

# **Facilities and Infrastructure Recapitalization Program**

## **Program Mission**

The mission of the Facilities and Infrastructure Recapitalization Program (FIRP) is to restore, rebuild, and revitalize the physical infrastructure of the nuclear weapons complex. The program applies new direct appropriations to address an integrated, prioritized series of repair and infrastructure projects that will significantly increase the operational efficiency and effectiveness of the NNSA weapons complex sites. The FIRP mission is an integral component of the NNSA Strategic Goal to “provide state-of-the-art facilities and infrastructure supported by advanced scientific and technical tools to meet operational and mission requirements”. The Nuclear Posture Review discussed the need to revitalize the nuclear weapons complex as the third leg of the “New Triad.” The Facilities and Infrastructure Recapitalization Program was established specifically to address these concerns and assure that the NNSA continues to meet its major performance objectives of ensuring the vitality and readiness of the national security enterprise.

Base maintenance and infrastructure efforts at NNSA sites are primarily funded within Readiness in Technical Base and Facilities (RTBF)/Operations of Facilities and through site overhead allocations. These efforts focus on ensuring that facilities necessary for immediate programmatic workload activities are maintained sufficiently to support that workload. FIRP addresses the additional sustained investments above this base for deferred maintenance and the infrastructure that are needed to extend facility lifetimes, reduce the risk of unplanned system and equipment failures, increase operational efficiency and effectiveness, and allow for recapitalization of aging facility systems. This capital renewal and sustainability is the core mission of the Facilities and Infrastructure Recapitalization Program. The Facilities and Infrastructure Recapitalization Program also funds selected costs on behalf of the NNSA that are administered centrally by the Department of Energy. These departmental services supported by FIRP include the Facilities and Information Management System (FIMS), Condition Assessment Survey (CAS), and the Federal Facilities Council (FFC).

The FIRP Program actively participated in the recent Office of Management and Budget’s Program Assessment using the Program Assessment Rating Tool (PART). The PART assessment noted that the Program was well managed. Because the Program is new, with only limited measureable results available to date, OMB assigned its highest allowable rating of “Moderately Effective”. As a result of the PART recommendations, and to ensure improved program effectiveness, FIRP will participate in a review of all NNSA infrastructure programs to identify and reduce any overlaps between the FIRP and other NNSA programs.

Under current planning, the program is expected to continue for approximately 10 years. In addition to the \$447,762,000 previously appropriated for FIRP since its inception in FY 2001, approximately \$1.9 billion is planned for the five-year period covered by the Future Years Nuclear Security Program (FY 2004 through FY 2008).

## **Program Strategic Performance Goal**

**NS 4-2:** Provide state-of-the-art facilities and infrastructure supported by advanced scientific and technical tools to meet operational and mission requirements.

### **Performance Indicators**

**Dollar value and percentage of NNSA deferred maintenance that is eliminated.** This performance indicator measures FIRP progress towards the NNSA corporate goals of stabilizing deferred maintenance by FY 2005 and returning facilities and infrastructure specific deferred maintenance to the industry standard of < 5% of the Replacement Plant Value by FY 2009 for NNSA's mission- essential facilities and infrastructure. Specific fiscal year targets for deferred maintenance (expressed as a dollar and percentage reduction from the baseline) will be established in FY 2003 and reported beginning with the FY 2005 Budget submission.

**Total gross square feet of NNSA excess facilities space eliminated in accordance with Ten Year Comprehensive Site Plans due to FIRP funded projects.** This performance indicator measures FIRP progress towards reducing the NNSA footprint by an estimated three million gross square feet of excess space by FY 2009 in support of overall NNSA footprint reduction efforts.

## Annual Performance Results and Targets

FY 2002 Results	FY 2003 Targets	FY 2004 Targets
<p>Deferred Maintenance Reduction: Execute a multi-year Recapitalization Initiative to arrest the deterioration and reduce deferred maintenance and repairs.</p> <p>Achieved - Executed 93 FY 2002 Recapitalization projects, with \$83M focused on reduction of deferred maintenance and repairs.</p>	<p>Deferred Maintenance Reduction: Allocate 45% of the Recapitalization budget to facilities and infrastructure specific deferred maintenance activities, thereby achieving significant reductions in gross deferred maintenance.</p> <p>(This measure will be used to assess FIRP progress in FY 2003. By Fiscal Year-end 2003, the NNSA will establish dollar value baselines for deferred maintenance and define the subset of mission-essential facilities and infrastructure, against which to measure results.)</p>	<p>Deferred Maintenance Reduction: Allocate 45% of the Recapitalization budget to facilities and infrastructure specific deferred maintenance activities, thereby achieving significant reductions in gross deferred maintenance.</p> <p>(This is an interim measure. The FY 2005 Budget submission will include FY 2004 targets for the FIRP dollar value and percentage of deferred maintenance reduction from the baseline that contribute to the stabilization of NNSA's deferred maintenance by the end of FY 2005.)</p>
<p>Footprint Reduction: Reduce the NNSA footprint by 500,000 gross square feet through FY 2002 FIRP Facility Disposition projects.</p> <p>Achieved - Reduced the NNSA footprint by 485,311 gross square feet through FIRP Facility Disposition projects completed through Fiscal Year-end 2002.</p>	<p>Footprint Reduction: Reduce the NNSA footprint by approximately 200,000 gross square feet (gsf) through FIRP Facility Disposition projects, increasing the total to approximately 33% of the estimated three million gsf FIRP will disposition by FY 2009 (three million gsf has been established as a stretch goal).</p> <p>Consistent with DOE reporting requirements, the 33% gsf complete is comprised of:</p> <ul style="list-style-type: none"> <li>- 485,311 gsf of FY 2002 projects completed within FY 02;</li> <li>- 300,724 gsf of projects to be executed with FY 2002 funds that will complete post FY 2002; and</li> <li>- 200,000 gsf of FY 2003 projects that will complete within FY 2003.</li> </ul>	<p>Footprint Reduction: Reduce the NNSA footprint by approximately 325,000 gross square feet (gsf) through FIRP Facility Disposition projects, increasing the total to approximately 44% of the estimated 3 million gsf FIRP will disposition by FY 2009</p>

## Significant Program Shifts

Beginning in FY 2004, FIRP proposes to accommodate line items for selected utility projects. Any FIRP utility line item construction projects will be accommodated within the current FYNSP. As FIRP has matured, it has become apparent that there are potential efficiencies to be obtained by replacing, rather than maintaining, aging utilities systems. There are specific instances at many sites where project execution would achieve economies of scale and deliver a more useful and cost-effective revitalization product if utility line item construction were included as part of the program. Proposed site utilities line item projects may include electrical power distribution, central steam system and distribution, central chilled water facilities and distribution, water supply systems, sanitary waste disposal systems, and natural gas distribution systems. Proposed projects will be consistent with the DOE criteria for utilities and the NNSA Integrated Construction Program Plan to ensure that the original goals of FIRP are not compromised. Funding for initial Planning, Engineering, and Design (PED) for these proposed Utility Line Item Projects is included in this FY 2004 request within the Recapitalization Subprogram. Initial planning and conceptual design activities for proposed FIRP utility line item construction projects (i.e., Other Project Costs) will be funded from the Infrastructure Planning Subprogram. The initiation of utility construction projects into FIRP will provide another tool to enhance program execution, satisfy a critical need for improvement to NNSA sites' utilities infrastructure, and will also make a significant contribution to the overall reduction of deferred maintenance.

The FIRP Strategic Performance Goals, Performance Indicators, and Annual Performance Targets have been updated to focus on key program results over the next several years. The FIRP performance measures will continue to be refined during FY 2003 to enable NNSA facilities and infrastructure progress to be assessed against industry equivalent norms and standards and NNSA mission-oriented outcomes and results. For example, efforts are presently underway to more accurately baseline "deferred maintenance" as well as "excess facilities" in order to improve both measurement and accountability for results. Two separate Deferred Maintenance Reduction Summit meetings were held during 2002 with senior NNSA and Management and Operating (M&O) contractor facilities management in order to better define, and obtain commitment for support of, the NNSA corporate goals. Additionally, recent reviews of excess facilities baselines and costs to date indicate that the unit costs (ie dollars per square foot) of FIRP Facility Disposition activities executed to date compare very favorably with industry norms. The near-term emphasis will be on developing realistic, yet challenging performance targets and assessing progress against NNSA's complex-wide footprint reduction and annual reductions in the sites' facilities and infrastructure deferred maintenance. Specific long-term performance goals have been established to guide FIRP program management and performance.

As a relatively new program, over the past year the FIRP has established formal program and project management processes and procedures (i.e., Ten-Year Comprehensive Site Plan Guidance, Program Execution Plan, various Program, Planning, Budget, and Execution documents) that lay the essential groundwork needed to effectively manage the program. FIRP processes and procedures are implemented across the NNSA's eight sites, and are part of continuous improvement efforts to correct deficiencies as they are identified and instill best management practices. Improvements are identified through the collection of Lessons Learned; benchmarking with other programs/sites; comparison of FIRP to industry best practices; continuous communication across the complex through conference calls and one-on-one dialogue; meetings, summits and workshops; and reviews/site visits.

FIRP is implementing a disciplined program/project management process that ensures efficient and accountable

use of appropriated funding. As described in the FIRP Program Execution Plan (PEP), FIRP is projectized. The sites establish project cost, schedule, and scope baselines and routinely measure and report their performance to Headquarters. The FIRP collects bi-monthly status reports from the sites for each FIRP Recapitalization and Disposition project. These status reports provide an assessment of each project's cost, scope, and schedule and other key project information related to milestones, baseline changes, financial data, and program manager assessments. Additional oversight of projects is conducted through periodic program reviews, formal baseline change control, and continuous dialogue with Field program managers, including specific feedback on corrective action plans for all projects that are reported to be out-of-tolerance. To incentivize efficient and effective project management and performance, funding available due to project underruns remains at the sites to accomplish additional high-priority scope from the site's prioritized project list.

## Funding Profile

(dollars in thousands)

Facilities and Infrastructure Recapitalization Program	FY 2002 Comparable Appropriation	FY 2003 Request	FY 2004 Request	\$ Change	% Change
Operations and Maintenance					
Recapitalization .....	137,360	170,012	187,352	17,340	10.2%
Facility Disposition .....	50,000	50,000	50,000	0	0.0%
Infrastructure Planning .....	9,190	22,500	24,052	1,552	6.9%
<b>Subtotal, Operations and Maintenance .....</b>	<b>196,550</b>	<b>242,512</b>	<b>261,404</b>	<b>18,892</b>	<b>7.8%</b>
Construction					
<b>04-D-203, Facilities and Infrastructure Recapitalization Program, Project Engineering and Design, VL .....</b>	<b>0</b>	<b>0</b>	<b>3,719</b>	<b>3,719</b>	<b>N/A</b>
<b>Total, Facilities and Infrastructure Recapitalization Program .....</b>	<b>196,550<sup>a</sup></b>	<b>242,512</b>	<b>265,123</b>	<b>22,611</b>	<b>9.3%</b>

**Public Law Authorization:**

Public Law 107-314, Bob Stump National Defense Authorization Act for FY 2003

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<sup>a</sup> Reflects adjustment for the rescission of \$250,000 required by the FY 2002 Supplemental Appropriations Act for further Recovery From and Response to Terrorist Attacks on the United States (P.L. 107-206).

## Funding by Site

(dollars in thousands)

<b>Facilities and Infrastructure Recapitalization Program</b>	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Kansas City Site Office					
Kansas City Plant .....	10,420	12,144	13,958	1,814	14.9%
Livermore Site Office					
Lawrence Livermore National Laboratory .....	22,380	26,001	29,884	3,883	14.9%
Los Alamos Site Office					
Los Alamos National Laboratory .....	34,000	39,605	45,520	5,915	14.9%
Nevada Site Office					
Nevada Test Site .....	14,160	16,500	18,963	2,463	14.9%
Oak Ridge Operations Office					
Y-12 National Security Complex .....	45,120	52,556	63,423	10,867	20.7%
Pantex Site Office					
Pantex Plant .....	22,110	25,758	29,605	3,847	14.9%
Sandia Site Office					
Sandia National Laboratories .....	20,780	24,209	28,525	4,316	17.8%
Savannah River Operations Office					
Savannah River Site Tritium Operations .....	5,850	6,822	7,841	1,019	14.9%
Washington Headquarters					
Headquarters .....	21,730 <sup>a</sup>	38,917	27,404	-11,513	-29.6%
<hr/>					
<b>Total, Facilities and Infrastructure Recapitalization Program .....</b>	<b>196,550</b>	<b>242,512</b>	<b>265,123</b>	<b>22,611</b>	<b>9.3%</b>

<sup>a</sup> Reflects adjustment for the rescission of \$250,000 required by the FY 2002 Supplemental Appropriations Act for further Recovery From and Response to Terrorist Attacks on the United States (P.L. 107-206).

## **Site Description**

### **Kansas City Plant**

FIRP is replacing and upgrading chillers and air handling systems in essential production facilities in support of Limited Life Component production and Life Extension Programs for the W-87, B-61, W-76 and W-80 weapons programs. Chiller replacement projects are funded in FY 2002 and are planned for FY 2003 and FY 2004. In FY 2002, five chillers were replaced, which reduced deferred maintenance costs while contributing to the reduction of ozone depleting substances.

### **Lawrence Livermore National Laboratory**

FIRP activities are addressing deferred maintenance including repair, replacement, and upgrade of HVAC units, air handling systems, HEPA filter systems and electrical control systems. Process improvements include infrastructure upgrades to the Site 300 high explosive facility; the integration of new computer controls for improved machine tool reliability; and capital equipment purchases to support mission essential weapons qualifications activities. LLNL is currently executing a project that provides for a complete and useable replacement/reconfiguration for the B332 Plutonium Facility Transformer top level power system. At the completion of the project the upgraded portion of the power supply system will be functional and less vulnerable to electrical problems. This is an ES&H project which is supported by the Defense Nuclear Facilities Safety Board (DNFSB).

### **Los Alamos National Laboratory**

Significant site operating funds have been expended at LANL due to the number of temporary and transportable facilities at the laboratory. With FIRP funds, LANL has reduced landlord ownership costs by consolidating support functions into modern, efficient GPP structures and reduced site operating costs by the removal of numerous temporary and transportable facilities.

### **Nevada Test Site**

Over 2.2 million linear feet of surface-laid cable exists at the NTS, with approximately 300,000 linear feet that is still energized and in service. General aging of the cables with prolonged exposure to the desert elements has led to cable insulation failure and accelerated aging of insulation on the remaining cables. FIRP will begin the replacement of surface-laid cable, resulting in a corresponding reduction in deferred maintenance. Additional projects concentrate on improvements to obsolete communications systems with fiber optic cable and upgrades for emergency, fire, and remote radiation alarms at test facilities.

### **Savannah River Site Tritium Operations**

FIRP projects include improvement to the telecommunications distribution network within the Tritium area and infrastructure upgrades to the hydride bed portion of the Thermal Cycling Absorption Process.

### **Pantex Plant**

FIRP is undertaking the most critical of roofing repairs for bays, cells and other production buildings, beginning to work down the large deferred maintenance and completing upgrades to essential emergency and life safety systems which address NNSA commitments to Defense Nuclear Facilities Safety Board (DNFSB) issues.

These affected facilities support the Life Extension Programs for the B-61, W-76 and W-80 weapons programs, high explosive operations, and stockpile surveillance, maintenance and weapon dismantlement operations.

### **Sandia National Laboratories**

Technical Area III (TA III) Research & Development facilities at SNLA have not been adequately maintained or upgraded.. Through FIRP funding, the TA III site has been upgraded and modernized through such projects as the Vibration Facility, Light Initiated High Explosive Facility, and others. This modernization effort will continue through FY 2004 with the funding of other substandard TA III facilities. These facilities were at risk of losing mission support capabilities for weapons qualifications, development, investigation, modeling, and simulation.

### **Y-12 National Security Complex**

FIRP projects support significant deferred maintenance repairs and improvements including multiple roofs, incinerators, steam systems, electrical power panels, transformer stations and lighting, oil storage facilities, and flooring systems. Concrete spalling from the ceiling of part of the production complex is being repaired. These affected facilities support the W-87 Life Extension effort, production work for the Joint Test Assemblies, weapon component disposition, and protect future B-61 and W-76 Life Extension efforts.



# **Recapitalization**

## **Mission Supporting Goals and Measures**

Recapitalization (capital renewal and sustainability) funds specific projects with an emphasis on deferred maintenance reduction to arrest the physical deterioration of the nuclear weapons complex and ensure the long-term viability of current facilities and infrastructure to meet future workload requirements. It is key to maintaining the health of the facilities that house the activities conducted in support of the nuclear stockpile life extension programs. The Nuclear Posture Review discussed the need to revitalize the nuclear weapons complex as the third leg of the "New Triad". These programs are supported by the Defense Department as vital to deterrence and the strategic force multiplying effect it has regarding the stockpile.

Recapitalization includes deferred maintenance and repair projects, including expense and GPP projects that address deferred maintenance and repair, as well as the planned replacement of critical facility components or systems that extend the useful life of necessary facilities and infrastructure, delaying requirements for new replacement facilities. Recapitalization also includes construction/renovation projects (non-programmatic), including expense projects or GPP construction projects that accomplish the renovation of landlord or multi-program facilities, address adaptive reuse (conversion) or alterations of existing facilities, bring existing production and laboratory facilities into compliance with mandated codes and/or standards, or reduce the site landlord's total ownership costs of facilities and infrastructure.

Beginning in FY 2004, FIRP proposes to initiate Planning, Engineering, and Design (PED) for selected Utility Line Item Projects consistent with submitted Congressional Project Data Sheets. These projects will enhance program execution, satisfy a critical need for improvement to NNSA sites' utilities infrastructure, and make a significant contribution to the overall reduction of deferred maintenance.

### **Subprogram Goals**

Contribute significantly to the NNSA corporate goal to stabilize deferred maintenance by FY 2005.

Contribute significantly to the NNSA corporate goal to return facilities and infrastructure specific deferred maintenance to the industry standard of < 5% of the Replacement Plant Value by FY 2009 for NNSA's mission-essential facilities and infrastructure.

### **Performance Indicator**

Dollar value and percentage of NNSA deferred maintenance that is eliminated due to FIRP funded projects.

## Annual Performance Results and Targets

FY 2002 Results	FY 2003 Target	FY 2004 Target
Execute a multi-year Recapitalization Initiative to arrest the deterioration and reduce deferred maintenance and repairs.	Allocate 45% of the Recapitalization budget to facilities and infrastructure specific deferred maintenance activities, thereby achieving significant reductions in gross deferred maintenance.  (This measure will be used to assess progress in FY 2003. By Fiscal Year-end 2003, the NNSA will establish dollar value baselines for deferred maintenance and define the subset of mission-essential facilities and infrastructure, against which to measure results.)	Allocate 45% of the Recapitalization budget to facilities and infrastructure specific deferred maintenance activities, thereby achieving significant reductions in gross deferred maintenance.  (This is an interim measure. The FY 2005 Budget submission will include FY 2004 targets for the FIRP dollar value and percentage of deferred maintenance reduction from the baseline that contribute to the stabilization of NNSA's deferred maintenance by the end of FY 2005.)

## Funding Schedule

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
<b>Recapitalization</b>					
Operations & Maintenance .....	137,360 <sup>a</sup>	170,012	187,352	17,340	10.2%
04-D-302 FIRP Project Engineering and Design, VL .....	0	0	3,719	3,719	N/A
<b>Total, Recapitalization .....</b>	<b>137,360</b>	<b>170,012</b>	<b>191,071</b>	<b>21,059</b>	<b>12.4%</b>

<sup>a</sup> Reflects adjustment for the rescission of \$250,000 required by the FY 2002 Supplemental Appropriations Act for further Recovery From and Response to Terrorist Attacks on the United States (P.L. 107-206).

## Detailed Program Justification

(dollars in thousands)

<b>Recapitalization</b>	FY 2002	FY 2003	FY 2004
<b>Operations and Maintenance (O&amp;M)</b> .....	137,360	170,012	187,352
<p>Recapitalization O&amp;M funds specific projects to ensure targeted improvements and the long-term viability of current facilities to meet future workload requirements. The FY 2004 FIRP performance target for this activity is to allocate 45% of the Recapitalization budget to facilities and infrastructure specific deferred maintenance activities thereby achieving significant reductions in the gross deferred maintenance. The budget request is developed by summing the estimated costs of proposed Recapitalization projects from a prioritized list within each sites approved Ten-Year Comprehensive Site Plan.</p>			
<b>04-D-203, FIRP Project Engineering and Design (PED) Project</b> .....	0	0	3,719
<p>The FIRP PED Project provides for Architect-Engineering (A-E) services (Title I and Title II) for several Facilities and Infrastructure Recapitalization Program (FIRP) utility construction projects, allowing designated projects to proceed from conceptual design into preliminary design (Title I) and definitive design (Title II). The design effort will be sufficient to assure project feasibility, define the scope, provide detailed estimates of construction costs based on the approved design and working drawings and specifications, and provide construction schedules, including procurements. The designs will be extensive enough to establish performance baselines and to support construction or long-lead procurements in the fiscal year in which line item construction funding is requested and appropriated.</p>			
<b>Total, Recapitalization</b> .....	<u>137,360</u>	<u>170,012</u>	<u>191,071</u>

### Explanation of Funding Changes

FY 2004 vs. FY 2003 (\$000)
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#### Recapitalization

- **Operations and Maintenance** - The increase reflects the planned growth in the NNSA Future-Years Nuclear Security Plan to achieve restoration, revitalization, and rebuilding of the nuclear weapons complex. Supports construction of the FY2004 projects and activities in accordance with the Ten-Year Comprehensive Site Plans. .... 17,340
- **Construction** - Initiates a new Project Engineering and Design (PED) line-item construction project for the engineering and design of selected utility line item construction projects which meet the criteria for funding within the FIRP Recapitalization program. These projects will result in significant reductions in deferred maintenance. . . . 3,719
- Total Funding Change, Recapitalization** .....

**21,059**

# Capital Operating Expenses and Construction Summary

## Capital Operating Expenses <sup>a</sup>

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
General Plant Projects .....	79,807	98,961	109,055	10,094	10.2%
Capital Equipment .....	9,533	11,821	13,027	1,206	10.2%
<b>Total, Capital Operating Expenses .....</b>	<b>89,340</b>	<b>110,782</b>	<b>122,081</b>	<b>11,300</b>	<b>10.2%</b>

## Construction Projects

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior-Year Appropriations	FY 2002	FY 2003	FY2004	Unappropriated Balance
04-D-203 FIRP, Project Engineering and Design, VL .....	6,421	0	0	0	3,719	2,702
<b>Total, Construction .....</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,719</b>	<b>2,702</b>

## Major Items of Equipment

(TEC \$2 million or greater)

(dollars in thousands)

	Total Estimated Cost (TEC)	FY 2002	FY 2003	FY 2004	Acceptance Date
Upgrade 9251 Primary Mill Motor Generator Set, Y-12 .....	2,450	0	500	1,950	FY 2004
<b>Total, MIE .....</b>	<b>0</b>	<b>500</b>	<b>1,950</b>	<b>1,450</b>	

Purchase and install electrical upgrade to existing rolling mill.

<sup>a</sup> Since funds are appropriated for Operations and Maintenance, which includes operating expenses, capital equipment and general plant projects, we no longer budget separately for capital equipment and general plant projects. FY 2003 and FY 2004 funding shown reflects estimates based on actual FY 2002 obligations.

## **Facility Disposition**

### **Mission Supporting Goals and Measures**

Facility Disposition provides funds to accomplish the decontamination, dismantlement, removal and disposal of excess facilities that have already been deactivated. This includes facilities that are excess to current and future NNSA mission requirements whose primary mission was not to process fissile materials (e.g. facilities that are not candidates for acceptance into the Office of Environmental Management D&D Program). Facility disposition activities reduce ES&H and safeguards and security requirements, begin to address the necessary footprint reduction of the complex, improve management of the NNSA facilities portfolio, and reduce long-term costs and risks. Facility Disposition represents the initial startup of a separate and distinct subprogram within FIRP to effectively manage excess facilities. It represents increased focus on excess facilities with a goal of managing the total NNSA facilities footprint effectively and efficiently. Recent reviews of disposition costs to date indicate that the unit costs (ie dollars per square foot) compare very favorably with industry norms for the disposition of similar facilities.

#### **Subprogram Goal**

Reduce the NNSA footprint by an estimated three million gross square feet of excess space by 2009 in support of overall NNSA footprint reduction efforts.

#### **Performance Indicator**

Gross square feet of excess facilities space eliminated in accordance with Ten-Year Comprehensive Site Plans due to FIRP funded projects.

## Annual Performance Results and Targets

FY 2002 Results	FY 2003 Target	FY 2004 Target
<p>Eliminate excess facilities in accordance with the Ten Year Comprehensive Site Plans. Total reduction to meet or exceed 500,000 gross square feet due to FY 2002 FIRP funded projects.</p>	<p>Reduce the NNSA footprint by approximately 200,000 gross square feet (gsf) through FIRP Facility Disposition projects, increasing the total to approximately 33% of the estimated three million gsf FIRP will disposition by FY 2009 (three million gsf has been established as a stretch goal).</p>	<p>Reduce the NNSA footprint by approximately 325,000 gross square feet (gsf) through FIRP Facility Disposition projects, increasing the total to approximately 44% of the estimated 3 million gsf FIRP will disposition by FY 2009.</p>
	<p>Consistent with DOE reporting requirements, the 33% gsf complete is comprised of:</p> <ul style="list-style-type: none"> <li>- 485,311 gsf of FY 2002 projects completed within FY 2002;</li> <li>- 300,724 gsf of projects to be executed with FY 2002 funds that will complete post FY 2002; and</li> <li>- 200,000 gsf of FY 2003 projects that will complete within FY 2003.</li> </ul>	

## Funding Schedule

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Facility Disposition					
Facility Disposition .....	50,000	50,000	50,000	0	0.0%
<b>Total, Facility Disposition</b>	<b>50,000</b>	<b>50,000</b>	<b>50,000</b>	<b>0</b>	<b>0.0%</b>

## Detailed Program Justification

(dollars in thousands)

Facility Disposition	FY 2002	FY 2003	FY 2004
<b>Facility Disposition</b> .....	<b>50,000</b>	<b>50,000</b>	<b>50,000</b>
<p>Facility Disposition provides funds to dismantle and dispose of excess non-process contaminated facilities. Disposition activities reduce ES&amp;H and safeguards and security requirements, and thus costs. They begin to address the necessary footprint reduction of the complex. These actions will improve management of the NNSA facilities portfolio and reduce long-term costs and risks. The FY 2004 FIRP performance target for this activity is to reduce the NNSA footprint by 325,000 gross square feet. The budget request is developed by summing the estimated costs of proposed Facilities Disposition projects from a prioritized list within each sites approved Ten-Year Comprehensive Site Plan.</p>			
<b>Total, Facility Disposition</b> .....	<b>50,000</b>	<b>50,000</b>	<b>50,000</b>

### Explanation of Funding Changes

	FY 2004 vs. FY 2003 (\$000)
<b>Facility Disposition</b>	
• Continues the FY 2003 effort in the Facility Disposition Subprogram .....	0
<b>Total Funding Change, Facility Disposition</b> .....	<b>0</b>

## Capital Operating Expenses and Construction Summary

### Capital Operating Expenses <sup>a</sup>

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
General Plant Projects .....	1,405	0	0	0	0.00%
Capital Equipment .....	0	0	0	0	0.00%

<sup>a</sup> Since funds are appropriated for Operations and Maintenance, which includes operating expenses, capital equipment and general plant projects, we no longer budget separately for capital equipment and general plant projects. FY 2003 and FY 2004 funding shown reflects estimates based on actual FY 2002 obligations.





	FY 2002	FY 2003	FY 2004	\$ Change	% Change
<b>Total, Capital Operating Expenses</b> .....	<b>1,405</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.00%</b>

## Infrastructure Planning

### Mission Supporting Goals and Measures

Infrastructure Planning supports planning activities for next year Recapitalization projects, to include baselining and readiness to obligate funds. It also includes infrastructure assessments to support the prioritization of deferred maintenance reduction and facility consolidation efforts; and the planning and conceptual design for priority general infrastructure projects, to include utility specific line items to be funded by this program. Architect-Engineering (A-E) services (Title I and Title II) for proposed future FIRP utility line item construction projects will be funded out of the Planning, Engineering, and Design (PE&D) account of the FIRP Recapitalization subprogram. NNSA mission-specific and other infrastructure construction projects will continue to be planned within appropriate programmatic accounts. Facility planning funds will primarily be utilized for “project specific” engineering initiatives.

### Subprogram Goals

Demonstrate through adequate NNSA site planning and FIRP project planning that facilities and infrastructure decisions are tied to the NNSA Future-Years Nuclear Security Plan (FYNSP) budget, and that adequate planning supports meeting established FIRP project baselines.

### Performance Indicators

Percentage of “next year” planned FIRP Recapitalization projects that are planned with current year planning funds

### Annual Performance Results and Targets

FY 2002 Results	FY 2003 Target	FY 2004 Target
No Performance Targets were established for this Performance Indicator in FY 2002.	At least 50% of FIRP Recapitalization projects will be planned in advance of the fiscal year the project is started. These projects will use funding from Infrastructure Planning to the extent practicable.	At least 50% of FIRP Recapitalization projects will be planned in advance of the fiscal year the project is started. These projects will use funding from Infrastructure Planning to the extent practicable.

### Funding Schedule

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Infrastructure Planning					
Infrastructure Planning .....	9,190	22,500	24,052	1,552	6.9%
<b>Total, Infrastructure Planning .....</b>	<b>9,190</b>	<b>22,500</b>	<b>24,052</b>	<b>1,552</b>	<b>6.9%</b>

### Detailed Program Justification

(dollars in thousands)

	FY 2002	FY 2003	FY 2004
<b>Infrastructure Planning .....</b>	<b>9,190</b>	<b>22,500</b>	<b>24,052</b>

Infrastructure Planning prepares discrete next year Facility Recapitalization and Facility Disposition projects for immediate execution by developing credible cost, scope, and schedule baselines and, for excess facilities, characterization activities. Infrastructure Planning funds will be utilized for project specific engineering initiatives. The FIRP performance target for this activity is that at least 50% of FIRP Recapitalization projects will be planned in advance of the fiscal year the project is started. The budget request is based on the estimated level of funding required to ensure that proposed projects are adequately planned in advance of project execution. This planning focus supports accountability for the execution of Recapitalization and Facility Disposition projects within approved baselines.

<b>Total, Infrastructure Planning .....</b>	<b>9,190</b>	<b>22,500</b>	<b>24,052</b>
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### Explanation of Funding Changes

<p><b>FY 2004 vs. FY 2003 (\$000)</b></p>
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**Infrastructure Planning**

Infrastructure Planning - increases to support the increase in the Recapitalization budget and number of projects .....	1,552
<b>Total Funding Change, Infrastructure Planning .....</b>	<b>1,552</b>

# Capital Operating Expenses and Construction Summary

## Capital Operating Expenses <sup>a</sup>

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
General Plant Projects .....	1,405	0	0	0	0.0%
Capital Equipment .....	206	0	0	0	0.0%
<b>Total, Capital Operating Expenses .....</b>	<b>1,611</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0%</b>

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a Since funds are appropriated for Operations and Maintenance, which includes operating expenses, capital equipment and general plant projects, we no longer budget separately for capital equipment and general plant projects. FY 2003 and FY 2004 funding shown reflects estimates based on actual FY 2002 obligations.

# 04-D-203, National Nuclear Security Administration Facilities and Infrastructure Recapitalization Program (FIRP) Project Engineering and Design (PED), Various Locations

## 1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete	

FY 2004 Budget Request (A-E and technical design only) .....	1Q 2003	4Q 2006	1Q 2006	1Q2008	6,421 <sup>a</sup>
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## 2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
2004	3,719	3,719	3,719
2005	2,702	2,702	2,702

## 3. Project Description, Justification and Scope

This project provides for Architect-Engineering (A-E) services (Title I and Title II) for two Facilities and Infrastructure Recapitalization Program (FIRP) utility construction projects, allowing designated projects to proceed from conceptual design into preliminary design (Title I) and definitive design (Title II). The design effort will be sufficient to assure project feasibility, define the scope, provide detailed estimates of construction costs based on the approved design and working drawings and specifications, and provide construction schedules, including procurements. The designs will be extensive enough to establish performance baselines and to support construction or long-lead procurements in the fiscal year in which line item construction funding is requested and appropriated.

Conceptual design studies are prepared for each project using Operations and Maintenance funds prior to receiving design funding under a Project Engineering and Design (PED) line item. These conceptual design studies define the scope of the project and produce a rough cost estimate and schedule.

FY 2004 FIRP PED design projects are described below. While not anticipated, some changes may occur due to continuing conceptual design studies or developments occurring after submission of this data sheet.

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<sup>a</sup>The TEC estimate is for design only for the subprojects currently included in this data sheet.

These changes will be reflected in subsequent years. Preliminary estimates for the cost of Title I and II design and engineering efforts for each subproject are provided, as well as very preliminary estimates of the Total Estimated Cost (including physical construction) of each subproject.

## FY 2004 Proposed Design Projects

### 04-01: New Master Substation, Technical Area I and IV, SNL

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
1Q 2004	4Q 2004	4Q 2006	4Q 2008	700	5,200 - 7,500

Fiscal Year	Appropriations	Obligations	Costs
2004	700	700	700

This subproject provides and enables Architect-Engineering (A-E) services required to develop and complete preliminary and final (Title I and Title II) design for the proposed New Master Substation for Technical Areas I and IV at Sandia National Laboratories. Through this design effort, the New Master Substation feasibility will be validated in detail, design drawings, and specifications. Detailed estimates of construction costs based on the approved design will be developed, and working drawings, specifications, and construction schedules, including procurements, will be completed. The products of this design effort will be sufficiently complete and of such quality to enable long-lead procurement items to be procured and construction to be initiated in fiscal year 2006 when construction funding is received. Construction funding for this project will be separately requested after completion of preliminary (Title I) design work.

The New Master Substation will be designed to address the following objectives:

- # Provide sufficient main power transformer and distribution feeder capacity/configuration to meet planned electrical loads in the Technical Area I-IV campus as shown in the FY 2003 TYCSP.
- # Provide additional 12.47 kilovolt radial/loop feeders to supplement the single radial/loop feeder serving Technical Area IV.
- # Remove Substation 38, which presently supplies standby service to Technical Area IV.
- # Continue to operate safely and in accordance with regulatory, environmental, and health policies.

The New Master Substation is an infrastructure facility consisting of a 115 kilovolt transmission section, 12/16/20 MVA main power transformer, 12.47 kilovolt/1200 ampere rated distribution switchgear section, 3600 kVAR power factor correction capacitor bank, station service equipment, control house with protective relaying and alarming systems, direct current supply system, and walled substation yard (~250x300 feet) to prevent unauthorized access. In addition, 12.47 kilovolt underground distribution feeder cables would be installed to connect the New Master Substation to the existing 12.47 kilovolt underground distribution grid that serves Sandia's buildings/facilities between Technical Areas I and IV.

**04-02: Compresses Air Upgrades Project, Y-12**

Fiscal Quarter				Total Estimated Cost (Design Only (\$000))	Preliminary Full Total Estimated Cost Projection (\$000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
1Q 2004	2Q 2005	1Q 2005	2Q 2007	5,721	25,000

Fiscal Year	Appropriations	Obligations	Costs
2004	3,019	3,019	3,019
2005	2,702	2,702	2,702

This subproject provides and enables Architect-Engineering (A-E) services required to develop and complete preliminary and final (Title I and Title II) design for the proposed Compressed Air Upgrades Project (CAUP) at the Y-12 National Security Complex (Y-12). The project will upgrade, modify and/or replace the compressed air production capability to correct deficiencies related to capacity, physical condition, efficiency, reliability, operations, maintenance and compliance. The project will also provide independent breathing air systems for those facilities that require breathing air.

The Y-12 Complex is served by eight compressed air systems housed in five facilities located across the complex. The compressed air systems supply approximately 21,000 cubic feet per minute to the complex via three complex-wide piping distribution systems. Breathing air for the complex is supplied from the compressed air system.

A robust and reliable source of compressed air is critical to protect Y-12's production and storage capabilities in support of the Defense Programs Stockpile Stewardship mission and other programmatic missions. The existing compressed air system has many deficiencies which jeopardize Y-12's ability to reliably meet its mission. Much of the existing compressor and associated drying equipment has deteriorated and is at the end of its useful life. Significant amounts of the instrumentation is antiquated, inoperable, or unreliable. The systems are inefficient and unreliable due to their age, the state of disrepair and the less than optimum configuration of the systems for the current and future production footprints. Some systems are located in facilities which are dilapidated and subject to flooding. Maintenance is difficult and expensive due to the age and condition of the equipment. The reliability of the breathing air system is inadequate due to low air pressures caused by frequent failure of compressors. The current configuration of the breathing air system poses a potential health hazard to workers because of contamination which could result from unauthorized connections to the compressed air system.

## 4. Details of Cost Estimate <sup>a</sup>

(dollars in thousands)		
	Current Estimate	Previous Estimate
Design Phase <sup>b</sup>		
Preliminary and Final Design Costs (Design Drawings and Specifications) .....	5,273	NA
Design Management Costs (7.6% of TEC) .....	487	NA
Project Management Costs (10.3% of TEC) .....	661	NA
Total, Design Costs (100% of TEC) .....	6,421	NA
Total, Line Item Costs (TEC) .....	6,421	NA

## 5. Method of Performance

Design services will be obtained through competitive and/or negotiated contracts. M&O contractor staff may be utilized in areas involving security, production, proliferation, etc. concerns.

## 6. Schedule of Project Funding

(dollars in thousands)						
	Prior Years	FY 2004	FY 2005	FY 2006	Outyears	Total
Project Cost						
Facility Cost						
Project Engineering and Design .....	0	3,719	2,702	0	0	6,421
Total, Line item TEC .....	0	3,719	2,702	0	0	6,421
Total, Facility Costs (Federal and Non-Federal) .....	0	3,719	2,702	0	0	6,421
Other Project Costs						
Conceptual design costs .....	1,450	0	0	0	0	1,450
Other project-related costs .....	150	467	566	617	500	2,300
Total, Other Project Costs .....	1,600	467	566	617	500	3,750
Total, Project Cost (TPC) .....	1,600	4,186	3,268	617	500	10,171

<sup>a</sup> This cost estimate is based upon direct field inspection and historical cost estimate data, coupled with parametric cost data and completed conceptual studies and designs, when available. The cost estimate includes design phase activities only. Construction activities will be requested as individual line items upon completion of Title I design.

<sup>bb</sup> The percentages for Design Management; Project Management; and Design Phase Contingency are estimates base on historical records and are preliminary estimates.



# **Secure Transportation Asset**

## **Program Mission**

The mission of the Secure Transportation Asset (STA) Program is to safely and securely transport nuclear weapons, special nuclear material, selected non-nuclear weapons components, limited-life components, and other materials for the Department of Energy (DOE), Department of Defense (DoD), and other customers, to and from DOE and DoD locations, between nuclear weapon complex facilities, or to other government locations within the continental United States.

An integral part of transporting materials is the program's ability to identify, evaluate, and respond appropriately to threats; provide the highest level of comprehensive continuous security for material en route; and ensure that operations occur with the highest degree of safety and accountability for the material in the shipments to include Federal Agents, the public, and the environment. Planning, scheduling, and prioritizing shipments are critical to meeting the DOE's priorities for transporting the materials. Currently, supporting nuclear weapons program transportation requirements and meeting the Secretary's Environmental Management commitments for Site Closures are identified as the top priorities for this departmental asset.

## **Program Strategic Performance Goal**

A capability for the safe and secure transport of nuclear weapons, components, and materials that will meet projected DOE, DoD, and other customer requirements.

## **Performance Indicators**

Levels of agent end-strength and number of contractor support staging drivers

Training and overtime levels that reflect appropriate degree of agent readiness for both security and safety requirements

Workload completion, mission capacity, and number of convoys

Number of vehicle/trailer additions, replacements, and upgrades in the transportation fleet

Infrastructure design, construction, or upgrade projects required to support transport schedules and safe and secure operations.

## Annual Performance Results and Targets

FY 2002 Results	FY 2003 Targets	FY 2004 Targets
<p>Achieved agent end-strength of 215.</p> <p>Achieved contractor support staging drivers strength of 15.</p>	<p>Achieve agent end-strength of 256.</p> <p>Achieve contractor support staging drivers strength of 20-25.</p>	<p>Achieve agent end-strength of 297.</p> <p>Achieve contractor support staging drivers strength of 30-40.</p>
<p>Managed overtime at no more than 1,200 hours per agent per year.</p>	<p>Manage overtime at no more than 1,000 hours per agent per year.</p>	<p>Manage overtime at no more than 1,000 hours per agent per year.</p>
<p>Achieved training time of 15% per agent.</p>	<p>Achieve training time of 20% per agent.</p>	<p>Achieve training time of 25% per agent.</p>
<p>Established Operational Readiness Training exercises.</p>	<p>Conduct four Operational Readiness Training exercises.</p>	<p>Complete nine Operational Readiness Testing exercises</p>
<p>Completed one Joint Testing Exercise.</p>	<p>Conduct one Joint Testing Exercise.</p>	<p>Complete one Joint Testing Exercise.</p>
<p>Produced replacements for aging vehicle fleet: added 3 Safeguards Transporters; replaced 5 conventional escort vehicles and 12 armored tractors; and developed and tested prototype Special Response Vehicle.</p>	<p>Produce replacements for aging vehicle fleet: replace 6 Escort Vehicles with new Special Response vehicles; add 4 Safeguards Transporters; and Replace 12 conventional escort vehicles and 12 armored tractors.</p>	<p>To support a total fleet requirement of 100 operational vehicles: replace 12 Escort Vehicles with new Special Response vehicles; replace 12 escort vehicles and 8 tractors.</p> <p>To support a total fleet requirement of 51 trailers add 4 Safeguards Transporters.</p> <p>Obtain a 3<sup>rd</sup> aircraft for transport operations.</p>

FY 2002 Results	FY 2003 Targets	FY 2004 Targets
Met all directive scheduled missions. Completed 98% of requested and carryover workload and completed 83 convoys.	Meet prioritized scheduled missions. Complete 70% of requested and carryover workload; maintain mission capacity at 10% above FY 2002 baseline; and complete 75 convoys.	Complete 70% of requested and carryover workload. Maintain mission capacity of at least 292,240 staff hours and complete 90 convoys.
Completed safety and security upgrades to the Transportation Safeguards Training Center.	<p>Establish requirements for all elements of support to DOE offices and NNSA, and plan workforce and equipment, accordingly.</p> <p>Complete construction of intermediate-use-of-force building at the Transportation Safeguards Training Center.</p> <p>Continue command and control upgrades to the primary and alternate Transportation and Emergency Control centers.</p>	<p>Complete construction of Eastern Division Agent Facility.</p> <p>Complete construction of range complex at the Transportation Safeguards Training Center.</p> <p>Complete command and control upgrades to the primary and alternate Transportation Emergency Control centers.</p> <p>Begin purchase of new Very High Frequency (VHF) radios to comply with federal law.</p>

### Significant Program Shifts

Accomplishments for the program fall in three areas: (1) completion of shipments on-schedule with optimum use of resources; (2) infrastructure development, including the design, production, and delivery of SafeGuards Transporters (SGTs), Armored Tractors (ATs), Next Generation Special Response Force Concept Vehicles (NCEVs), and Conventional Escort Vehicles (CEVs), as well as the hiring, training, and qualification of Federal Agent Candidates; and (3) the provision and enhancement of an unprecedented level of security designed to meet and respond to the highest level of national threat. Scheduled security enhancements include the implementation of Secure Communications (SECOM 3.1) command, control, and communications system, and completion of SST explosive upgrades.

In the early 1990's, there was a shift in workload from dozens of convoys per month supporting the numerous weapons related shipments, to a level of shipping that reflected more restrictive security

requirements. There was also a customer program shift including the Environmental Management (EM) program's proposed acceleration of site closure projects, and the deferral of the Mixed Oxide (MOX) fuel program funded in the Nuclear Nonproliferation program. These program initiated shipping delays allowed the STA program to meet all scheduled shipments by using overtime, shipping efficiencies and negotiated schedule changes.

As the 2000's progress, it is anticipated that increased workload will occur and STA capacity will be challenged as Life Extension Program activities increase and the nation responds to increased security requirements to counter terrorist activity.

Safety and security concerns require that the goal for federal agent training be increased to 25% and that overtime be reduced to a more sustainable level of 600 hours per year. While this is still a considerable stress on agents, the 800-1000 hours per year currently being worked is not feasible in the long term. The current environment and work level is contributing to an increasing rate of agent attrition at a time when capacity has already been compromised.

To effectively build capacity, it is important that adequate resources be provided to allow the STA to meet its planned goals and objectives without compromising the health and efficiency of the organization. There is an optimum level of ramping the program up that allows for the correct mix of recruiting and training agents, incorporating them successfully into the security and safety culture adhered to by the program, while having the right level of equipment and vehicles necessary to make them efficiently useful.

Over the past several years, shipping inefficiencies have been minimized by requiring customers to schedule shipments with 10 year projections which are refined on a quarterly basis. Specific shipping requests by order change will be required 60 days in advance vs. the previously required 21 days advance notice. These requirements are implemented to further increase agent efficiency and improve capacity. It is anticipated that in addition to these efficiencies, contractors will be hired to deploy empty equipment versus federal agents increasing their availability for loaded convoys. An additional aircraft will be required to logistically support increased agent and contractor movements to required locations.

The STA has been challenged to meet customer shipping requirements with existing capacity. This capacity was a direct result of the increased safety and security requirements introduced in response to increased terrorist activity, as well as the accelerated attrition rate that has occurred as a result of increased eligibility for retirements. In the interest of material security, reducing safety and security constraints to regain former levels of capacity is not a viable option, thus it is critical to the STA meeting future requirements that they begin an accelerated infrastructure build up to position themselves for future customer needs.

## Funding Profile

(dollars in thousands)

<b>Secure Transportation Asset</b>	FY 2002 Comparable Appropriation	FY 2003 Request	FY 2004 Request	\$ Change	% Change
Operations & Equipment . . . . .	114,497	100,863	123,605	22,742	22.5%
Program Direction . . . . .	44,210	52,126	58,795	6,669	12.8%
<b>Total, Secure Transportation Asset . . . . .</b>	<b>158,707<sup>a</sup></b>	<b>152,989</b>	<b>182,400</b>	<b>29,411</b>	<b>19.2%</b>
Additional net budget authority to cover the cost of fully accruing retirement (non-add) . . . . .	2,204	2,379	2,712	333	14.0%

**Public Law Authorization:**

Public Law 107-314, Bob Stump National Defense Authorization Act for FY 2003

## Funding by Site

(dollars in thousands)

<b>Secure Transportation Asset:</b>	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Headquarters . . . . .	158,707	152,989	182,400	29,411	19.2%
<b>Total, Secure Transportation Asset . . . .</b>	<b>158,707</b>	<b>152,989</b>	<b>182,400</b>	<b>29,411</b>	<b>19.2%</b>

## Site Description

The STA Program is centrally managed and funded through the Office of Secure Transportation, located adjacent of the NNSA Service Center in Albuquerque, New Mexico. Funding is transferred to various nuclear weapons complex sites who perform the work as detailed below.

**Y-12 National Security Complex**

Provides Federal Agents, equipment, vehicle electronic and mechanical maintenance facilities for support of agent and vehicle trip preparation.

**Pantex Plant**

Provides Federal Agent, equipment, vehicle electronic and mechanical maintenance facilities for support of agent and vehicle trip preparation.

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<sup>a</sup>Reflects adjustment of \$607,043 for rescission in the Weapons Activities account required by the FY 2002 Supplemental Appropriations Act for Further Recovery From and Response to Terrorist Attacks on the United States (P.L. 107-206).

**Sandia National Laboratory**

Provides development engineering, and operational trailer support engineering through the design of security and safety upgrades for the Transportation Safeguards System (TSS), as well as mechanical vehicle maintenance in support of agent and vehicle preparation.

**Kansas City Plant**

Provides Federal Agent Facility, equipment and vehicle electronic maintenance facilities for the support of agent and vehicle preparation. Produces trailers on site at KCP as well as operating the vehicle production facility, maintenance depot, and operational engineering in Albuquerque.

# **Secure Transportation Asset**

## **Operations and Equipment**

### **Mission Supporting Goals and Measures**

The mission of the Secure Transportation Asset (STA) Program is to safely and securely transport nuclear weapons, special nuclear material, selected non-nuclear weapons components, limited-life components, and other materials for the Department of Energy (DOE), Department of Defense (DoD), and other customers, to and from DOE and DoD locations, between nuclear weapon complex facilities, and to other government locations within the continental United States.

STA Operations and Equipment provides the STA with the necessary facilities, vehicles, and general and specialized equipment required to successfully accomplish the mission. This ranges from specialized training, operations, and communications facilities; to unique, one-type-of-a-kind transport, escort, and response vehicles; to mission-specific weapons and individual protective equipment.

An integral part of safely and securely transporting materials relies on the STA ability to schedule the proper level of capability (equipped Federal Agents with the proper vehicle mix) on a schedule that responds to user needs and the identified and evaluated threat. This capability must be able to provide the highest level of comprehensive continuous security for the materials while enroute; ensure that related operations are conducted with the highest degree of safety and accountability for the material in the shipments, the included Federal Agents, and the public/environment; and respond appropriately to any suddenly emerging threat. Current customers include the NNSA Offices of Defense Programs, Nuclear Nonproliferation, and Naval Reactors; DOE Offices of Environmental Management (EM) and Nuclear Energy, Science, and Technology (NE); Department of Defense (DoD); and US Enrichment Corporation (USEC).

To support this mission, the STA Operations and Equipment Subprogram is currently focused on increased security and capacity concerns with the objective of safely, securely, and efficiently scheduling and accomplishing shipments, while building the necessary infrastructure for future requirements at a manageable pace.

#### **Subprogram Goal**

A DOE safe and secure transportation/escort system in the Continental United States that is responsive to forecasted approved requirements.

#### **Performance Indicators**

Workload completion, mission capacity, and number of convoys  
Number of vehicle/trailer additions, replacements, and upgrades in the transportation fleet  
Infrastructure design, construction, or upgrade projects required to support transport schedules and safe and secure operations.

## Annual Performance Results and Targets

FY 2002 Results	FY 2003 Targets	FY 2004 Targets
<p>Produced replacements for aging vehicle fleet: added 3 Safeguards Transporters; replaced 5 conventional escort vehicles and 12 armored tractors; and developed and tested prototype Special Response Vehicle.</p>	<p>Produce replacements for aging vehicle fleet: replace 6 Escort Vehicles with new Special Response vehicles; add 4 Safeguards Transporters; and replace 12 conventional escort vehicles and 12 armored tractors.</p>	<p>To support a total fleet requirement of 100 operational vehicles: replace 12 Escort Vehicles with new Special Response vehicles; replace 12 escort vehicles and 8 tractors.</p> <p>To support a total fleet requirement of 51 trailers add 4 safeguards Transporters.</p> <p>Obtain a 3<sup>rd</sup> aircraft for transport operations.</p>
<p>Met all directive scheduled missions. Completed 98% of requested carryover workload and completed 83 convoys.</p>	<p>Meet prioritized scheduled missions. Complete 70% of requested and carryover workload; Maintain mission capacity at 10% above FY 2002 baseline; and complete 75 convoys.</p>	<p>Meet prioritized scheduled missions. Complete 70% of requested and carryover workload; maintain mission capacity; and complete 90 convoys.</p>
<p>Completed safety and security upgrades to the Transportation Safeguards Training Center.</p>	<p>Complete construction of intermediate-use-of-force building at the Transportation Safeguards Training Center. Continue command and control upgrades to the primary and alternate Transportation and Emergency Control centers.</p>	<p>Complete construction of Eastern Division Agent Facility. Complete construction of range complex at the Transportation Safeguards Training Center. Complete command and control upgrades to the primary and alternate Transportation Emergency Control centers. Begin purchase of new Very High Frequency (VHF) radios to comply with federal law.</p>
<p>Established Operational Readiness Training exercises.</p>	<p>Conduct four Operational Readiness Training exercises.</p>	<p>Complete nine Operational Readiness Training exercises.</p>
<p>Completed one Joint Testing Exercise.</p>	<p>Conduct one Joint Testing Exercise.</p>	<p>Complete one Joint Testing Exercise.</p>



FY 2002 Results	FY 2003 Targets	FY 2004 Targets
<p>Graduated two Agent Candidate classes with 38 new agents. Maintained three Federal Agent Units. Maintained Agent Certification for physical fitness, firearms, tactics, and driving.</p>	<p>Graduate two Agent Candidate classes for new agents. Maintain three Federal Agent Units. Maintain Agent Certification.</p>	

## Funding Schedule

(dollars in thousands)

Operations and Equipment	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Logistical Operations for Recruitment, Equipping and Training of new Federal Agents .....	718	743	743	0	0.0%
Vehicle Production .....	10,599	4,168	10,540	6,372	152.9%
SafeGuards Transporter (SGT) Production	13,216	13,767	13,767	0	0.0%
Fleet Operations and Maintenance .....	18,410	18,969	18,969	0	0.0%
Scheduling and Transport Optimization ....	14,461	15,137	17,637	2,500	16.5%
Design, Test, and Deploy New Fleet Technologies .....	4,109	4,176	4,724	548	13.1%
Training and Certification .....	20,452	17,707	20,372	2,665	15.1%
Maintain Security and Safety Licenses ....	2,626	2,735	2,735	0	0.0%
Modernize and Maintain C3 Systems .....	10,996	6,142	14,406	8,264	134.5%
Infrastructure .....	10,790	9,468	10,804	1,336	14.1%
Mission Support and Program Management	8,120	7,851	8,908	1,057	13.5%
<b>Total, Secure Transportation Asset, Operations and Equipment .....</b>	<b>114,497</b>	<b>100,863</b>	<b>123,605</b>	<b>22,742</b>	<b>22.5%</b>

## Detailed Program Justification

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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### Logistical Operations for Recruitment, Equipping, and Training of new Federal Agents .....

718                      743                      743

Includes all of the dedicated contractor training staff, weapons and equipment purchases, and Transportation Safeguards Training Center (TSTC) resources to recruit, equip, and train agent-candidates in two 18-week classes during the year. These courses are critical to maintaining current staffing levels for three units and replacing the 20 to 30 agent losses each year.

### Vehicle Production .....

10,599                      4,168                      10,540

Provides for the replacement production of the STA over-the-road transportation fleet, including the engineering design phase, procurement and modification of commercial vehicles; and fabrication of specialized components for the armored tractors, escort vehicles, and Special Response Force (SRF) vehicles. Inherent with the production is maintaining secure production facilities and equipment.



## Capital Operating Expenses and Construction Summary

### Capital Operating Expenses <sup>a</sup>

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
General Plant Projects .....		0	0	0	N/A
Capital Equipment .....	29	30	31	1	3.00%
<b>Total, Capital Operating Expenses</b>	<b>29</b>	<b>30</b>	<b>31</b>	<b>1</b>	<b>3.00%</b>

### Major Items of Equipment

Total Estimated Cost (TEC)	Prior Year Appropriations	FY 2002	FY 2003	FY 2004	Acceptance Date
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#### Replacement Aircraft

Large Transport jet.....	5,000	0	0	0	5,000	FY 2004
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This replacement aircraft is necessary to meet the air transportation and emergency response requirements for NNSA and DOE. It is essential that funding be provided to procure a large transport jet for movement of DP cargo and support Office of Secure Transportation (OST) logistical requirements. Validated projections for DP/OST transportation requirements for FY 2004 through 2011 will exceed the capacity of the current transport fleet.

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<sup>a</sup> Since funds are appropriated for Operations and Maintenance, which includes operating expenses, capital equipment and general plant projects, we no longer budget separately for capital equipment and general plant projects. FY 2003 and FY 2004 funding shown reflects estimates based on actual FY 2002 obligations.

# Secure Transportation Asset Program Direction

## Mission Supporting Goals and Measures

The mission of the Secure Transportation Asset (STA) Program is to safely and securely transport nuclear weapons, special nuclear material, selected non-nuclear weapons components, limited-life components, and other materials for the Department of Energy (DOE), Department of Defense (DoD), and other customers, to and from DOE and DoD locations, between nuclear weapons complex facilities, and to other government locations within the continental United States.

The Secure Transportation Asset Program Direction budget supports the Federal personnel and resources necessary to conduct STA activities. This includes support for Federal agents and support staff, staging drivers, certification activities, and mission and training travel of Federal STA personnel.

### Subprogram Goal

Trained Federal agents sufficient to meet directive scheduled shipments.

### Performance Indicators

Levels of Federal agent end strength and number of contractor support staging drivers.

Training and overtime levels reflecting appropriate degree of agent readiness for both security and safety requirements.

Workload completion, mission capacity, and number of convoys.

### Annual Performance Results and Targets

FY 2002 Results	FY 2003 Targets	FY 2004 Targets
Achieved Federal agent end strength of 215 and contractor support staging drivers strength of 15.	Achieve Federal agent end strength of 256 and contractor support staging drivers strength of 20-25.	<b>Achieve Federal agent end strength of 297 and</b> a contractor support staging drivers strength of 30-40.
Managed overtime at no more than 1,200 hours per Federal agent per year.	Manage overtime at no more than 1,000 hours per agent per year.	Manage overtime at no more than 1,000 hours per agent per year.
Achieved training time of 15 percent per agent.	Achieve training time of 20 percent per agent.	Achieve training time of 25 percent per agent.

FY 2002 Results	FY 2003 Targets	FY 2004 Targets
Met all directive schedule missions. Completed 98 percent of requested and carryover workload and 83 convoys.	Meet prioritized scheduled missions. Complete 70 percent of requested and carryover workload; maintain mission capacity at 10 percent above FY 2002 baseline; and complete 75 convoys.	Complete 70 percent of requested and carryover workload; maintain mission capacity of at least 292,240 staff hours; and complete 90 convoys.
Developed Transportation Safeguards System Security Plan, with draft Design Basis Threat as baseline pending final publication.	Complete final Design Basis Threat document. Evaluate improved Agent weaponry to counter identified threats.	

### Funding Schedule

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Salaries and Benefits .....	37,979	45,329	50,313	4,984	11.0%
Travel .....	4,667	5,526	6,393	867	15.7%
Other Related Expenses .....	1,564	1,271	2,089	818	64.4%
Total, STA - Program Direction .....	44,210	52,126	58,795	6,669	12.8%
Additional net budget authority to cover the cost of fully accruing retirement (non-add)...	2,204	2,379	2,712	333	14.0%

### Federal Staffing

FY 2002 Comparable Appropriation	FY 2003 Request	FY 2004 Request	Staffing Change	% Change
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#### Secure Transportation Asset/Program Direction

Headquarters .....	334	471	539	68	14.4%
TOTAL, Staffing (FTEs) .....	334	471	539	68	14.4%

Weapons Activities  
Secure Transportation Asset  
Program Direction

FY 2004 Congressional Budget

## Detailed Program Justification

(dollars in thousands)

	FY 2002	FY 2003	FY 2004
<b>Salaries and Benefits</b> .....	37,979	45,329	50,313
<p>Provides for the Federal onboard staff salaries and benefits of the Office of Secure Transportation including overtime, cost of living adjustments, expected step increases, grade promotions, performance awards, health and retirement benefits, workmens' compensation, benefits associated with Permanent Change of Station (PCS) moves, and other compensation adjustments.</p>			
<b>Travel</b> .....	4,667	5,526	6,393
<p>Provide for travel associated with STA shipments and training; travel costs associated with PCS moves.</p>			
<b>Other Related Expenses</b> .....	1,564	1,271	2,089
<p>Provides funding for costs associated with required training expenses the nuclear materials courier force. Also, provides for Permanent Change of Station (PCS) moves, and Other Contractual Services.</p>			
<b>Total, Secure Transportation Asset, Program Direction</b>	<b>44,210</b>	<b>52,126</b>	<b>58,795</b>

## Explanation of Funding Changes

	FY 2004 vs. FY 2003 (\$000)
<b>Secure Transportation Asset - Program Direction</b>	
<ul style="list-style-type: none"> <li>• <b>Salaries and Benefits</b> - Increase associated with cost of living (\$2,720,000) plus an increase of 61 FTEs (\$2,264,000) in support of increased Life Extension Program activities and increased security requirements to counter terrorist activity .....</li> </ul>	4,984
<ul style="list-style-type: none"> <li>• <b>Travel</b> - Increase reflects escalation plus additional requirements associated with travel for the additional Federal staff .....</li> </ul>	867
<ul style="list-style-type: none"> <li>• <b>Other Related Expenses</b> - Increase reflects escalation plus additional funds to support additional Federal staff .....</li> </ul>	818
<b>Total Funding Change, Secure Transportation Asset, Program Direction</b> .....	<b>6,669</b>





# **Safeguards and Security**

## **Program Mission**

The mission of the Safeguards and Security (S&S) program is to ensure the protection of National Nuclear Security Administration (NNSA) personnel, facilities, nuclear weapons, information, cyber infrastructure, and other materials. The program is responsible for all S&S activities at sites and facilities across the NNSA nuclear weapons complex, including the Lawrence Livermore National Laboratory, the Los Alamos National Laboratory, the Sandia National Laboratories (NM and CA); the Nevada Test Site; the Kansas City Plant, the Pantex Plant, the Y-12 Plant; and the Savannah River Site Tritium Facilities. NNSA safeguards and security efforts will ensure that these sites and facilities are satisfactorily protected against the full spectrum of threats that could damage the nation's nuclear weapons complex.

The NNSA employs a comprehensive and robust security posture designed to protect national security assets at NNSA sites. The basis for this posture is the development and application of the DOE Design Basis Threat (DBT) Policy against which protection measures are implemented using a graded approach to ensure that more attractive assets are provided greater protection.

Each NNSA site or facility is secured by multiple layers of graded security measures that are documented in an approved Site Safeguards and Security Plan (SSSP) or a facility Master Security Plan. These plans provide the framework for the specific protection actions for classified information, nuclear weapons, weapons components, and special nuclear materials that each site is required to maintain. In addition, a Cyber Security Plan addresses the level of security required for information and equipment that is included in the cyber structure. Augmenting the overall S&S framework are Personnel Security programs, such as the Personnel Security Assurance Program (PSAP), initial and recurring personnel security reviews, and annual security training, which are designed to ensure continuing reliability of employees having access to classified matter at all NNSA sites.

The terrorist attacks of September 11, 2001 had an immediate impact on the level of S&S requirements needed to ensure the security of NNSA sites, facilities and nuclear assets. In addition to the basic ongoing security functions, the NNSA immediately implemented additional security measures to upgrade its overall security posture, including the hiring and training of additional protective force personnel, physical security upgrades, cyber security infrastructure upgrades, and increased education and awareness activities for our employees. The FY 2002 Emergency Supplemental provided additional funding to address the most immediate post 9/11 security needs.

Under the Continuing Resolutions passed in FY 2003, the Safeguards and Security Program has continued operations consistent with the FY 2002 level of operations, which included FY 2002 Supplemental Appropriations. The NNSA is reviewing the operational requirements for the Safeguards and Security Program for FY 2003, and pending the outcome of the final enacted FY 2003 appropriation, NNSA will determine if any additional actions are required.

The FY 2004 Request will provide S&S protection at the NNSA sites and facilities consistent with the current security posture. The NNSA will continue to provide a high state of security and to ensure that all NNSA sites and interests are ready to address current and any new emerging threats. The NNSA will be looking at new ways to address the security threats and associated risks to ensure that the overall NNSA enterprise approach

to security provides a consistent, cost-effective approach to protection of some of the country's most attractive materials.

The Safeguards and Security Program participated in the Office of Management and Budget's (OMB) program assessments using the Program Assessment Rating Tool (PART). The NNSA Safeguards and Security Program was rated by OMB as "Adequate". OMB noted this rating should not be interpreted to mean that security at the Nation's nuclear weapons complex is lax or insufficient. OMB believes that these facilities are some of the most secure facilities in the country; however, the program had not yet determined and published clear and measurable goals. Based on these recommendations, NNSA has significantly revised our Safeguards and Security performance indicators. These new measures are included in this budget. NNSA will continue to work with OMB to determine whether these performance measures can be further defined.

### **Program Strategic Performance Goals**

**NS 4-3:** Protect NNSA personnel, information and assets against attacks/espionage and respond to worldwide incidents involving nuclear or radiological weapons/materials.

#### **Performance Indicators**

Number of NNSA sites where federal evaluation of contractor safeguards and security performance is conducted.

Percentage of independent oversight inspections' corrective action plan items completed on time.

Number of advanced technologies to maintain or improve security at reduced costs prototyped for demonstration and the number deployed for routine use.

Total guard force staffing levels and qualifications meet all security post requirements at stable or reduced costs.

Number of Iterative Site Analyses (ISAs) conducted to provide an assessment of vulnerabilities and protective strategies to identify cost effective solutions for all NNSA sites.

#### **Annual Performance Results and Targets**

<b>FY 2002 Results</b>	<b>FY 2003 Targets</b>	<b>FY 2004 Targets</b>
Conducted federal evaluations at all 8 NNSA sites to assess contractor safeguards and security performance.	Conduct federal evaluations at all 8 NNSA sites to assess contractor safeguards and security performance.	Conduct federal evaluations at all 8 NNSA sites to assess contractor safeguards and security performance.
Completed at least 90% of independent oversight evaluations' corrective action plan items on time.	Complete at least 90% of independent oversight evaluations' corrective action plan items on time.	Complete at least 90% of independent oversight evaluations' corrective action plan items on time.

FY 2002 Results	FY 2003 Targets	FY 2004 Targets
<p>Conducted 3 ISAs to identify vulnerabilities and identified cost effective solutions that can be deployed throughout the weapons complex.</p>	<p>Conduct 3 ISAs to identify vulnerabilities and identify cost effective solutions that can be deployed throughout the weapons complex.</p> <p>Maintain security post 100% and implement programs that will reduce physical security unscheduled overtime by 10% or more from prior years base.</p>	<p>Conduct 3 ISAs to identify vulnerabilities and identify cost effective solutions that can be deployed throughout the weapons complex.</p> <p>Maintain security post 100% and reduce unscheduled overtime to an average program annual rate of 25% or less.</p> <p>Establish an R&amp;D program.</p>

### Significant Program Shifts

In the aftermath of the September 11<sup>th</sup> event, the NNSA has been working with the Department on a revision to the Design Basis Threat (DBT). The current draft is based on information from the intelligence community, national security information, and technical exchanges with the Department of Defense (DoD) and the Nuclear Regulatory Commission. The results of the Department's revised DBT will be incorporated in future budget requests.

The S&S program will evaluate existing S&S technology and determine the best balance between personnel and the use of existing technology. In order to improve the cost-effectiveness of the S&S program, the NNSA plans to begin a modest research and development effort in both Physical Security and Cyber Security. During FY 2004, the S&S program will identify potential areas of focus for technology, including utilizing site analysis studies to determine specific upgrade needs to improve existing or proposed physical security detection systems; acquiring and deploying advanced access control technologies; and developing, acquiring and applying improved hardware and software systems to "harden" the cyber arena.

In FY 2005, the NNSA will select technologies to pursue in targeted program areas. These efforts will focus on both technologies that can be implemented in the near-term to reduce overall costs as well as long-term efforts that will have a longer pay-off period. This research effort should serve to identify potential solutions or provide new technology that could serve to further protect NNSA nuclear assets.

## Funding Profile

(dollars in thousands)

	FY 2002 Comparable Appropriation	FY 2003 Request	FY 2004 Request	\$ Change	% Change
<b>Safeguards and Security</b>					
Operations & Maintenance					
Physical Security .....	456,836	434,904	501,966	67,062	15.4%
Cyber Security .....	88,000	66,150	80,101	13,951	21.1%
Subtotal, Operations & Maintenance .....	544,836 <sup>a</sup>	501,054	582,067	81,013	16.2%
Construction .....	9,600	8,900	3,683	-5,217	-58.6%
<b>Total, Safeguards &amp; Security .....</b>	<b>554,436</b>	<b>509,954</b>	<b>585,750</b>	<b>75,796</b>	<b>14.9%</b>

**Public Law Authorization:**

Public Law 107-314, Bob Stump National Defense Authorization Act for FY 2003

## Funding by Site

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
<b>Safeguards and Security</b>					
Kansas City Site Office					
Kansas City Plant .....	16,466	14,200	15,690	1,490	10.5%
Livermore Site Office					
Lawrence Livermore National Laboratory .....	95,031	87,000	91,750	4,750	5.5%
Los Alamos Site Office					
Los Alamos National Laboratory .....	128,643	115,900	124,326	8,426	7.3%
Nevada Site Office					
Nevada Site Office .....	34,348	31,300	40,964	9,664	30.9%
NNSA Service Center					
NNSA Service Center .....	4,049	3,400	3,694	294	8.6%

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<sup>a</sup> Reflects \$445,000 adjustment for a rescission in the Weapons Activities account required by the FY 2002 Supplemental Appropriations Act for further recovery from and response to terrorist attacks on the United States (P.L. 107-206).

<b>Safeguards and Security</b>	FY 2002	FY 2003	FY 2004	\$ Change	% Change
<b>Oak Ridge Operations Office</b>					
Y-12 National Security Complex .....	87,283	73,000	82,432	9,432	12.9%
<b>Pantex Site Office</b>					
Pantex Plant .....	89,039	79,700	88,094	8,394	10.5%
<b>Sandia Site Office</b>					
Sandia National Laboratories .....	70,799	62,000	79,500	17,500	28.2%
<b>Savannah River Operations Office</b>					
Savannah River Site .....	13,055	11,450	11,885	435	3.8%
<b>Washington Headquarters</b>					
Washington Headquarters .....	15,723	32,004	47,415	15,411	48.2%
<b>Total, Safeguards and Security .....</b>	<b>554,436</b>	<b>509,954</b>	<b>585,750</b>	<b>75,796</b>	<b>14.9%</b>

NOTE: FY 2003 site allocations will be revised after enactment of the FY 2003 appropriation.

1). On December 20, 2002, the NNSA disestablished the Albuquerque, Oakland, and Nevada Operations offices, renamed existing area offices as site offices, established a Nevada Site Office and established a single NNSA Service Center to be located in Albuquerque. Other aspects of the NNSA organizational changes will be phased in and consolidation of the Service Center in Albuquerque will be completed by September 30, 2004.

### **Site Descriptions**

The Safeguards and Security program ensures the protection of personnel, facilities, nuclear weapons, information, cyber infrastructure, and other materials at the NNSA nuclear weapons complex sites listed in the Funding by Site table. A general description of these sites is in the Weapons Activities Executive Summary.

## Physical Security

### Mission Supporting Goals and Measures

**Physical Security** provides a combination of operational and security equipment, personnel, and procedures to protect facilities, material and information against theft, sabotage, diversion, or other criminal acts. Individual site conditions determine the specific measures needed for each site, depending on the current security posture and threat condition. Each NNSA site or facility has an approved Safeguards and Security Site Plan (SSSP) or a facility Master Security Plan which includes multiple layers of graded security measures. These plans outline the specific protection actions for classified information, nuclear weapons, weapons components, and special nuclear materials that the site is required to maintain. Personnel Security programs, such as the Personnel Security Assurance Program, initial and recurring personnel security reviews, and annual security training are designed and implemented to ensure continuing reliability of employees having access to classified matter.

During FY 2003, the program will: establish a five-year planning process for S&S initiatives addressing the redesign of equipment and systems; evaluate three sites' protection effectiveness with an Iterative Site Analysis (ISA) process; evaluate options for cost-effective approaches to security to balance technology and personnel usage; and, reduce protective force unscheduled overtime rates by 10 percent from the prior year base.

FY 2004 plans include conducting ISAs, and ensuring NNSA activities continue to meet the Safeguards and Security requirements in DOE Orders and directives. The program will continue to evaluate options for cost-effective approaches to security to balance technology and personnel usage, and an R&D program will begin developing new security system technologies for future application. The program will also continue to evaluate existing technologies and ensure full coordination with appropriate government entities on potential safeguards and security measures.

### Funding Schedule

(dollars in thousands)

<b>Physical Security</b>	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Operations & Maintenance (O&M)					
Protective Forces .....	297,478	277,313	330,791	53,478	19.3%
Physical Security Systems .....	51,014	55,489	54,018	-1,471	-2.7%
Information Security .....	20,078	15,127	18,922	3,795	25.1%
Personnel Security .....	19,658	16,889	17,107	218	1.3%
Materials Control and Accountability .....	25,290	19,637	18,796	-841	-4.3%
Research & Development .....	0	0	8,000	8,000	100.0%
Program Management .....	43,318	50,449	54,332	3,883	7.7%
<b>Total, Physical Security O&amp;M .....</b>	<b>456,836</b>	<b>434,904</b>	<b>501,966</b>	<b>67,062</b>	<b>15.4%</b>

## Detailed Program Justification

(dollars in thousands)

	FY 2002	FY 2003	FY 2004
<b>Protective Forces</b> .....	297,478	277,313	330,791

These forces are a site’s primary front-line protection capability, consisting of armed and unarmed uniformed officers. Protective forces are an integral part of a site’s protection posture, trained and practiced in various defensive tactics and procedures to protect site interests. In addition to providing daily site protection, these forces function as first responders, train to manage chemical and biological events, and provide special contingency response capabilities. Funding needs are determined by Site Safeguards and Security Plan (SSSP) protection strategies designed to ensure adequate protective force staffing levels, equipment, facilities, training, management and administrative support.

<b>Physical Security Systems</b> .....	51,014	55,489	54,018
--	--------	--------	--------

Physical Security Systems provides intrusion detection and assessment barriers, access controls, tamper protection monitoring, and performance testing and maintenance of security systems according to the approved site performance testing plan.

<b>Information Security</b> .....	20,078	15,127	18,922
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Information Security provides information protection, classification and declassification of information, critical infrastructure, technical security countermeasures (TSCM), and operations security. Through the periodic review of classified and sensitive information, Information Security ensures proper document marking, storage and protection of information. In accordance with the NNSA reengineering effort, the NNSA Service Center in Albuquerque will have the lead for NNSA information security initiatives.

<b>Personnel Security</b> .....	19,658	16,889	17,107
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Personnel Security encompasses the processes for administrative determination that an individual is eligible for access to classified matter, or is eligible for access to, or control over, special nuclear material or nuclear weapons. Although the NNSA is responsible for ensuring that all personnel with access to NNSA sites (including current employees, new hires, and visitors) have been appropriately reviewed for access to classified and sensitive matter and materials, the actual NNSA security clearance reviews by the Federal Bureau of Investigation and/or the Office of Personnel Management are budgeted for in the Office of Security budget. Personnel Security represents all other functions of the personnel security process at the NNSA. In accordance with the NNSA reengineering effort, the NNSA Service Center will have the lead for NNSA personnel security initiatives.

<b>Materials Control and Accountability</b> .....	25,290	19,637	18,796
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Material Control and Accountability (MC&A) provides for continuous accountability of special nuclear materials in accordance with approved site security plans. MC&A functions as a primary deterrent against unauthorized use or diversion of special nuclear material. One of MC&A’s principal uses is for deterrence and detection of malevolent insider actions. In accordance with the NNSA reengineering effort, the Y-12 Site Office will have the lead for NNSA MC&A initiatives.

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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**Research & Development** ..... 0 0 8,000

Research & Development (R&D) will begin to develop and deploy technology to address both short and long-term solutions to specific physical security needs at NNSA sites. The R&D efforts will focus on emerging technologies that will provide cost-effective improvements to the NNSA S&S program. In FY 2004, specific technologies will be selected for further research and development.

**Program Management** ..... 43,318 50,449 54,332

Program Management provides direction, oversight and administration, planning, training, and development for security programs. In FY 2004, S&S funding is being managed by NNSA in a effort to implement high priority S&S projects that emerged due to September 11<sup>th</sup> terrorist attacks. Activities include the assessment of security implementation efforts through the review of updated security plans. Performance testing, review of vulnerability assessments, and revised threat and vulnerability analysis using the Iterative Site Analysis (ISA) process. At the end of FY 2004, lead responsibilities for management of personnel security and information security programs will reside with subject matter experts in the NNSA Service Center.

**Total, Physical Security** ..... **456,836 434,904 501,966**

### Explanation of Funding Changes

FY 2003 vs FY 2004 (\$000s)
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- # **Protective Forces:** As part of the NNSA’s continuing efforts to strengthen safeguards and security post 9/11, protective force funding is increased to facilitate the hiring, equipping and training of additional protective force officers, and to replace aging equipment used by protective forces ..... **53,478**
- # **Physical Security Systems:** Major upgrades to existing physical security systems or the development and acquisition of newer systems are being deferred to help accommodate other funding requirements. FY 2004 funding provides for normal systems maintenance, modifications, and minor improvements to ensure needed reliability and dependability ..... **-1,471**
- # **Information Security:** The increase in funding is to ensure the continued protection of classified information and sensitive information holdings. The increase allows for the continued declassification of information no longer requiring protection ..... **3,795**



FY 2003 vs FY 2004 (\$000s)
-----------------------------------

# <b>Personnel Security:</b> Increased funding is needed as a result of increases in protective force staffing levels, increasing backlogs in security investigation support by other Government agencies, and heightened concerns for personnel clearance suitability . . . . .	<b>218</b>
# <b>Materials Control and Accountability:</b> Reductions in funding for this critical S&S function are based on the physical consolidation of special nuclear materials inventories, fewer locations requiring dedicated protection resources, and materials measurement procedures . . . . .	<b>-841</b>
# <b>Research and Development:</b> The increase initiates a modest R&D effort in FY 2004 to improve the future of NNSA security by developing and implementing new and improved technologies, which maintain a protective edge against adversary capabilities, enhance protection effectiveness of critical resources, and reduce costs associated with human staffing . . . . .	<b>8,000</b>
# <b>Program Management:</b> The increase is associated with the NNSA re-engineering effort and in response to increases in safeguards and security planning, policy revision, training, and program execution requirements post 9/11 . . . . .	<b>3,883</b>
<b>Total, Physical Security</b> . . . . .	<b>67,062</b>

## Capital Operating Expenses and Construction Summary

### Capital Operating Expenses <sup>b</sup>

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
General Plant Projects . . . . .	1,225	1,262	1,300	38	3.00%
Capital Equipment . . . . .	14,218	14,645	15,084	439	3.00%
<b>Total, Capital Operating Expenses</b> . . . . .	<b>15,443</b>	<b>15,906</b>	<b>16,383</b>	<b>477</b>	<b>3.00%</b>

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<sup>b</sup> Since funds are appropriated for Operations and Maintenance, which includes operating expenses, capital equipment and general plant projects, we no longer budget separately for capital equipment and general plant projects. FY 2003 and FY 2004 funding shown reflects estimates based on actual FY 2002 obligations.

# Cyber Security

## Mission Supporting Goals and Measures

**Cyber Security** defines implementing policies and procedures for information protection and the design, development, integration, and deployment of all Cyber Security-related and infrastructure components of the Stockpile Stewardship Program and other activities at NNSA landlord sites. The Cyber Security Plan addresses the level of security required for information and equipment in the cyber structure. In FY 2004, efforts to identify emerging technology for further research and development will be supported, with the goal of deploying cost saving initiatives to further improve protection of our cyber assets.

In FY 2002, in addition to the requested funding for the Cyber Security Infrastructure Program and Integrated Cyber Security Initiative (ICSI), the program received and distributed supplemental funding in Cyber Security to cover immediate preventive measures taken to address the September 11, 2001 terrorist attacks. The definition of the NNSA Cyber Security Program, including NNSA Cyber Threat Assessment and cyber security implementation directives were developed in collaboration with the NNSA and NNSA contractor organizations.

In FY 2003, we reviewed and updated the NNSA Cyber Threat Assessment and cyber security implementation directives to reflect changes in threats, information technology and NNSA nuclear weapons activities. The ICSI activities included the definition and conceptual design of the NNSA enterprise secure architecture and network, which included enterprise-wide access controls for nuclear weapons, user authentication and authorization controls, determination of information flows of nuclear weapon information across the NNSA enterprise, and development of enterprise cyber security testing and certification. The program identified nuclear weapons information assets and the information flows between components of the nuclear weapons complex. The program conducted in-depth site Cyber Security budget reviews and aligned Cyber Security direct funding with Cyber Security program plans. The program completed the Integrated Cyber Security Initiative FY 2003 implementation plan.

During FY 2004 we will review and update, as needed, the NNSA Cyber Threat Assessment and NNSA cyber security implementation directives to reflect changes in threats, information technology and NNSA mission areas, especially nuclear weapons information activities. The ICSI program will document and initiate the FY 2004 Integrated Cyber Security Initiative Implementation Plan. The ICSI program will identify and implement a prototype solution for enterprise-wide management of access controls for nuclear weapons information. The ICSI program will also identify and implement prototype solutions for enterprise-wide user authentication, authorization, public key infrastructure, and other secure enterprise-wide services. The ICSI program will update identification of information assets and information flows of nuclear weapon information across the NNSA enterprise. The Cyber Security Infrastructure Program will continue to enhance the existing cyber security activities and develop and implement advanced Cyber Security policies and practices. The ICSI program will design and begin implementation of an enterprise-wide intrusion detection system, and we will design and begin implementation of enterprise-wide secure e-mail, file sharing, and user collaboration tools.

## Funding Schedule

(dollars in thousands)

Cyber Security	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Infrastructure .....	57,760	49,250	58,150	8,900	18.1%
Integrated Cyber Security .....	30,240	16,900	19,951	3,051	18.1%
Research and Development .....	0	0	2,000	2,000	100.0%
<b>Total, Cyber Security .....</b>	<b>88,000</b>	<b>66,150</b>	<b>80,101</b>	<b>13,951</b>	<b>21.1%</b>

### Detailed Program Justification

	FY 2002	FY 2003	FY 2004
<b>Infrastructure Program .....</b>	<b>57,760</b>	<b>49,250</b>	<b>58,150</b>

# The infrastructure program supports the cyber security operations and activities at NNSA landlord sites. The cyber security operations and activities provide a foundation that includes detection of intrusions (hackers and other forms of attacks), vulnerability scanning and correction within each site, implementation of Department and NNSA cyber security policies and practices, and continuous improvement of network and computing system cyber security technologies. The infrastructure program provides the personnel and cyber security technology (hardware and software) to maintain a cyber security posture that complies with all Department and NNSA policies while addressing the increasing number and complexity of cyber security threats.

FY 2002	FY 2003	FY 2004
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**Integrated Cyber Security** ..... 30,240 16,900 19,951

- # The Integrated Cyber Security Initiative (ICSI) provides the definition, planning, and design efforts for the development and deployment of the NNSA enterprise-wide secure network (ESN). ICSI supports:
- the ESN Test and Certification Laboratory for the evaluation and testing of ESN components in an isolated, non-production, controlled environment
  - the Need-to-Know Project to define, demonstrate, test, and deploy software products to manage need-to-know access to all information and computing resources across the ESN
  - the Authentication Project to define, demonstrate, test, and deploy software products to authenticate all NNSA users who participate in the ESN
  - the Authorization Project to define, demonstrate, test, and deploy software products to manage user identities and authorizations to use information and computing resources across the ESN
  - the Information Assets Project to identify the electronic information assets and flow of these assets across the ESN.
  - the Enterprise Directory Services Project to define, demonstrate, test, and deploy software products that provide a enterprise-wide directory repository for information related to the management of the ESN and information assets
  - the Enterprise Lexicon Project to define and disseminate standard term, definitions, and meta-date for all ESN information assets and activities
  - the Enterprise Intrusion Detection Project to define, develop, demonstrate, test, and deploy state-of-the-art systems for the detection of anomalous activities, such as hackers and attempts at unauthorized penetration, throughout the ESN
  - the Enterprise System Management Project to define, develop, demonstrate, test, and deploy software products for the management and support of on-going ESN operation and user activities
  - the NNSA Cyber Security Education and Awareness Project to develop, maintain, and deliver continuously updated cyber security information to all NNSA and NNSA contractor personnel.

**Research and Development** ..... 0 0 2,000

# Research & Development (R&D) will develop and deploy technology to address both short and long-term solutions to specific cyber security needs at NNSA sites. The R&D efforts will focus on emerging technologies that will provide cost-effective improvements to the NNSA S&S program. In FY 2004, specific technologies will be selected for further research and development.

**Total, Cyber Security** ..... 88,000 66,150 80,101

## Explanation of Funding Changes

FY 2003 vs FY 2004 (\$000s)
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# <b>Infrastructure Program:</b> The increase is needed to address cyber security requirements begun in the aftermath of the September 11, 2001 terrorist attack. The additional funding will provide improvements in NNSA site Cyber Security infrastructures, such as firewalls and media-less workstations to address increased and changing Cyber threats, improves performance of Cyber Security components, such as intrusion detection systems, applies graded protection to nuclear weapon data processed on advanced information technology systems, and continues the design and implementation of the NNSA secure enterprise network. . . . .	<b>8,900</b>
# <b>Integrated Cyber Security:</b> The increase is to design, develop and deploy the NNSA enterprise-wide secure network . . . . .	<b>3,051</b>
# <b>Research and Development:</b> The increase supports initiation of a modest R&D effort to pursue emerging technologies which will provide cost-effective improvements to the NNSA cyber security program. . . . .	<b>2,000</b>
<b>Subtotal, Cyber Security . . . . .</b>	<b>13,951</b>

### Capital Operating Expenses and Construction Summary

#### Capital Operating Expenses <sup>c</sup>

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
General Plant Projects . . . . .	562	579	596	17	3.00%
Capital Equipment . . . . .	4,883	5,029	5,180	151	3.00%
Total, Capital Operating Expenses . . . . .	5,445	5,608	5,777	168	3.00%

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<sup>c</sup> Since funds are appropriated for Operations and Maintenance, which includes operating expenses, capital equipment and general plant projects, we no longer budget separately for capital equipment and general plant projects. FY 2003 and FY 2004 funding shown reflects estimates based on actual FY 2002 obligations.

## Construction Project Summary

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior Year Appropriations	FY 2002	FY 2003	FY 2004	Unappropriated Balance
99-D-132, Nuclear Materials Safeguards and Security Upgrades Project, Los Alamos National Laboratory .....	61,143	38,960	9,600	8,900	3,683	0
.....						
<b>Total, Construction .....</b>	<b>61,143</b>	<b>38,960</b>	<b>9,600</b>	<b>8,900</b>	<b>3,683</b>	<b>0</b>

## Detailed Program Justification

FY 2002	FY 2003	FY 2004
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### Construction

99-D-132, Nuclear Materials Safeguards and Security Upgrades, Los Alamos National Laboratory ..... 9,600 8,900 3,683

The Nuclear Materials Safeguards and Security Upgrades Project (NMSSUP) replaces the existing Los Alamos National Laboratory (LANL) security system, addresses Special Nuclear Material (SNM) facility requirements, and addresses malevolent vehicle threats at key nuclear facilities. Assessments of the LANL S&S system have identified numerous system deficiencies due to aging equipment and outdated technologies. The NMSSUP will provide a reliable S&S system to ensure the protection and control of SNM, classified matter, and Departmental property.

## Explanation of Funding Changes from FY 2003 to FY 2004

FY 2003 vs FY 2004 (\$000s)
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**Construction** .....

# 99-D-123, Nuclear Materials Safeguards and Security Upgrades, Los Alamos National Laboratory reflects final year of funding for Phase I ..... -5,217

# 99-D-132, Nuclear Materials Safeguards and Security Upgrades Project, Phase I Los Alamos National Laboratory, New Mexico

(Changes from FY 2003 Congressional Budget Request are denoted with a vertical line [ | ] in the left margin.)

## Significant Changes

# None.

### 1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000) <sup>a</sup>	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 1999 Budget Request .....	1Q 1999	1Q 2001	3Q 2000	3Q 2004	60,746	70,920
FY 2000 Budget Request (Preliminary Estimate) .....	2Q 1999	1Q 2001	3Q 2000	3Q 2004	60,746	70,920
FY 2001 Budget Request .....	4Q 1999	2Q 2002	4Q 2000	4Q 2005	61,143	74,634
FY 2002 Budget Request .....	1Q 2000	1Q 2003	3Q 2001	2Q 2005	61,143	73,951
FY 2003 Budget Request .....	1Q 2000	1Q 2003	3Q 2001	2Q 2005	61,143	73,951
FY 2004 Budget Request (Current Baseline Estimate) .....	1Q 2000	1Q 2003	3Q 2001	2Q 2005	61,143	73,951

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<sup>a</sup> TEC and Financial Schedule reflects Phase I only. Future cost estimates and funding profiles will be completed as part of future conceptual design efforts.

## 2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
1999	9,700	9,700	0
2000	11,257 <sup>a</sup>	11,257	7,356
2001	18,003 <sup>b</sup>	18,003	8,072
2002	9,600	9,600	24,832
2003	8,900	8,900	14,034
2004	3,683	3,683	4,100
2005	0	0	2,749

## 3. Project Description, Justification and Scope

The Nuclear Material Safeguard and Security Project (NMSSUP) replaces the existing Los Alamos National Laboratory (LANL) security system, addresses Special Nuclear Material (SNM) facility requirements, and addresses malevolent vehicle threats at key nuclear facilities. Assessments of the LANL safeguards and security system have identified numerous system deficiencies due to aging equipment and outdated technologies. The NMSSUP will provide a reliable safeguards and security system to ensure the protection and control of SNM, classified matter, and Departmental property supporting current missions at LANL.

The NMSSUP is separated into multiple phases to accomplish the project goals. Phase I will provide for the replacement of safeguard and security control systems (computers/ communications links, etc.) and modification of related facilities. Future projects for improvements in security will be reviewed for consistency with events since September 11, 2001.

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<sup>a</sup> Original appropriation was \$11,300,000. This was reduced by \$43,000 for the FY 2000 rescission enacted by P.L. 106-113.



<sup>b</sup> Original appropriation was \$18,043,000. This was reduced by \$40,000 for a rescission enacted by Section 1403 of the FY 2001 Consolidated Appropriations Act. There is no change to the TEC due to a corresponding increase to the FY 2004 appropriation amount.

This project is to provide necessary upgrades to the existing Laboratory-wide security systems to bring them into compliance with DOE Order 5632.1C and to address deficiencies cited in the Los Alamos National Laboratory (LANL) Site Safeguards and Security Plan (SSSP). The systems being upgraded have been in operation for up to 14 years, have exceeded their useful design life, and are in need of replacement. Funding is required to continue safe, secure, economical operation of the Laboratory.

## **Phase I**

A new security system will be installed to include multiple host computers, operator interface consoles, upgrades to existing facilities, and a dedicated communications trunk. Existing facilities will be upgraded to serve as a Central Alarm Station (CAS) and Secondary Alarm Station (SAS) which will house the host computers and security monitoring personnel. To support the transition of the local assessment facility for operation as the new CAS, an unstaffed assessment console room will be provided. Additional detail is provided below.

### Control System

The project will replace the existing Laboratory security system; (Basic Rapid Alarm Security System (BRASS)), computers and software with Argus, a security system provided by Lawrence Livermore National Laboratory (LLNL). The CAS and SAS will be reconfigured, and minor remodeling of the badging office will be performed to accommodate Argus enrollment stations.

### Facilities

CAS will be upgraded to house the host system computer and new operator consoles. A small utility building will be constructed to accommodate facility support equipment, and provide space for supervisory personnel. SAS will be upgraded to house the host system computer and new operator consoles. A small utility building will be constructed to accommodate facility support equipment. Limited Area fencing and barricades will be installed to enclose the SAS to provide proper security. This facility will also house the training console to support the Argus system.

# A collective protection system has been added to the CAS & SAS to protect the buildings against infiltration of aerosol and gas incapacitating agents.

The Central Guard Facility will be upgraded to house a new un-staffed assessment console to support the transition of the local assessment room to operation as the CAS.

### Communications System

A new fiber optic communications network will replace the existing telephone circuits connecting the security control computers to the field concentrators. Phase 1 will install the portion of the communications system that connects the new host computers to the security concentrators at LANL's Category I SNM facilities TA-55 and TA-18. In addition, the communications circuits needed to connect the computers in the CAS, SAS, and the assessment console room will be installed in Phase I. Because Phase 1 involves installing fiber-optic

bundles from the CAS and SAS, those bundles will be sized with adequate capacity in Phase 1 to accommodate the number of fibers needed to support future Phases.

**Project Milestones:**

Critical Decision 2	4QFY99
Date A/E Work Initiated	1QFY00
Date Title II Completed	1QFY03
Critical Decision 3	1QFY01
Date Physical Construction Starts	3QFY01
Date Construction Ends	2QFY05
Critical Decision 4	1QFY06

**4. Details of Cost Estimate**

	(dollars in thousands)	
	Current Estimate	Previous Estimate
Design Phase		
Preliminary and Final Design costs (Design Drawings and Specifications) .....	7,368	7,368
Design Management costs (2.4% of TEC) .....	1,480	1,480
Project Management costs (6.2% of TEC) .....	3,803	3,803
Total, Design Costs (20.7% of TEC) .....	12,650	12,650
Construction Phase		
Improvements to Land .....	0	0
Buildings .....	6,817	6,817
Special Equipment .....	17,126	17,126
Standard Equipment .....	5,037	5,037
Inspection, Design and Project Liaison, Testing, Checkout and Acceptance .....	1,949	1,949
Construction Management (3.8% of TEC) .....	2,307	2,307
Project Management (7.7% of TEC) .....	4,705	4,705
Total, Construction Costs (62.1% of TEC) .....	37,941	37,941
Contingencies		
Design Phase (3.8% of TEC) .....	2,299	2,299
Construction Phase (13.5% of TEC) .....	8,253	8,253
Total, Contingencies (17.3% of TEC) .....	10,552	10,552
Total, Line Item Costs (TEC) <sup>a</sup> .....	61,143	61,143

<sup>a</sup> Escalation rates taken from FY 1999 DOE escalation multiplier tables. TEC/TPC and Financial Schedule reflect Phase I only. Phase 2 will be completed as part of a future project.

## 5. Method of Performance

Engineering, design and inspection will be accomplished under a negotiated architect-engineer (A-E) contract. Construction and procurement will be accomplished by fixed-price contracts awarded on the basis of competitive bidding. The computer system will be procured and installed through a cooperative agreement with Lawrence Livermore National Laboratory.

## 6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2002	FY 2003	FY 2004	Outyears	Total
Project Cost						
Facility Cost						
Design .....	10,012	2,905	1,549	483	0	14,949
Construction .....	5,416	21,927	12,485	3,617	2,749	46,194
Total, Line item TEC .....	15,428	25,212	14,034	4,100	2,749	61,143
Total, Facility Costs (Federal and Non-Federal) ....	15,428	25,212	14,034	4,100	2,749	61,143
Other Project Costs						
Conceptual design cost .....	1,800 <sup>a</sup>	0	0	0	0	1,800
NEPA documentation costs .....	50 <sup>a</sup>	0	0	0	0	50
Other ES&H costs .....	320 <sup>a</sup>	269	187	105	0	881
Other project-related costs .....	3,628 <sup>a</sup>	1,040	2,887	2,502	20	10,077
Total, Other Project Costs .....	5,798	1,309	3,074	2,607	20	12,808
Total, Project Cost (TPC) .....	21,226	26,521	17,108	6,707	2,769	73,951

## 7. Related Annual Funding Requirements

(FY 2004 dollars in thousands)

	Current Estimate	Previous Estimate
Annual facility operating costs .....	1,874	1,874
Annual facility maintenance/repair costs .....	902	902

	(FY 2004 dollars in thousands)	
Utility costs .....	59	59
Total related annual funding (operating from FY 2004 through FY 2023) .....	<u>2,835</u>	<u>2,835</u>

<sup>a</sup> Changes in the prior year Other Project Costs are due to correction to costs previously assigned to incorrect codes.



