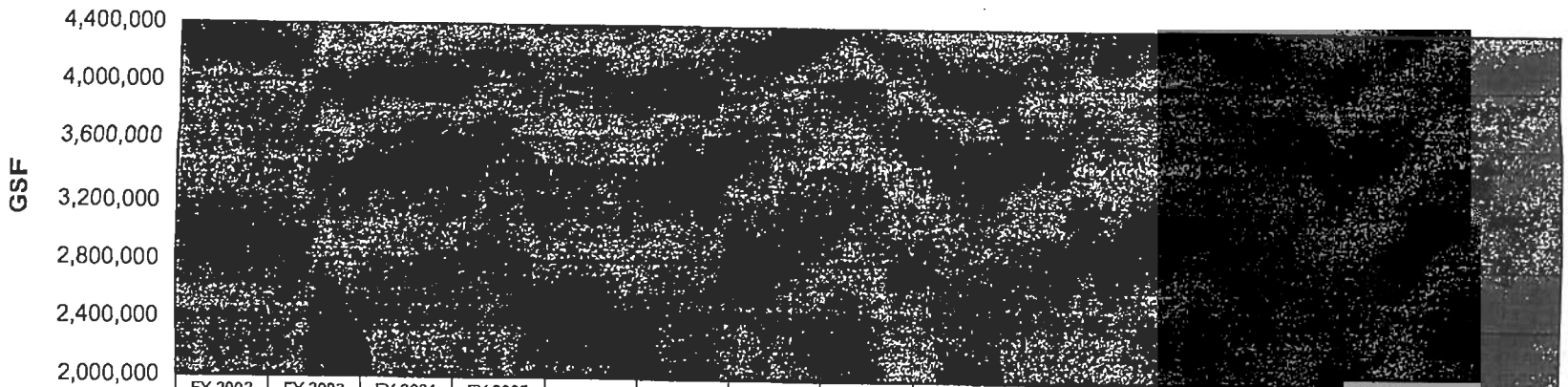
ATTACHMENT E-4(b)
RIVER GRAPH
Pantex Plant Site Wide Footprint Tracking Summary - SITE WIDE



	FY 2002 Actual	FY 2003 Actual	FY 2004 Actual	FY 2005 Actual	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY2014	FY2015	FY 2016
□ Leased Space (10)					0	0	0	0	0	0	0	0	0	0	0
■ Cumulative Grandfathered Footprint Added (gsf) (8a)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
■ Beginning Site Footprint (gsf) (2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: All Pantex information is included in ATT E4a.

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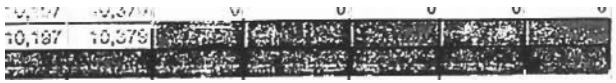
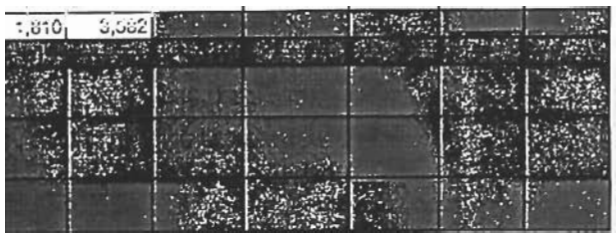

10,187
10,379


1,810
3,082

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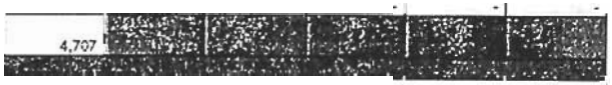
4,707

FY2016
FY20

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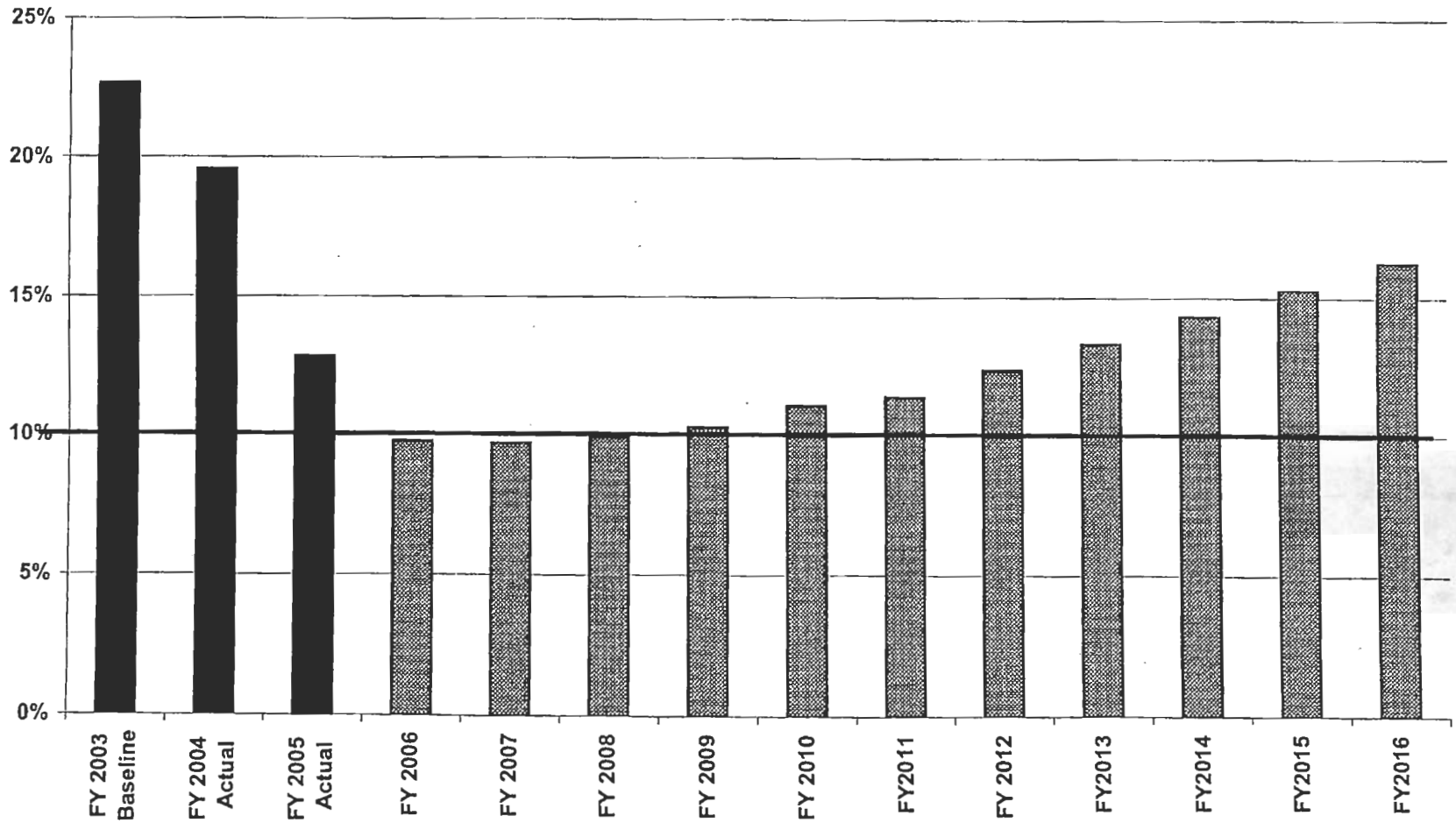
Attachment F-5
Pantex Plant's Progress Towards FY 2009 Goal of <10% Deferred Maintenance
Mission-Dependent and Not Mission-Dependent Facilities & Infrastructure (FY03-FY16)



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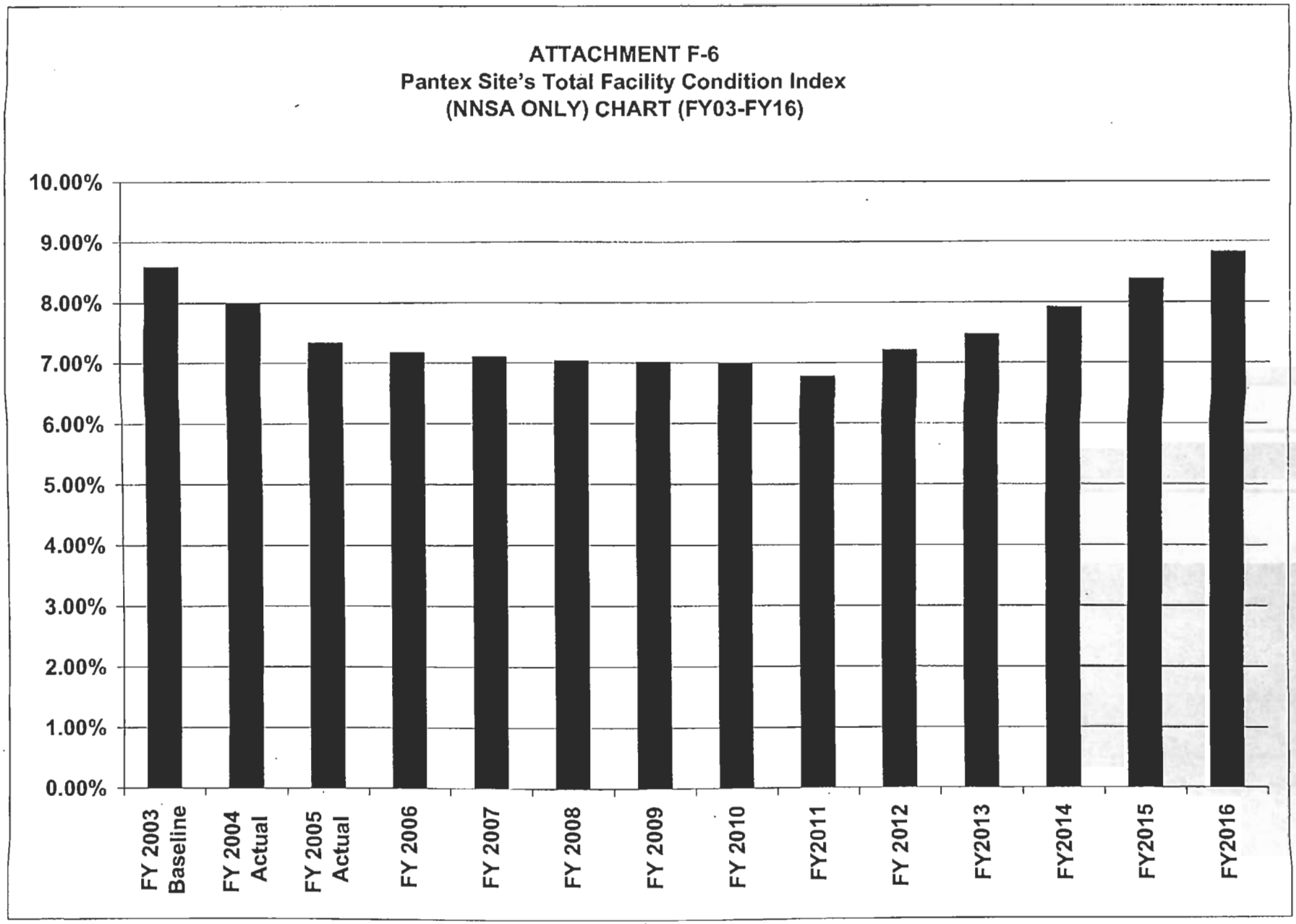
ATTACHMENT F-6
Pantex Site's Total Facility Condition Index
(NNSA ONLY) CHART (FY03-FY16)
10.00%
9.00%
8.00%
7.00%
6.00%
5.00%
4.00%
3.00%
2.00%
1.00%
0.00%
FY 2003 Baseline
FY 2004 Actual
FY 2005 Actual
FY 2006
FY 2007
FY 2008
FY 2009
FY 2010
FY2011
FY 2012
FY2013
FY2014
FY2015
FY2016

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Attachment F-7
Replacement-in-Kind Projects Over $500K

FY 08	Repair Security Fence	(b)(2)High	ME	Repair deteriorated fencing plant wide. Fencing includes barbed wire, chain link, and razor ribbon fencing around security areas	Unfunded	TBD	Y	N	2,232,739
FY 09							Y		2,047,061
FY 11							Y		5,243,148
FY 12							Y		3,868,702
FY 13							Y		1,860,187
FY 08	Upgrade Steam Distribution System		ME	Update Steam distribution system piping and insulation	Proposed RTBF Line Item	FY13	Y	N	27,611,155
FY 14	Upgrade Cathodic Protection		ME	Repair cathodic protection on the underground gas line plant wide	Unfunded	TBD	Y	N	880,479
FY 06	Upgrade HPFL		ME	Upgrade of Main HPFL Line	Unfunded	TBD	Y	N	756,768
FY 08	Relamp Interior Lighting		ME	Relamp/Replace Interior Lighting	Unfunded	TBD	Y	N	1,627,617
FY 09			MS		Unfunded	TBD	Y	N	1,382,678
FY 07	Fire Alarm System Repl		ME	Replace fire alarm panels	Unfunded	TBD	Y	N	3,960,300
FY 06	Carpet Replacement		MS	Replace existing floor coverings in record stora	Unfunded	TBD	N	N	2,250,838
FY 14	Replace Deteriorated Roof		ME	Replace or repair deteriorated roof	Unfunded	TBD	N	N	3,287,121
FY 16	Replace Security Barrier		ME	Replace Hydraulic Vehicle Barrier	Unfunded	TBD	N	N	4,289,872
FY 16	Replace Deteriorated Roof		ME	Replace or repair deteriorated roof	Unfunded	TBD	N	N	4,656,140
FY 16	Replace Tank		ME	Replace water tank	Unfunded	TBD	N	N	4,991,217

[1]Projected costs are rough order of magnitude and are shown in FY05 dollars.

[2]Infrared detectors, microwave, and Sentrax cable included in PIDAS Upgrade & Enhancement LI Project.

Attachment G
Facilities and Infrastructure Cost Projection Spreadsheet
Proposed Funding Profile for ICPP Line Item Projects for Pantex Plant
($000s)

A. Readiness in Technical Base and Facilities (RTBF) Line Items																					
1	Proposed Funding Profile Building Production Cells Upgrade (5 cells)[1]	04-D-126		Y			OPC	871	302	53	272	244									
							PE&D	1,410	1,410												
							LI	18,457	9,686	2,579	5,992										
2	Proposed Funding Profile Building Production Bays Upgrade[2]	05-D-401		Y		+3600	OPC	5,126	1,300	200	1,000	2,500	126								
							PE&D	3,668	2,769	99	800										
							LI	75,792		24,902	50,890										
3	Proposed Funding Profile HE Pressing Facility[3]	04-D-103-02		Y		+42812	OPC	2,790	850	300	300	300	300	740							
							PE&D	5,523	1,200	1,488	2,835										
							LI	72,550					55,300	17,250							
4	Proposed Funding Profile Component Evaluation Facility[4]	05-D-140-03		Y		+75,800	OPC	10,000	80	1,800	820	600	600	600	600	1,600	3,300				
							PE&D	18,000		1,984	2,500	6,551	6,965								
							LI	185,000					25,000	80,000	80,000						
6	Proposed Funding Profile Bunker[5]			Y		+33,600	OPC	9,200			1,200	1,000	2,000	3,000	2,000						
							PE&D	25,000		4,960	10,040	10,000									
							LI	155,000				85,000	70,000								
RTBF Subtotal								588,387	17,797	38,365	76,649	108,195	160,291	101,590	82,600	1,600	3,300	-	-	-	-

[1] 12-44 - Proposed Funding Profile based on additional funding requirements approved in BCP-03 and FY 2005 rescission. Additional funding has not been included in the ICPP. OPC funded by Campaigns Program.

[2] 12-64 - Proposed Funding profile based on FY 2005 rescission. OPC funded by Campaigns Program.

[3] HE Pressing - Proposed Funding Profile based on CD-1 facility approved scope and FY 2005 rescission. OPC funded by Campaigns Program.

[4] CEF - Proposed Funding Profile based on CD-0 approval scope, completed CDR, and FY 2005 rescission. OPC funded by Campaigns Program.

[5] Project known as Zone 4 Expansion in FY 2005 TYCSP; FY 2005 OPC funding from Plus-up funding; FY 2006 OPC - $300 from RTBF - balance below target.

Attachment G
Facilities and Infrastructure Cost Projection Spreadsheet
Proposed Funding Profile for ICPP Line Item Projects for Pantex Plant
($000s)

B. Facilities and Infrastructure Recapitalization Program (FIRP) Line Items																		
							OPC											
							PE&D											
							LI											
FIRP Subtotal								-			-	-	-					
C. Safeguards & Security (S&S) Line Items																		
							OPC											
							PE&D											
							LI											
Safeguards & Security Subtotal																		
D. Other Defense Programs Line Items (for example, Campaigns/Directed Stockpile Work (DSW))																		
							OPC											
							PE&D											
							LI											
Other Defense Programs Subtotal																		
Total Costs for All NNSA Site Line Items								586,367	17,797	39,365	76,649	106,195	160,291	101,590	62,600	1,600	3,300	0	0	0	0

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

Project Title/Site: Building (b)(2)High Production Cell Upgrade (Cell 1)

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 (b)(2)High Production Cell Upgrade (b)(2)High provides for the remediation of tritium and mercury, the installation of a task exhaust system, replacement of dehumidifiers, Heating, Ventilation, and Air Conditioning (HVAC) equipment, hoists, fire system, Radiation Alarm Monitoring System (RAMS), and modifications to the blast doors to allow nuclear explosive weapon systems to be worked in the cell. These modifications will increase operating capacity to meet future requirements based on weapon complexity, projected workload, and the Life Extension Program (LEP) activities.

Current Proposed/Actual Project Schedule:

Critical Decision -0 (CD-0) Approval	4th Quarter FY 2005
Critical Decision -1 (CD-1) Approval	4th Quarter FY 2006
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2008
Critical Decision -3 (CD-3) Approval	3rd Quarter FY 2009
Critical Decision -4 (CD-4) Approval	4th Quarter FY 2011

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 Comprehensive Site Plan (TYCSP) 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 (b)(2)High) or facilities at Pantex that can be converted for cell required production work. This cell is currently non-operational. This is **not** a viable alternative.

Construct New Production Cell
This alternative builds a new cell inside the Zone 12 MAA area. This is **not** a viable alternative.

Proposed Funding Profile ($ x 1000):

OPC	$3,056	$1,200	$400	$140	$130	$140	$646	$400	
PE&D	$2,785		$1,500	$1,285					
LI	$16,962					$12,962	$4,000		
	$22,803	**$1,200**	**$1,900**	**$1,425**	**$130**	**$13,102**	**$4,646**	**$400**	

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

Building (b)(2)High ***Production Cell Upgrade*** (b)(2)High ***- continued***

Projected Annual Operating Costs:
This project will increase operating costs by $370,000.

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(b)(2)HighProduction Cell Upgrade (b)(2)High

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(b)(2)HighProduction Cell Upgrade(b)(2)High provides for the removal of the existing robot and shelving system, the installation of a task exhaust system, replacement of dehumidifiers, Heating, Ventilation, and Air Conditioning (HVAC) equipment, hoists, Radiation Alarm Monitoring System (RAMS), and modification to the blast doors to allow nuclear explosives operations. These modifications will increase capacity to meet future requirements based on weapon complexity, projected workload, and the Life Extension Program (LEP) activities.

Current Proposed/Actual Project Schedule:

Critical Decision -0 (CD-0) Approval	4th Quarter FY 2005
Critical Decision -1 (CD-1) Approval	4th Quarter FY 2006
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2008
Critical Decision -3 (CD-3) Approval	3rd Quarter FY 2009
Critical Decision -4 (CD-4) Approval	4th Quarter FY 2011

Project Justification (Program Requirements):
The need for the proposed project is workload driven. Workload projections show an increase, creating a shortfall in cell capacity. 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 Comprehensive Site Plan 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. This cell is currently used for staging operations. This is **not** a viable alternative.

Construct New Production Cell
This alternative is to build a new cell inside the Zone 12 MAA area. This is **not** a viable alternative.

Proposed Funding Profile ($ x 1000):

OPC	$3,164	$1,100	$425	$130	$130	$140	$889	$350	
PE&D	$2,786		$1,500	$1,286					
LI	$16,125					$12,125	$4,000		
	$22,075	**$1,100**	**$1,925**	**$1,416**	**$130**	**$12,265**	**$4,889**	**$350**	

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

Projected Annual Operating Costs:
This project is a modification to an existing facility. Operations will change, but operating costs will not be significantly affected.

Project Site/Facility Space Utilization:
This project does not add facility square footage.

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

Project Title/Site: Building (b)(2)High Production Cells Upgrade (b)(2)High

Federal and Contractor Program Manager(s) or Sponsor(s):
Johnnie F. Guelker, Federal Project Director
Robert D. Cole, BWXT Pantex Program Manager

Federal and Contractor Project Manager(s):
Montrell Harris, Federal Project Manager
Jay Childress, BWXT Pantex Project Manager

Project Description:
This information sheet is provided to support the additional funding requirements above the current Integrated Construction Program Plan (ICPP) (11/05) as noted in the Proposed Project section of this document.

This project consists of the design and construction of the modifications necessary to upgrade building (b)(2)High production (b)(2)High to the same production capability and capacity as the newer Pantex assembly cells. Building (b)(2)High (b)(2)High were constructed in 1959.

The modifications required in each cell to achieve the performance objective are:

- Upgrade existing Heating, Ventilating, & Air Conditioning (HVAC) systems.
- Provide for seismically qualified trolleys and manual chain hoists in lieu of cranes.
- Upgrade fire protection systems and install new fire rated doors.
- Upgrade lightning protection systems to achieve a reduced standoff distance that is the same as the new cells.
- Upgrade the electrical power systems.
- Upgrade the lighting system and replace emergency lighting fixtures.
- Seal all penetrations to limit leak pathways under accident conditions.

Current Proposed/Actual Project Schedule:

Critical Decision -0 (CD-0) Approved	2nd Quarter FY 2002
Critical Decision -1 (CD-1) Approved	3rd Quarter FY 2003
Critical Decision -2 (CD-2) Approved	3rd Quarter FY 2004
Critical Decision -3 (CD-3) Approved	1st Quarter FY 2005
Critical Decision -4 (CD-4) Approval	3rd Quarter FY 2007

Project Justification (Program Requirements):
Building (b)(2)High Production Cells Upgrade (b)(2)High will provide a crucial asset in meeting the DOE-NNSA's objective of maintaining confidence in the nuclear weapons stockpile. The need for the proposed project is workload driven. This project will provide modifications to an existing facility to increase capacity to meet the impact of changing weapon complexity, projected workload, and the SLEP activities in future planning.

Alternatives Developed/Available to Meet Program Requirements:
The only acceptable alternative to establish the required capacity at Pantex is to modify the existing facilities or build new facilities. The cost to build five new production cells is estimated to be approximately $120M, significantly greater than the approximately $20.8M estimated to modify the existing facilities.

Building (b)(2)High ***Production Cells Upgrade*** (b)(2)High ***- continued***

Proposed Funding Profile ($ x 1000):

OPC	$871	$302	$53	$272	$244			
PE&D	$1,410	$1,410						
LI	$18,457	$9,886	$2,579	$5,992				
	$20,738	**$11,598**	**$2,632**	**$6,264**	**$244**			

* Includes additional funding requested through NNSA/HQ reprogramming effort.

Projected Annual Operating Costs:
This project is a modification to an existing facility. Operating costs will not be significantly affected.

Project Site/Facility Space Utilization:
This project does not add facility square footage.

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

Project Title/Site: Building(b)(2)HighProduction Bays Upgrade

Federal and Contractor Program Manager(s) or Sponsor(s):
Johnnie F. Guelker, Federal Project Director
Robert D. Cole, BWXT Pantex Program Manager

Federal and Contractor Project Manager(s):
Dwight Henderson, Federal Project Manager
Michael Green, BWXT Pantex Project Manager

Project Description:
This information sheet is provided to support the additional funding requirements above the current Integrated Construction Program Plan (ICPP) (11/05) as noted in the Proposed Project section of this document.

This project consists of the renovation of 17 operation bays and interlocks of the existing Building(b)(2)High and construction of a new approximately 3600 square foot administration addition within Zone 12 South, Material Access Area (MAA) of the Pantex Plant. Work on the project consists of removal of material handling system and mechanical, electrical, plumbing, fire protection, and operation systems within the bays and interlocks being renovated, removal of roof mounted mechanical equipment, demolition of existing penthouses and removal of ground covering on the mounded earth above the operations facility. New work will generally consist of new material handling, mechanical, plumbing, fire protection, and electrical systems to support the planned operations of Building(b)(2)Highincluding a new high pressure fire line loop, new administration addition, new roof located penthouses with associated equipment and new erosion control covering.

Current Proposed/Actual Project Schedule:

Critical Decision -0 (CD-0) Approved	2nd Quarter FY 2002
Critical Decision -1 (CD-1) Approved	1st Quarter FY 2004
Critical Decision -2 (CD-2) Approved	3rd Quarter FY 2004
Critical Decision -3 (CD-3) Approval	4th Quarter FY 2006
Critical Decision -4 (CD-4) Approval	3rd Quarter FY 2008

Project Justification (Program Requirements):
Building(b)(2)HighProduction Bays Upgrade will provide a crucial asset in meeting the DOE-NNSA's objective of maintaining confidence in the nuclear weapons stockpile. The need for the proposed project is workload driven. This project will provide modifications to an existing facility to increase capacity to meet the impact of changing weapon complexity, projected workload, and the SLEP activities in future planning.

Alternatives Developed/Available to Meet Program Requirements:
The only acceptable alternatives to establish the required capacity at Pantex are to modify the existing facilities or build new facilities. The cost to build new production bays is estimated to be over $140M, significantly greater than the approximately $84M estimated to modify the existing facilities.

Proposed Funding Profile ($ x 1000):

OPC	$5,126	$1,300	$200	$1,000	$2,500	$126		
PE&D	$3,668	$2,769	$99	$800				
LI	$75,792		$24,902	$50,890				
	$84,586	**$4,069**	**$25,201**	**$52,690**	**$2,500**	**$126**		

* Includes additional funding requested through NNSA/HQ.

Building (b)(2)High ***Production Bays Upgrade - continued***

Projected Annual Operating Costs:
This project is a modification to an existing facility. Operating costs will not be significantly affected. Additional yearly maintenance and utility costs associated with the new Administrative facility is approximately $50,000.

Project Site/Facility Space Utilization:
This project will add 3,600 square feet. The square footage increase will be offset by Pantex banked square footage.

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

Project Title/Site: Bunkers

Federal and Contractor Program Manager(s) or Sponsor(s):
Johnnie F. Guelker, Federal Project Director
Robert D. Cole, BWXT Program Manager

Federal and Contractor Project Manager(s):
To Be Determined

Project Description:
This project is for the construction of (b)(2)High to increase the Pantex Plant storage capacity.

Current Proposed/Actual Project Schedule:

Critical Decision -0 (CD-0) Approval	1st Quarter FY 2006
Critical Decision -1 (CD-1) Approval	1st Quarter FY 2006
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2006
Critical Decision -3 (CD-3) Approval	1st Quarter FY 2007
Critical Decision -4 (CD-4) Approval	1st Quarter FY 2010

Project Justification (Program Requirements):
Increase capacity in (b)(2)High in support of Life Extension Programs.

Alternatives Developed/Available to Meet Program Requirements:
There are no known technical alternatives for this project.

Proposed Funding Profile ($ x 1000):

OPC	$9,200		$1,200	$1,000	$2,000	$3,000	$2,000	
PE&D	$25,000	$4,960	$10,040	$10,000				
LI	$155,000			$85,000	$70,000			
	$189,200	**$4,960**	**$11,240**	**$96,000**	**$72,000**	**$3,000**	**$2,000**	

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

Projected Annual Operating Costs:
The completion of this project is not anticipated to significantly increase operating cost but the maintenance and utility costs are expected to increase about $750,000 per year.

Project Site/Facility Space Utilization:
This project will add 33,600 square feet. The square footage increase will require a waiver for banked square footage from another Department of Energy site.

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

Project Title/Site: CCTV Enhancement Project

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 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 Smart Camera 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	4th Quarter FY 2009
Critical Decision -1 (CD-1) Approval	4th Quarter FY 2010
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2012
Critical Decision -3 (CD-3) Approval	4th Quarter FY 2013
Critical Decision -4 (CD-4) Approval	3rd Quarter FY 2016

Project Justification (Program Requirements):
These projects will fulfill requirements described in DOE O 470.1, DOE M 473.1-1, DOE M 473.2-2, the Pantex SSSP, and new Design Basis Threat Guidance Document. 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 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'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):

OPC	$8,200		$1,200	$1,500	$1,000	$1,000	$300	$1,000	$1,000	$1,200
PE&D	$5,400				$3,000	$2,400				
LI	$43,200							$23,000	$20,200	
	$56,800		**$1,200**	**$1,500**	**$4,000**	**$3,400**	**$300**	**$24,000**	**$21,200**	**$1,200**

*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 $750,000 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.

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Component Evaluation Facility - continued

Projected Annual Operating Costs:
The completion of this project will increase operating, maintenance, and utility costs by approximately $3,500,000 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

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 (b)(2)High
- Upgrade the controls on the existing west dryer in Building (b)(2)High
- Provide a temporary installation of an air compressor connected to the main air piping in Zone 12 North. This allows for uninterruptible air for shop and production activities in Zone 12 North during the replacement of the air compressor in Building (b)(2)High
- 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 (b)(2)High
- Upgrade piping in Building (b)(2)High 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	3rd Quarter FY 2009
Critical Decision -1 (CD-1) Approval	4th Quarter FY 2010
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2011
Critical Decision -3 (CD-3) Approval	4th Quarter FY 2012
Critical Decision -4 (CD-4) Approval	4th Quarter FY 2014

Project Justification (Program Requirements):
The replacement of the compressor in Building (b)(2)High 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 (b)(2)High 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 (b)(2)High 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 (b)(2)High will provide isolation of the building, increase reliability of the system, and provide contingency in the event of component failure.

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):

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

Project Title/Site: FICAM Equipment Replacement

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 (b)(2)High The systems must be replaced minimizing interrupted production schedules and downtime. This project will replace cable with fiber optic as needed to reduce interference.

Current Proposed/Actual Project Schedule:

Critical Decision -0 (CD-0) Approval	3rd Quarter FY 2006
Critical Decision -1 (CD-1) Approval	4th Quarter FY 2007
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2009
Critical Decision -3 (CD-3) Approval	4th Quarter FY 2010
Critical Decision -4 (CD-4) Approval	4th Quarter FY 2013

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):

OPC	$3,796	$400	$800	$100	$113	$100	$350	$933	$1,000	
PE&D	$4,000			$3,000	$1,000					
LI	$45,250						$25,000	$20,250		
	$53,046	**$400**	**$800**	**$3,100**	**$1,113**	**$100**	**$25,350**	**$21,183**	**$1,000**	

*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: Fire Protection Building Lead-in Replacement

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 address the Zone 12 MAA fire protection facility lead-in piping. It will replace the piping lead-ins from the post indicator valve (PIV) to the riser inside the various buildings in the Zone 12 MAA. These lead-ins are of questionable reliability due to aging, failures, inadequate cathodic protection, and inadequate maintenance. The objective of this project is to provide reliable, sufficient, and safe firewater to production facilities in the Zone 12 MAA.

Current Proposed/Actual Project Schedule:

Critical Decision -0 (CD-0) Approval	3rd Quarter FY 2006
Critical Decision -1 (CD-1) Approval	1st Quarter FY 2007
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2008
Critical Decision -3 (CD-3) Approval	4th Quarter FY 2009
Critical Decision -4 (CD-4) Approval	4th Quarter FY 2012

Project Justification (Program Requirements):
The need for this project is to increase the reliability and confidence in the facility lead-ins of the fire protection piping. This system is essential to the national security mission of Pantex. The lead-ins supply the deluge and fire suppression system within the buildings and production bays affected by this project. Without a reliable fire protection water supply, the facilities affected by this project cannot meet the nuclear safety requirements necessary to operate.

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):

OPC	$7,520	$600	$1,500	$900	$520	$1,000	$2,000	$1,000	
PE&D	$6,700		$2,000	$4,700					
LI	$31,070					$15,000	$16,070		
	$45,290	**$600**	**$3,500**	**$5,600**	**$520**	**$16,000**	**$18,070**	**$1,000**	

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

Projected Annual Operating Costs:
This project will replace existing lead-ins. Operating costs will not be significantly affected.

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.

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

Project Title/Site: High Explosive (HE) Component Fabrication and Qualification Facility

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	3rd Quarter FY 2006
Critical Decision -1 (CD-1) Approval	4th Quarter FY 2008
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2010
Critical Decision -3 (CD-3) Approval	4th Quarter FY 2011
Critical Decision -4 (CD-4) Approval	3rd Quarter FY 2015

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 21st 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 the proposed project will reduce inefficiency in energy and operations related to current operations in various WW II vintage buildings.

High Explosives (HE) Component

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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) Storage Tanks & Pumps

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 (b)(2)High HPFL storage tanks, pumps and pump houses (b)(2)High). 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	4th Quarter FY 2010
Critical Decision -1 (CD-1) Approval	4th Quarter FY 2011
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2012
Critical Decision -3 (CD-3) Approval	4th Quarter FY 2013
Critical Decision -4 (CD-4) Approval	4th Quarter FY 2015

Project Justification (Program Requirements):
This project is for the life cycle replacement of the existing tanks & pumps.

Alternatives Developed/Available to Meet Program Requirements:
No other alternatives have been developed.

Proposed Funding Profile ($ x 1000):

OPC	$6,200			$1,000	$1,000	$500	$200	$1,500	$2,000
PE&D	$3,500					$3,500			
LI	$21,000							$21,000	
	$30,700			**$1,000**	**$1,000**	**$4,000**	**$200**	**$22,500**	**$2,000**

*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

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. 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	3rd Quarter FY 2007
Critical Decision -1 (CD-1) Approval	4th Quarter FY 2008
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2009
Critical Decision -3 (CD-3) Approval	4th Quarter FY 2010
Critical Decision -4 (CD-4) Approval	4th Quarter FY 2013

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):

OPC	$13,800		$1,500	$2,500	$1,000	$300	$2,500	$3,000	$3,000
PE&D	$6,500				$6,500				
LI	$48,900						$20,000	$18,900	$10,000
	$69,200		**$1,500**	**$2,500**	**$7,500**	**$300**	**$22,500**	**$21,900**	**$13,000**

*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

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:

Critical Decision -0 (CD-0) Approval	4th Quarter FY 2010
Critical Decision -1 (CD-1) Approval	4th Quarter FY 2011
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2013
Critical Decision -3 (CD-3) Approval	4th Quarter FY 2014
Critical Decision -4 (CD-4) Approval	4th Quarter FY 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.

Health and Safety Program
The existing High Explosive (HE) Non-Destructive Evaluation (NDE) operations are located in Building (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:

- The main corridor through Building (b)(2)High is the primary transportation route for movement of explosives from one area of the plant to another and is also the primary route for the movement of personnel. This exposes the unprotected Gas Lab and the personnel in the facility to the potential of an inadvertent explosion while explosives are being moved down this corridor.
- Reduced explosive limits are required in these buildings to comply with the current Department of Energy (DOE) Explosive Safety Manual for Class II level of protection for this type of structure. Administrative controls consisting of building evacuation, manually placed rope and cone barricades, and off shift operations when X-raying large explosive items are required whenever processing an explosive item that overloads a bay. Explosive processing occurs routinely, thus creating inefficiencies in normal operation.
- The roof contains asbestos contamination and lead brick used to shield the X-ray bays is considered to be obsolete, and a potential contaminant.
- Ventilation in the Gas Lab does not meet OSHA Laboratory Standard 29 CFR 1910.1450.
- Task exhausts are needed for the gas chromatographs to comply with 29 CFR 1910.1450.
- Increased safety risks occur in the compatibility testing section of the Gas Lab due to packaging and sample preparation in a different building from the compatibility chambers used for aging.

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
Buildings (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
Building(b)(2)Highwould 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):

OPC	$12,000		$1,500	$2,500	$700	$700	$400	$600	$1,400	$4,200
PE&D	$7,800				$4,200	$3,600				
LI	$84,300							$25,000	$59,300	
	$104,100		**$1,500**	**$2,500**	**$4,900**	**$4,300**	**$400**	**$25,600**	**$60,700**	**$4,200**

*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. The utilities and maintenance on this new building will be approximately $285,000 more annually than currently spent on the existing buildings. Because other operations are located in Building (b)(2)High this facility will not be available for demolition and utilities and maintenance costs to this building will continue.

Project Site/Facility Space Utilization:

This project will move non-destructive evaluation operations out of 48,800 square feet and a new building is estimated to require 48,000 square feet. This is a reduction of 800 square feet required for NDE/Gas Lab functions. The areas vacated in Building (b)(2)High will be used for other support functions; therefore, the NDE/Gas Laboratory will result in a net increase in Plant square footage of 9,600 square feet.

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

Project Title/Site: Perimeter Intrusion Detection & Assessment System (PIDAS) Upgrade and Enhancement

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

(b)(2)High

Current Proposed/Actual Project Schedule:

Critical Decision -0 (CD-0) Approval	2nd Quarter FY 2007
Critical Decision -1 (CD-1) Approval	4th Quarter FY 2008
Critical Decision -2 (CD-2) Approval	4th Quarter FY 2010
Critical Decision -3 (CD-3) Approval	4th Quarter FY 2011
Critical Decision -4 (CD-4) Approval	3rd Quarter FY 2016

Project Justification (Program Requirements):
This project fulfills requirements described in DOE M 473.1-1 and the Pantex Site Safeguards and Security Plan (SSSP). The project is a life-cycle replacement for critical security systems that have been in service more than ten years and are reaching or exceeding the end of their life cycle:

- The cameras are approximately ten years old, are obsolete, and are no longer supported by the manufacturer.
- The video switchers, solid-state recorders, and the ODR are approximately 10 years old. The ODR is obsolete and no longer supported by the manufacturer.
- The microwaves, the infrared sensors, and the Sentrax buried cable are approximately 10 years old. The Sentrax controllers are obsolete and are no longer supported by the manufacturer.

P ... rusion Detection & Assessment System (PIDAS) Upgrade and Enhancem

of other equipment, i.e., the installation of additional Access Guild Panels (AEG

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

Project Title/Site: Protective Force Facilities Upgrade and Enhancement Project

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 support facilities at BWXT Pantex for the Protective Force operations. 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 Training Facility Expansions
Construct an 11,020 square foot addition to the Physical Training Facility (Building 12-125) 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
- 920 square foot addition for the men's locker room and a 475 square foot conversion of the existing men's locker room to the women's locker 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 (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.

Command Center Upgrade
Construct a 2,800 square foot addition to the Command Center (b)(2)High using same type of construction materials. This addition will include the following:

- 600 square foot records staging/storage area
- 1,250 square foot lunch room/vending room for 24/7 operations
- 250 square foot equipment room
- 700 square foot common areas
- Secured external doors controlled through Argus or other electronic means
- Installation of external cameras that cover all entrances/exits for display in the Secondary Alarm Station

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.

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	4th Quarter FY 2007
Critical Decision -1 (CD-1) Approval	4th Quarter FY 2008
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2010
Critical Decision -3 (CD-3) Approval	4th Quarter FY 2011
Critical Decision -4 (CD-4) Approval	3rd Quarter FY 2014

Project Justification (Program Requirements):
These projects will fulfill requirements described in DOE O 470.1, DOE M 473.1-1, DOE M 473.2-2, the Pantex SSSP, and new Design Basis Threat Guidance Document. 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):

OPC	$9,050	$1,000	$2,000	$600	$800	$300	$1,500	$1,500	$1,350
PE&D	$11,020			$6,000	$5,020				
LI	$88,180						$45,000	$43,180	
	$108,250	**$1,000**	**$2,000**	**$6,600**	**$5,820**	**$300**	**$46,500**	**$44,680**	**$1,350**

*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 $200,000 per year.

Project Site/Facility Space Utilization:
This project will have a net increase in the plant square footage by an estimated 25,965 square feet. This project will free up 1,875 square feet and require an additional 27,840 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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Protective Force Live Fire Ranges Upgrades and Enhancement Project - continued

Tactical/Systems Training Range

Construct a tactical range that allows Protective Force personnel the ability to train personnel on detection equipment such as thermal optics, laser detector, and Doppler detectors. Construction of the tactical range involves fencing in an area approximately 3,300 yards x 10,000 yards with five wire barbed wire fence with appropriate signage. The tactical range should include terrain and vegetation commensurate with the areas in and around the site. This does not require any berms, but includes such things as natural vegetation, staged vehicles from salvage yard (government furnished), and five portable buildings such as Conex boxes.

All live fire ranges are joint usage between the BWXT Pantex Protective Force and the Office of Safeguards Transportation Couriers.

Current Proposed/Actual Project Schedule:

Critical Decision -0 (CD-0) Approval	4th Quarter FY 2008
Critical Decision -1 (CD-1) Approval	4th Quarter FY 2009
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2010
Critical Decision -3 (CD-3) Approval	4th Quarter FY 2011
Critical Decision -4 (CD-4) Approval	4th Quarter FY 2014

Project Justification (Program Requirements):

This project will fulfill requirements described in DOE M 473.2-2, the Pantex SSSP, and new Design Basis Threat Guidance Document. 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):

OPC	$5,475		$800	$900	$600	$300	$600	$1,000	$1,275
PE&D	$3,320				$3,320				
LI	$25,850						$15,000	$10,850	
	$34,645		**$800**	**$900**	**$3,920**	**$300**	**$15,600**	**$11,850**	**$1,275**

*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 $40,000 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

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. 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 (b)(2)High capable of handling personnel, including x-ray capability, and vehicle traffic, including neutron monitors. Proposed location is at security gate (b)(2)High

Alternate Security Station for Zone 4
Construct a 700 square foot alternate security station identical to (b)(2)High capable of handling personnel, including x-ray capability, and vehicle traffic, including neutron monitors. Proposed location is on the east side of Zone 4 West.

Replace Security Station 788 (b)(2)High
Construct a 1,200 square foot security station identical to (b)(2)High with the same operating capabilities including new x-ray screening system.

Neutron Monitors
Install drive-through neutron monitors at (b)(2)High (b)(2)High Each station will have five drive-through neutron monitors installed.

Portal Upgrade for (b)(2)High and Station 730 (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 (b)(2)High. Using similar type construction as (b)(2)High, add an additional 240 sq. ft. for the installation of a new x-ray screening system at (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. PPIV security booths and structures will be added at stations (b)(2)High. This will help to reduce manpower at some of these stations.

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

Project Title/Site: Sewer Collection System Manhole Refurbishment

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	4th Quarter FY 2007
Critical Decision -1 (CD-1) Approval	4th Quarter FY 2008
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2009
Critical Decision -3 (CD-3) Approval	4th Quarter FY 2010
Critical Decision -4 (CD-4) Approval	4th Quarter FY 2012

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.

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):

OPC	$2,200			$375	$375	$250	$100	$400	$700
PE&D	$1,000					$1,000			
LI	$7,400							$7,400	
	$10,600			**$375**	**$375**	**$1,250**	**$100**	**$7,800**	**$700**

*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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Steam Distribution System Upgrade - continued

Proposed Funding Profile ($ x 1000):

OPC	$6,800			**$425**	**$1,500**	$450	$500	$300	$625	$3,000
PE&D	$4,400					$2,000	$2,400			
LI	$39,900								$18,800	$21,100
	$51,100			**$425**	**$1,500**	**$2,450**	**$2,900**	**$300**	**$19,425**	**$24,100**

*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

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	3rd Quarter FY 2008
Critical Decision -1 (CD-1) Approval	3rd Quarter FY 2009
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2010
Critical Decision -3 (CD-3) Approval	4th Quarter FY 2011
Critical Decision -4 (CD-4) Approval	3rd Quarter FY 2013

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 (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.

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):

OPC	$4,950			$600	$710	$400	$320	$920	$2,000
PE&D	$2,100					$2,100			
LI	$11,300							$11,300	
	$18,350			**$600**	**$710**	**$2,500**	**$320**	**$12,220**	**$2,000**

*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

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	3rd Quarter FY 2006
Critical Decision -1 (CD-1) Approval	1st Quarter FY 2007
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2008
Critical Decision -3 (CD-3) Approval	4th Quarter FY 2009
Critical Decision -4 (CD-4) Approval	4th Quarter FY 2013

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.

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):

OPC	$5,240	$2,400	$700	$500	$200	$200	$300	$440	$500
PE&D	$9,151		$5,000	$4,151					
LI	$65,467					$30,000	$25,467	$10,000	
	$79,858	**$2,400**	**$5,700**	**$4,651**	**$200**	**$30,200**	**$25,767**	**$10,440**	**$500**

*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

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.

Current Proposed/Actual Project Schedule:

Critical Decision -0 (CD-0) Approval	3rd Quarter FY 2008
Critical Decision -1 (CD-1) Approval	4th Quarter FY 2009
Critical Decision -2 (CD-2) Approval	3rd Quarter FY 2010
Critical Decision -3 (CD-3) Approval	4h Quarter FY 2011
Critical Decision -4 (CD-4) Approval	4th Quarter FY 2014

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):

OPC	$7,000		$425	$2,000	$1,075	$200	$1,300	$1,000	$1,000
PE&D	$6,500				$6,500				
LI	$56,000						$15,000	$15,000	$26,000
	$69,500		**$425**	**$2,000**	**$7,575**	**$200**	**$16,300**	**$16,000**	**$27,000**

*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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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)

1	HPFL Pipe Replacement - Building	2002-168			E	Safety	2,400											
2	HPFL Pipe Replacement - Building	2002-168			E	Safety	4,000											
3	Building Environmental Control Replacement	2001-001			E	Capability	4,999											
4	Building Install Electrical Circuits				E	Safety	400											
5	16-8 Metal Roofing Installation				E	Security		TBD										
6	Station Vehicle Inspection Traps	2003-020			E	Security		TBD										
7	Zone 12 PIDAS Fence Rabbit Wire Installation	2002-140			E	Security		TBD										
8	Argus RAPs Installation	2002-145			E	Security		4,000										
9	Station Vehicle Entry Area Remodel	2002-074			E	Security		TBD										
10	Stations Security Camera Installation	2005-025			E	Security		215										
11	Station Lighting Reconfiguration	2002-184			E	Safety		350										
12	Outdoor Lighting Modification				E	Safety		350										
13	Running Track Repair	2000-161			E	Safety		925										
14	Install Catwalks				E	Safety	400											
15	Fire Alarm System Upgrade - HE Facilities				E	Safety		4,500										
16	Building Environmental Controls Replacement	2001-001			E	Capability		4,500										
17	Building ESD Flooring Installation	2004-007			E	Safety		3,500										
18	Remove Moore Machining Center	2002-031			E	Capability		200										
19	FY07 Fire Alarm System Upgrade				E	Safety		3,000										
20	Building ESD Flooring Installation	2004-007			E	Safety		3,900										
21	Parking Lot Lighting Installation	2002-105			E	Safety		350										
22	FY08 Fire Alarm System Upgrade				E	Safety			3,000									
23	Buildings ESD Flooring Installation				E	Safety			900									
24	Building and Environmental Controls Replacement	2001-001			E	Capability			4,500									
25	Building ESD Flooring Installation				E	Safety			3,600									
26	FY09 Fire Alarm System Upgrade				E	Safety				4,000								
27	Building ESD Flooring Installation				E	Safety				2,400								
28	Demolition of Miscellaneous Buildings		$95	-8,056	E	DM			150	1,250								
29	Buildings 12-50, 12-58, and 12-60 ESD Flooring Installation				E	Safety					1,250							
30	Buildings and Surge Suppression	2004-065			E	Safety					3,000							
31	Sitewide Lightning Sensors and Subsystem Replacement	2004-040			E	Capability					950							
32	Building East UPS Battery Cooling	2002-066			E	LCC					240							
33	HE Synthesis Facility Ice Flow Prevention	2004-032			E	Safety					140							
34	Fire Station and EOC Truck Bay Heater Replacement	2003-081			E	Safety					340							
35	Demolish Forging Press Facility		$220	-13,342	E	DM					6,211							
36	Buildings Surge Suppression	2004-065			E	Safety						1,300						
37	Capacity/Capability Upgrade Projects				E	Capability						3,000						
38	Building Bay 19 Lightning	2004-034			E	Safety						285						

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)

39	Building Surge Suppression	2004-065			E	Safety						3,400					
40	Building Surge Suppression	2004-065			E	Safety						2,800					
41	Sitewide Backflow Prevention	2004-074			E	Safety						3,500					
42	Building Surge Suppression	2004-065			E	Safety							750				
43	Capacity/Capability Upgrade Projects				E	Capability							3,000				
44	Building Surge Suppression	2004-065			E	Safety							850				
45	Capacity/Capability Upgrade Projects				E	Capability							5,000	10,000	10,000	10,000	10,000
	Expense Security Projects above FYNSP							5,840									
	Expense Subtotal						12,289	25,800	12,150	7,650	12,131	14,285	9,600	10,000	10,000	10,000	10,000

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Appendix 1

Pantex FYNSP Funding Targets (3% Case)
(FY 2006 - 2012)

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Appendix 1, Pantex Funding Targets (with 3% Decrement Case)

PANTEX FUNDING TARGETS ($ x 1000) [1]							
PROGRAM	2006	2007	2008	2009	2010	2011	2012
DSW							
LIFE EXTENSION PROGRAMS	15,263	43,594	34,987	42,871	39,579	40,701	44,795
STOCKPILE SYSTEMS	36,798	25,594	16,983	22,280	24,562	23,724	24,198
RETIRED WEAPONS SYSTEMS	19,014	29,180	11,939	10,761	13,270	13,163	13,426
STOCKPILE SERV/PROD SUPPT/RRW	71,078	69,364	79,761	80,321	83,790	82,452	84,095
DSW TOTAL	***142,153***	***167,732***	***143,670***	***156,233***	***161,201***	***160,040***	***166,514***
CAMPAIGNS							
HE/ASSEMBLY READINESS	15,460	17,188	15,781	15,806	14,474	14,054	14,279
ADAPT	4,485	2,457	3,636	1,945	684	2,038	2,941
ENHANCED SURVEILLANCE	3,065	2,995	2,984	2,971	2,910	2,935	2,996
CAMPAIGNS TOTAL	***23,010***	***22,640***	***22,401***	***20,722***	***18,068***	***19,027***	***20,216***
RTBF							
OPERATIONS OF FACILITIES	132,987	96,124	97,139	102,434	104,792	108,029	110,180
PROGRAM READINESS	4,575	4,618	4,615	4,896	5,030	5,251	5,356
CONTAINERS	4,736	4,860	4,907	5,109	5,249	5,437	5,545
STORAGE	8,434	8,515	8,598	9,116	9,361	9,681	9,873
LINE ITEM CONSTRUCTION	15,370	6,551	39,300	35,000	30,000	0	0
RTBF TOTAL	***166,102***	***120,668***	***154,559***	***156,555***	***154,432***	***128,398***	***130,954***
FIRP	8,203	25,937	37,088	40,661	44,223	47,802	0
FIRP LINE ITEM	9,309	9,574	0	0	0	0	0
SECURITY (CYBER & PHYSICAL)	126,909	126,110	113,551	111,396	118,659	127,291	129,806
SECURITY LINE ITEM	0	0	0	1,500	6,000	4,175	0
OTHER DP (WIR & OST)	6,791	7,084	6,914	7,222	7,399	7,688	7,880
REIMBURSABLE	6,000	6,000	6,000	6,000	6,000	6,000	6,000
MD	4,700	5,000	6,000	6,000	6,000	6,000	6,000
EM (ER + D&D)	18,651	23,726[1]	12,411[1]	0[2]	0[2]	0[2]	0[2]
EM (RTBF LTS)				2,240[2]	2,580[2]	2,800[2]	2,870[2]
GRAND TOTAL	***511,828***	***514,471***	***502,594***	***508,529***	***524,562***	***509,221***	***470,240***

[1] Budget data for DSW, Campaigns, RTBF, FIRP, Other DP, and MD (including Line Item targets) are consistent with the NA-10 Programmatic and Resource Call Guidance for FY 2008 - 2012 dated 3/6/2006.

[2] 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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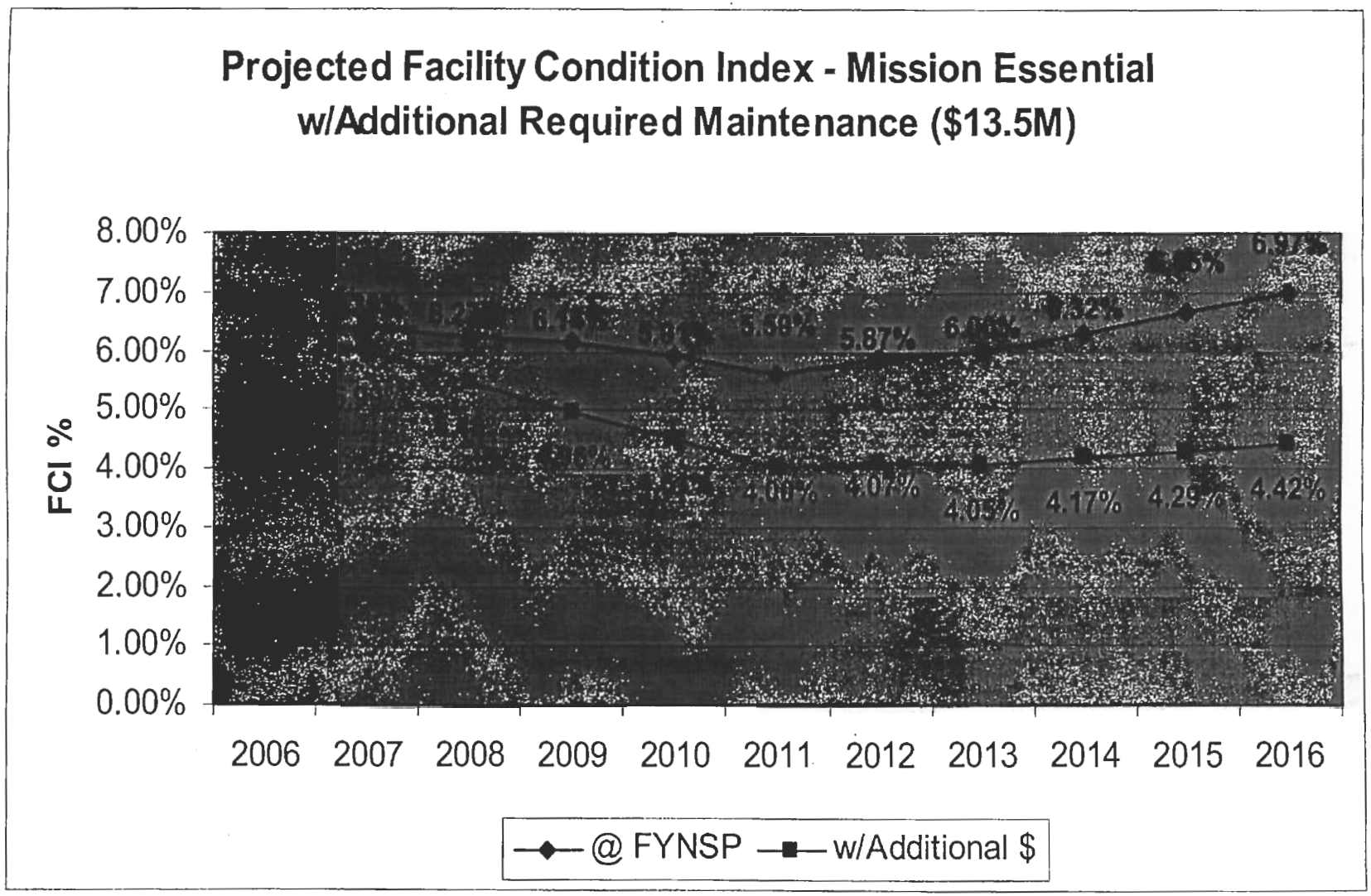
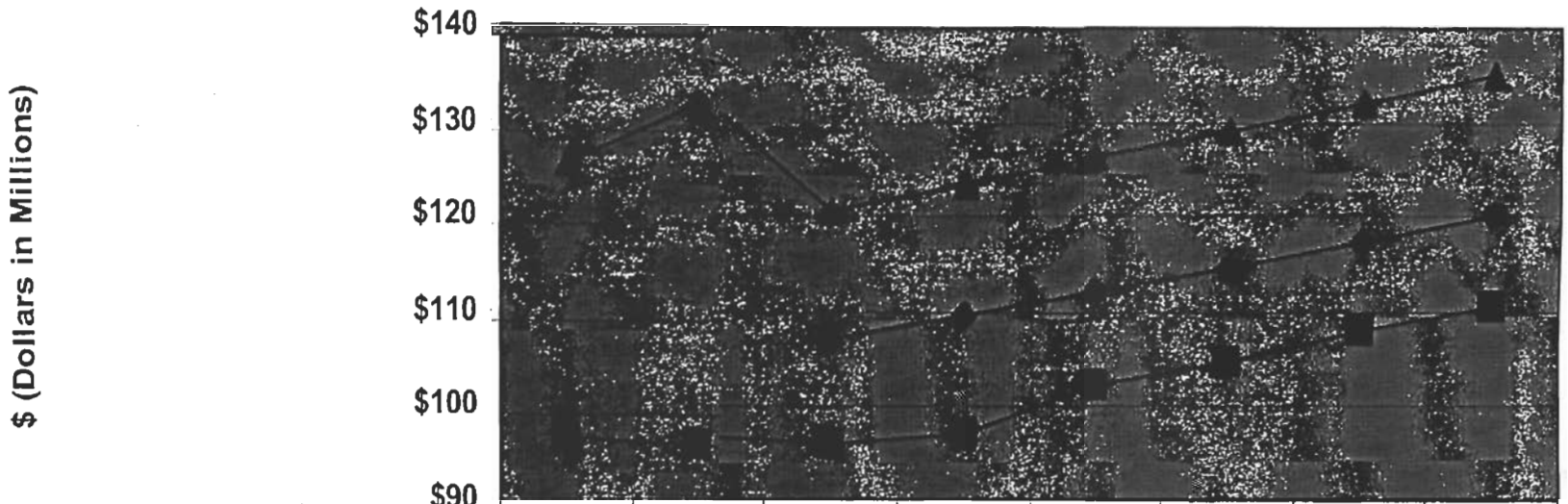

Projected Facility Condition Index - Mission Essential
w/Additional Required Maintenance ($13.5M)
FCI %
8.00%
7.00%
6.00%
5.00%
4.00%
3.00%
2.00%
1.00%
0.00%
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
5.87%
4.17%
4.29%
4.42%
@ FYNSP
w/Additional $

Appendix 2 – Required Cost Profile
RTBF Operations of Facilities
Working Target (3% Case) Funding Profile



	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12
—◆— Minimum Funding Level			$107.1	$109.6	$112.1	$114.7	$117.3	$120.0
+Add'l Maintenance Funding			$13.5	$13.8	$14.1	$14.5	$14.8	$15.1
—▲— =Required/Rec Funding	$126.6	$133.0	$120.6	$123.4	$126.2	$129.1	$132.1	$135.1
—■— Working Target	$97.7	$96.80	$96.1	$97.1	$102.4	$104.8	$108.0	$110.5
Shortfall			$24.5	$26.3	$23.8	$24.3	$24.1	$24.6