Directed Stockpile Work

Program Mission

Directed Stockpile Work (DSW) supports National Nuclear Security Administration's (NNSA) mission to maintain the safety, security, reliability, and performance of the Nation's nuclear stockpile without underground nuclear testing, and is designed to ensure that stockpiled weapons meet military requirements. DSW encompasses the broad range of activities that directly support weapons in the enduring nuclear stockpile, as directed by the Presidentially approved Nuclear Weapons Stockpile Plan, including current maintenance; day-to-day care; and research, development, engineering, and certification activities to support planned life extensions, as indicated in the NNSA Production and Planning Directive, and to maintain this capability as far into the future as necessary. It also includes procurement of materials (exclusive of nuclear materials); fabrication and assembly of nuclear weapons and weapon components; lifetime surety, maintenance and reliability assessments of the enduring stockpile; weapon dismantlement and disposal; training; maintenance of field manuals/documents; and support equipment.

Both now and in the future, Defense Programs must be able to address multiple Directed Stockpile Work issues, including a significant workload of weapon refurbishments; an aging workforce in the nuclear weapons complex; and an aging stockpile that must be maintained.

Program Strategic Performance Goal:

NS 1-1 Conduct a program of warhead evaluation, maintenance, refurbishment, and production, planned in partnership with the Department of Defense.

Performance Indicators:

- # Demonstrate and assess, using data and experiments, together with validated models, the safety and reliability of the nuclear weapons stockpile, and determine if a technical need exists for underground nuclear testing. (NS 1-1-1)
- # Demonstrate an increasing scientific and technical ability to sustain warhead safety, security and reliability. (NS 1-1-2)
- # Meet planned warhead maintenance, refurbishment, and dismantlement schedules. (NS 1-1-3)

Performance Standards:

Blue: Not Applicable

Green: All FY 2003 planned program milestones and deliverables are met; or, for any FY 2003 planned program milestone or deliverable not met, a corrective action plan or adjusted program plan is in place.

Yellow: Major FY 2003 planned program milestones or deliverables are not met, and corrective action plan or adjusted program plan is under development.

Red: Major FY 2003 planned program milestones or deliverables are not met, and corrective action plan or adjusted program plan is not in place and is not achievable within fiscal year or within Weapons Activities appropriation.

Annual Performance Results and Targets:

FY 2001 Results	FY 2002 Target (Revised Final)	FY 2003 Proposed Target
• Reported to the President on the need or lack of need to resume underground testing to certify the safety and reliability of the nuclear weapon stockpile.(NS1-1-1) • Met all annual weapons maintenance and refurbishment schedules developed jointly by the NNSA and DoD. (NS1-1-3) • Exceeded annual schedules for the safe and secure dismantlement of nuclear warheads that have been removed from the U.S. nuclear weapon stockpile. (NS1-1-3)	• Report annually to the President on the need or lack of need to resume underground testing to certify the safety and reliability of the nuclear weapon stockpile. (NS1-1-1) • Meet all annual weapons maintenance and refurbishment schedules developed jointly by the NNSA and DoD. (NS1-1-3) • Meet annual schedules for the safe and secure dismantlement of nuclear warheads that have been removed from the U.S. nuclear weapon stockpile. (NS1-1-3)	• Report annually to the President on the need or lack of need to resume underground testing to certify the safety and reliability of the nuclear weapon stockpile. (NS1-1-1) • Meet all annual weapons maintenance, refurbishment and dismantlement schedules developed jointly by the NNSA and DoD. (NS 1-1-3)

Significant Accomplishments and Program Shifts

FY 2001 Accomplishments

- Completed the fifth annual certification process for the stockpile.
- Conducted the 13th subcritical experiment at the Nevada Test Site.
- Initiated Phase 6.2/6.2A study for the B61-7/11 to identify refurbishment options in response to an aging concern.
- Began full scale development engineering (Phase 6.3) for the W76 and W80 LEPs.
- Initiated Recovery Schedule for W87 LEP.
- Started production of newly designed, qualified, replacement war-reserve W76 neutron generators (NG).
- Conducted 150-day study of the Stockpile Evaluation Program.
- Exceeded dismantlement goal by 12%.

FY 2002 Planned Accomplishments

- Submit the Annual Certification and Annual Surety Reports to the President and subsequently to the Congress for the Stockpile Weapons.
- Conduct subcritical experiments in support of weapon system certification.
- Continue Phase 6.3 Development Engineering for the W80 LEP and conduct baseline hydrodynamic tests.
- Continue Phase 6.3 Development Engineering for the W76 LEP.

- Commence Phase 6.3 Development Engineering activities for the B61 7/11 to focus on the canned subassembly aging concerns with a refurbished FPU of FY 2006 and perform, in parallel, a non-destructive evaluation program on the canned subassemblies as a risk mitigation for the B61-11 with completion in FY 2004.
- Implement recommendations associated with the 150-day Study on the Stockpile Evaluation program.
- Perform scheduled W79 and W56 Dismantlements.

Funding Profile

(dollars in thousands)

	FY2001 Comparable Appropriation	FY 2002 Original Appropriation	FY 2002 Adjustments	FY 2002 Comparable Appropriation	FY 2003 Request
Directed Stockpile Work					
Stockpile Research and Development	263,470	349,000	8,014[a]	357,014	467,149
Stockpile Maintenance	335,315	350,000	-2,037[b]	347,963	401,157
Stockpile Evaluation	160,436	178,500	-4,109[c]	174,391	197,184
Dismantlement	24,488	27,000	-658[d]	26,342	24,378
Production Support	144,455	134,896	-2,646[e]	132,250	137,706
Field Engineering, Training & Manuals	6,229	6,418	-148[f]	6,270	6,893
Total, Directed Stockpile Work	934,393	1,045,814	-1,584	1,044,230	1,234,467

Public Law Authorization:
Public Law 107-66, Energy and Water Development Appropriations Act for FY2002
Public Law 107-107, National Defense Authorization Act for FY 2002

a Adjustment of $8,014,000 reflects the use of limited reprogramming authority from the conference report accompanying P.L. 107-66.

b Adjustment of $1,584,000 is part of the general reduction from P.L. 107-66. Adjustment of $453,000 reflects the use of limited reprogramming authority from the conference report accompanying P.L. 107-66.

c Adjustment of $4,109,000 reflects the use of limited reprogramming authority from the conference report accompanying P.L. 107-66.

d Adjustment of $658,000 reflects the use of limited reprogramming authority from the conference report accompanying P.L. 107-66.

e Adjustment of $2,646,000 reflects the use of limited reprogramming authority from the conference report accompanying P.L. 107-66.

f Adjustment of $148,000 reflects the use of limited reprogramming authority from the conference report accompanying P.L. 107-66.

Funding by Site

(dollars in thousands)

Directed Stockpile Work	FY 2001	FY 2002	FY 2003	$ Change	% Change
Albuquerque Operations Office					
Kansas City Plant	165,836	163,079	170,022	6,943	4.3%
Los Alamos National Laboratory	137,517	177,220	220,595	43,375	24.5%
Pantex Plant	120,576	111,498	118,815	7,317	6.6%
Sandia National Laboratories	296,302	310,179	391,601	81,422	26.3%
Total, Albuquerque Operations Office	720,231	761,976	901,033	139,057	18.3%
Nevada Operations Office	30,007	48,044	58,280	10,236	21.3%
Oak Ridge Operations Office					
Y-12 Plant	95,906	109,310	118,154	8,844	8.1%
ORNL	1,658	1,711	1,789	78	4.6%
Total, Oak Ridge Operations Office	97,564	111,021	119,943	8,922	8.0%
Oakland Operations Office					
Lawrence Livermore National Laboratory	60,014	81,710	99,354	17,644	21.6%
Savannah Operations Office					
Savannah River Site	23,855	33,954	35,352	1,398	4.1%
Headquarters	2,722	7,525	20,505	12,980	172.5%
Total, Directed Stockpile Work	934,393	1,044,230	1,234,467	190,237	18.2%

Weapon System Costs

The FY 2002 Energy and Water Conference Report, 107-258 provides the following guidance related to weapon system costs:

- *Directs the NNSA to submit Selected Acquisition Reports (SAR) once a year to the Armed Services and Appropriation Committees of Congress, to accompany the fiscal year 2003 and subsequent President's Budgets.*

In response to this guidance, NNSA is resuming the development and publication of the Nuclear Weapon Acquisition Report (NWAR), a SAR-like report that had been published between 1977 and 1991 for inclusion in the Department of Defense (DOD) budget. The NWAR will include NNSA's acquisition costs, schedules, and technical status for the major strategic nuclear weapon system acquisition programs.

NWARs will be completed for major strategic nuclear weapon system acquisition programs meeting the following criteria:

- Designated by the Nuclear Weapons Council (NWC) as approved to enter Development Engineering **and**
- Estimated to have a total expenditure of more than $300 million in constant FY 2002 dollars.

The three refurbishments currently meeting these criteria are the W87, W76 and W80. A classified addendum containing NWARs for these refurbishments will be transmitted to the Hill under separate cover.

The NNSA is planning to complete the refurbishment study for the B61-7/11 by the end of FY 2002, with plans to proceed into the refurbishment in FY 2003 contingent on NWC approval. These actions will serve as the basis for determining whether or not a NWAR will be developed for this refurbishment.
NWAR estimates will be reported annually to the Armed Services and Appropriations Committees of Congress with the President's budget. Reporting will continue through completion of Phase 6.6, Full-Scale Production, activities.

- *Directs the NNSA to provide detailed information by weapon system in its budget justifications for fiscal year 2003 and subsequent President's Budgets.*

A Funding by Weapon System table follows. This includes DSW only. Funding in campaigns and Readiness in Technical Base and Facilities is not broken out by weapons system as the DOE, Administration and the Congress have agreed that these costs should be viewed as capability requirements for the weapons complex rather than an acquisition cost.

FY 2003 Funding by Weapon System

(dollars in thousands)

DSW by Weapon System	Stockpile R & D	Stockpile Maint	Stockpile Eval	Dismantle	Field Eng Training & Manuals	Product Supt	DSW Total By System
B28			197				197
W55			1,304				1,304
W56			744	5,334			6,078
B61 LEP	21,555	41,968	274				63,797
B61 Other	12,536	45,880	32,445				90,861
W62	1,400	2,792	9,118				13,310
W68			560				560
W69			560				560
W70			1,304				1,304
W76 LEP	78,566	21,715					100,281
W76 Other	7,074	34,931	10,991				52,996
W78	5,863	25,604	11,963				43,430
W79			560	2,804			3,364
W80 LEP	89,496	30,417	2,000				121,913
W80 Other	30,509	21,347	10,827				62,683
B83	9,593	18,986	23,273	231			52,083
W84	1,822	879	1,927				4,628
W87LEP	1,423	64,543					65,966
W87 Other	1,357	16,571	21,726	1,595			41,249
W88	11,894	3,586	13,720				29,200
Multiple System	194,061	71,938	53,691	14,414	6,893	137,706	478,703
Total by Subprogram	467,149	401,157	197,184	24,378	6,893	137,706	1,234,467

Notes

The Multiple System category includes costs for activities that support more than one weapon system. Specific examples include activities supporting future systems, program management, engineering business practices, information systems, independent assessments, development of new components for use on multiple weapon systems, stockpile studies, characterization of aged components, container/H-gear maintenance, and infrastructure support for the Stockpile Evaluation Program such as the Weapons Evaluation Test Laboratory.

Cancellation of a weapon refurbishment or alt may not eliminate all of the costs reported for that weapon. Costs for activities such as production/process engineering and special tooling are assigned to the weapon that is the "first user." If a system is eliminated or changed, the costs for these activities would be reassigned to the "next user" or other stockpile support activities. Management and Administrative costs are allocated to the DSW activities. If a system is eliminated or changed, these costs would then be adsorbed by other activities.

The Stockpile Research and Development category includes the scientific understanding and engineering development capabilities necessary to support near-term and long-term requirements of the nuclear weapon stockpile. Again, if a system is eliminated or changed, these capabilities would likely be reassigned to other important stockpile issues. The only savings from cancellation of a system are the truly unique costs related to the weapon system.

This would include direct procurements, direct tooling, and any actual increase in the workforce or overtime required to support that particular system.

Stockpile Research & Development

Mission Supporting Goals and Objectives

Stockpile Research and Development (R&D) activities are conducted in the following order: maintain system certification, assess the safety and reliability of the nuclear weapons stockpile as a basis for the Annual Certification to the President, respond to emerging problems or issues in a timely manner including resolution of Significant Finding Investigations (SFI), support directive schedules, develop modern physics and engineering baselines, perform development and engineering to support refurbishments approved by the Nuclear Weapons Council (NWC), develop refurbishment technologies, maintain flexibility to respond to requirements, and maintain the development capability to refurbish and design new weapons as required.

Stockpile Research & Development includes activities that are performed and conducted by the national laboratories in the following categories: *R&D - Assessment and Certification* maintains system certification, assesses the safety and reliability of the nuclear weapon stockpile as a basis for the Annual Certification to the President, *R&D - Maintenance* supports directive schedules, *R&D - Surveillance* responds to emerging problems or issues in a timely manner, including Significant Finding Investigations, *R&D - Baselining* develops modern physics and engineering baselines, *R&D - Refurbishment* develops modern physics and engineering to support refurbishments approved by the NWC, and *Supporting R&D* maintains flexibility to respond to new requirements, maintains the development capability to refurbish and design new weapons, as required.

Funding Schedule

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	$ Change	% Change
R&D - Assessment & Certification	75,616	104,955	142,386	37,431	35.7%
R&D - Maintenance	36,095	49,958	50,541	583	1.2%
R&D - Surveillance	10,539	14,645	23,098	8,453	57.7%
R&D - Baselining	8,694	11,896	12,348	452	3.8%
R&D - Refurbishment	109,076	142,993	192,312	49,319	34.5%
Supporting Research & Development	23,450	32,567	46,464	13,897	42.7%
Total, Stockpile R&D	263,470	357,014	467,149	110,135	30.8%

Performance Measures for FY 2003

The following performance measures for FY 2003 support NS-1 performance goal, which states that NNSA will maintain and refurbish nuclear weapons in accordance with directed schedules to sustain confidence in their safety and reliability indefinitely under the nuclear testing moratorium and arms reduction treaties. These performance measures for FY 2003 are organized by the six Directed Stockpile Work, Stockpile R&D budget categories.

Assessment and Certification

- # Complete the Annual Certification and Annual Surety Reports to the President and subsequently to the Congress for the stockpile weapons.
- # Conduct subcritical experiments in support of weapon system certification.
- # Conduct one W78 hydrodynamic test.
- # Conduct B61, W76, and W80 baseline hydrodynamic tests.
- # Support safety studies, including Nuclear Explosive Safety Studies, Operational Safety Reviews, and Hazard Analysis Reports.
- # Conduct magnetic-flyer plate tests for the W87.
- # Closure of Significant Findings Investigations.

Maintenance

- # Continue development of a small neutron generator with a First Production Unit (FPU) in FY 2005 to support the W80 refurbishment.
- # Complete support activities for B61 Alt 335/339.
- # Support the fielding of an upgrade to the B83 gas transfer system.
- # Develop solid models for B61 canned subassembly
- # Complete B61 Spin Rocket Motor Phase 6.2/6.2A.

Surveillance

- # Evaluate three W84 Stockpile Laboratory Test units.
- # Support production of additional B83 Alt 355 Retrofit Evaluation System Test units.
- # Continue development of enhanced high-fidelity instrumented joint test assemblies.
- # Complete lifetime predictions of key components.

Baselining

- # Commence and complete Baselining activities for B83 and W88 physics and engineering performance.
- # Complete the B61 family Baselining final report.

Refurbishment

- # W76:
  - ? Continue Phase 6.3 Development Engineering and commence Phase 6.4 Production Engineering activities required to support the NWC-approved schedule for a refurbished First Production Unit

- ? Conduct tests at the Sandia Pulse Reactor for the arming, firing and fuzing assembly.
- ? Support development activities for the demonstration and shakedown operations (DASO)-18 flight test.
- ? Support development activities for the FY 2004 follow-on commander-in-chief evaluation test (FCET)-30 flight test.
- ? Conduct conceptual design review
- ? Complete commercial-off-the-shelf (COTS) assessment report.

B61-7/11:
- ? Continue Phase 6.3 Development Engineering and commence Phase 6.4 Production Engineering activities to focus on the canned subassembly aging concerns with a refurbished FPU of FY 2006 and perform, in parallel, a non-destructive evaluation program on the canned subassemblies as a risk mitigation for the B61-11 with a completion in FY 2004.
- ? Execution of early small scale test and evaluation.
- ? Complete draft addendum to Final Weapon Development Report.
- ? Develop Quality Evaluation plans.

W80:
- ? Commence Phase 6.4 Production Engineering activities required to support the NWC-approved schedule for a refurbished FPU in FY 2006.
- ? Complete one hydrodynamic test to support refurbishment activities.
- ? Complete the preliminary Design Review and Acceptance Group (DRAAG) review.
- ? Perform Phase 6.3 Development Engineering peer review.
- ? Conduct W80-3 Captive Carry tests.

Supporting R&D

Support research and development of COTS qualification process for the W80 and W76.
Continue development of the W78 and W88 gas transfer systems.
Continue development of the enhanced fidelity and W88 joint test assemblies.
Support W87 high-fidelity joint test assembly (JTA) pit production.
Complete electromagnetic pulse (EMP) threat assessment.
Support Phase 6.2/6.2A study on Robust Nuclear Earth Penetrator.

Detailed Program Justification

FY 2002 Item of Congressional Interest: The FY 2002 Energy and Water Conference Report, 107-258 provides the following guidance.

- Prohibits the "use of fiscal year 2002 funds for the unique costs to develop or implement W-80 warhead refurbishment that involve long-term life extension without advance written notification and approval by the Armed Services and Appropriations Committess of Congress" FY 2002 warhead refurbishment activity that involve long-term life extension discussed in this detailed budget justification is pending approval of a Notification letter that will be discussed and sent to the Hill in the near future.

- Directs the NNSA to submit Selected Acquisition Reports (SAR) once a year to the Armed Services and Appropriation Committees of Congress, to accompany the fiscal year 2003 and subsequent President's Budgets. (See classified addendum for the W76 and W80 Nuclear Weapons Acquisition Reports.)

- Directs that the Comptroller General review the NNSA's fiscal year 2003 submission of selected acquisition reports within 90 days of their submission to Congress

- Directs the NNSA to provide detailed information by weapon system in its budget justifications for fiscal year 2003 and subsequent President's Budgets. See Appropriate tables at the end of each budget section for weapon system costs.

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
R&D - Assessment & Certification	75,616	104,955	142,386

This category includes engineering and physics analysis required to certify that weapons conform to the requirements of their Military Characteristics (MCs) and Stockpile-to-Target Sequence (STS), a document containing life-cycle environments for the weapon. Activities in this category include: completion of the annual certification and annual surety efforts including conduct of subcritical experiments associated with the certification of specific weapon systems, weapon systems tests such as hydrotests and hi-fidelity joint test assemblies (JTAs), and safety/surety assessments. In addition to these activities, the FY 2003 budget supports additional hydrodynamic testing for the W78 and W80; supports Nuclear Explosive Safety Studies, Operational Safety Reviews for various weapons, and Hazard Analysis Reports; supports magnetic-flyer plate tests for the W87; and completes development of a 3-D thermal/mechanical weapons response model, revalidates legacy margin methods, and STS single-event margins, and conducts surety assessments.

R&D - Maintenance	36,095	49,958	50,541

(dollars in thousands)

FY 2001	FY 2002	FY 2003

This category provides for a design interface with the DOE weapons production plants. Activities in this category include: production liaison interactions between the weapons laboratories and the production plants, military liaison with the Department of Defense, and Integrated Safety Process (ISP) systematic review and revalidation of weapon assembly and disassembly operations. In addition to continuing a series of weapon Alts, the FY 2003 budget supports fielding of an upgrade to the B83 gas transfer system, development of a small neutron generator with an FPU in FY 2005 to support the W80 refurbishment, complete B61 Spin Rocket Motor Phase 6.2/6.2A and commence Phase 6.3. and complete support activities for B61 Alt 335/339.

R&D - Surveillance 10,539 14,645 23,098

This category supports assessments of the nuclear package and non nuclear components of each weapon system to uncover design and manufacturing defects in all phases of production, provides early detection of safety and reliability problems caused by aging and Stockpile-to-Target Sequence (STS) environments, and demonstrates compatibility between DoD and DOE interfaces. Activities in this category include surveillance oversight for enduring stockpile weapon systems; pits; canned subassemblies (CSAs); high explosives; polymers; detonators; reservoirs; valves; safety surveillance monitoring of pits and CSAs being stored while awaiting dismantlement; and evaluation of data for closure of open Significant Finding Investigations. FY 2003 activities include the production of additional B83 Alt 355 Retrofit Evaluation System Test units, and evaluation of three W84 Stockpile Laboratory Test units; Enhanced High-Fidelity Instrumented Test Assembly (EFI JTA) will be developed; and lifetime predictions of key components will be completed.

	(dollars in thousands)		
	FY 2001	FY 2002	FY 2003
R&D - Baselining	8,694	11,896	12,348

This category provides for continued development of a modern certification basis for each weapon system and establishes a peer reviewed understanding and model of weapon system performance and safety, including critical design margins and uncertainties. Activities in this category include: 3-D models, nuclear performance models, engineering mechanical/thermal response models, and identifying/analyzing/ archiving relevant technical data. No new models will be developed; existing models will be used to better characterize systems to develop a "snapshot in time" of our current understanding of systems using existing technology. This will be used to identify needs for future experimentation and new model development. In FY 2002, the W80 Baselining final report will be completed, the B61 family Baselining activity will be initiated and completed. In FY 2003, the B61 family Baselining final report will be completed and the B83 and W88 Baselining activity will be initiated and completed.

R&D - Refurbishment	109,076	142,993	192,312

This category provides long-term support of the stockpile with corrective maintenance and weapon component replacement and refurbishment as defined by refurbishment planning. Activities in this category include performing engineering design studies to fully understand the requirements needed to extend the life of a system; developing a suite of refurbishment options, qualification and certification activities to ensure refurbished systems meet all required military characteristics; and supporting the directive schedule, including modifications (Mods) and Alts. The FY 2003 efforts will support laboratory activities associated with Phase 6.3 Development Engineering and commencing Phase 6.4 Production Engineering for the W80 (FPU of a refurbished weapon in FY 2006) and the W76 (FPU of a refurbished weapon in FY 2007), including hydrodynamic tests; B61-7/11 Phase 6.3 (FPU of a refurbished canned subassembly in FY 2006); and the development of the non-destructive evaluation program to support the B61-11 in FY2004. FY 2003 will also support the W76 DASO-18 flight test, two W76 hydrodynamic tests, SPR tests for the W76 AF&F, preliminary COTS assessment, and a preliminary W80 DRAAG and 6.3 peer review as well as a W80 hydro series.

Supporting Research & Development	23,450	32,567	46,464

(dollars in thousands)

FY 2001	FY 2002	FY 2003

This category conducts research and development (R&D) applicable to specific weapon systems as well as general R&D not yet directly tied to a particular weapon system. Weapon-specific R&D supports technologies needed to support a specific weapon refurbishment, maintenance, surveillance, and/or certification program. Activities include joint test assembly (JTA) redevelopment; ACORN, a gas transfer system development, and neutron generator development. General supporting R&D pursues technologies which are used to support the nuclear weapons stockpile, but are not designed for a specific weapon system. Activities include military requirements as issued by the Nuclear Weapons Council (NWC), technology development/materials studies, and advanced development systems engineering. The FY 2003 efforts will support research and development of a Commercial Off the Shelf (COTS) qualification process for the W80 and W76; continue development of the W78 gas transfer system, the enhanced fidelity JTA, W88 JTA, and W88 gas transfer system, W87 high-fidelity JTA pit production, complete EMP threat assessment, and support Phase 6.2/6.2A study on Robust Nuclear Earth Penetrator.

Total, Stockpile Research & Development	**263,470**	**357,014**	**467,149**

Explanation of Funding Changes from FY 2002 to FY 2003

	FY 2003 vs. FY 2002 ($000)

Both now and in the future, Defense Programs must be able to address multiple issues, including a significant workload of weapon refurbishments; an aging workforce in the nuclear weapons complex; an aging stockpile that must be maintained; and the need for intensive internal and external review to ensure that the program will achieve its goals, while preserving the institutional viability of the laboratories, production plants, and the test site. The FY 2003 Request places a higher priority on accomplishing the near-term workload to support the stockpile; however, long-term science and technology investments must also continue to ensure capability to support ongoing missions.

These activities, conducted in concert with the DoD, support our top priority. Beginning in FY 2003, Directed Stockpile Work increases as the life extension activities for three weapon systems continues in the development phase. For the B61-7/11 a Phase 6.3 will commence to focus on the canned subassembly aging concerns plus the parallel effort to support the non-destructive evaluation program to support the B61-11 for FY 2004. For the W80, we are in Phase 6.3 to extend warhead life, add Acorn and improve outside surety. The W76 is currently in Phase 6.3 to extend warhead life, refurbish primary and secondary, add a new arming, firing and fuzing system, and add Acorn II technology. In FY 2003, this work is focused on Stockpile R&D, supporting the laboratory efforts needed in the development engineering stages.

R&D - Assessment & Certification

#	The increase supports additional hydrodynamic testing for the W78 and W80, and to perform magnetic-flyer plate tests for the W87.....	37,431

R&D - Maintenance

#	The increase supports fielding of an upgrade to the B83 gas transfer system, development of a small neutron generator with an FPU in FY 2005 to support the W80 refurbishment, complete B61 Spin Rocket Motor Phase 6.2/6.2A and commence Phase 6.3. and complete activities for B61 Alt 335/339.	583

R&D - Surveillance

	FY 2003 vs. FY 2002 ($000)
# The increase supports additional B83 Alt 355 Retrofit Evaluation System Test units; evaluation of three W84 Stockpile Laboratory Test units; continue development of the W87 Enhanced Fidelity JTA, complete W78 JTA flight test qualification test; and lifetime predictions of key components	8,453
R&D - Baselining	
# The increase supports the completion of the B61 family Baselining final report and commencement of the B83 and W88 Baselining activity to be completed by the end of FY2003.	452
R&D - Refurbishment	
# Supports increased laboratory activities associated with **W80:** Phase 6.3 Development Engineering and commencing Phase 6.4 Production Engineering (FPU of a refurbished weapon in FY 2006) including hydrodynamic tests; two flight tests; preliminary W80 DRAAG; preliminary COTS assessment; and 6.3 peer review **W76:** Phase 6.3 Development Engineering and commencing Phase 6.4 Production Engineering (FPU of a refurbished weapon in FY 2007), including two hydrodynamic tests; W76 DASO-18 flight test; SPR tests for the W76 AF&F; preliminary COTS assessment **B61-7/11:** Phase 6.3 Development Engineering and commencing Phase 6.4 Production Engineering (FPU of a refurbished weapon in FY 2006); and the development of the non-destructive evaluation program to support the B61-11 in FY2004...	49,319
Supporting Research & Development	
# Support the COTS qualification process for the W80 and W76; continue development of the W78 gas transfer system; W88 JTA and gas transfer system; W87 high-fidelity JTA pit production; complete EMP threat assessment; support Phase 6.2/6.2A study on Robust Nuclear Earth Penetrator..	13,897
Total Funding Change, Stockpile Research and Development	**110,135**

Capital Operating Expenses & Construction Summary

Capital Operating Expenses [a]

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	$ Change	% Change
General Plant Projects	1,350	1,391	1,432	42	3.00%
Capital Equipment	16,095	16,578	17,075	497	3.00%
Total, Capital Operating Expenses	17,445	17,968	18,507	539	3.00%

Major Items of Equipment (TEC $2 million or greater)

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior Year Approp-riations	FY 2001	FY 2002	FY 2003	Acceptance Date
Transmission Electron Microscope	2,700	0	2,700	0	0	FY 2002
Total, Major Items of Equipment	2,700	0	2,700	0	0	

[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 2002 and FY 2003 funding shown reflects estimates based on actual FY2001 obligations.

Stockpile Maintenance

Mission Supporting Goals and Objectives

Stockpile Maintenance includes day-to-day stockpile maintenance activities for limited life components, including the production and delivery of these components for each weapon type, refurbishment and replacement of aging components, and major refurbishment activities to extend the stockpile life of the W87, W76, W80, and B61. The ability to balance production and delivery requirements for the B61-7/11, W76, and W80 programmed refurbishment Life Extension Programs (LEP) with the capabilities and capacities available within the nuclear weapons complex remains a challenge. The ability of the complex to reconstitute processes and capabilities that have been lost for materials that might be needed to refurbish the B61-7/11, W76, and W80 is also a concern that is being addressed with DSW and the campaigns.

Stockpile maintenance, refurbishment and life extension efforts for the stockpile are currently delineated in the P&PD and the Stockpile Life Extension and Refurbishment Planning Component Description Document. These requirements are further promulgated to the Nuclear Weapons Complex through individual weapons system Program Control Documents (PCDs) and the Master Nuclear Schedule. Refurbishment activities in FY 2003 will focus on accomplishing alterations (Alts), modifications (Mods), and refurbishment/replacement of warhead components to extend the life of the stockpile under approved programs.

Critical to the stockpile maintenance program is the ability of the Nuclear Weapons Complex to meet new delivery schedules and to assure through continuous monitoring, that any new impacts to the progress of this effort is mitigated or prevented.

A major program objective is to assure that sufficient capacity is available in the production complex to meet production requirements for limited life components needed to maintain the stockpile. Attaining the necessary through-put capacity to produce new neutron generators and to expand the production through-put capacity for new gas transfer systems to meet life extension needs are two areas of great importance.

Funding Schedule

(dollars in thousands)

	FY2001	FY 2002	FY 2003	$ Change	% Change
Limited Life Component Exchange	107,321	112,775	127,864	15,089	13.4%
Life Extension Operations, Repairs, and Maintenance	227,994	235,188	273,293	38,105	16.2%
Total, Stockpile Maintenance	335,315	347,963	401,157	53,194	15.3%

Performance Measures

Performance will be demonstrated by:

- B61-3,4,10: Completing production and field installation of safety enhancements and surety upgrades (Alts 335 and 339). These alterations upgrade components or refurbish components so that weapons will continue to meet Military Characteristics and remain safe and reliable in the environments defined in the Stockpile-to-Target Sequence. Work is also anticipated from the ongoing aging assessment of several components including the spin rocket motor (Alt 356), which received NWC approval in December 2001. The 6.X activities on the Alt 356 will continue in FY 2003. Options will be decided through the Phase 6.X refurbishment process. Begin SS-21 process.
- B61-7,11: Continuing Phase 6.3/4 for the CSA refurbishment (Alt 357) and associated non-destructive evaluation (NDE) program on the B61-11. Work is also anticipated from the ongoing aging assessment of the spin rocket motor (Alt 358(7)/359(11)). Begin Alt 350 radar retrofit of the Mod 7.
- W76: Continuing Development and Production Engineering (Phase 6.3/6.4) for life extension; achieve neutron generator full scale production of MC 4380A, and continue ACORN deliveries; facility capacity issues at the Y-12 Plant, Savannah River Site (SRS), Kansas City (KC) and Pantex (PX) plants are being addressed by construction line items.
- W78: Continuing retrofit with modified gas transfer system (Alt 351).
- W80: Complete Development Engineering (Phase 6.3) and start Production Engineering (Phase 6.4) activities for major components and subassemblies; capacity requirements at the SRS, and the KC plant based on scope or schedule adjustments for the W80 are bieng integrated with the W76 schedule and addressed by construction line items. Complete SS-21 process.
- B83: Complete Alt 750 which adds common radar and complete Alt 752 which incorporates a new cable for revised radar heights of burst. Complete production and field installation of Alt 355 kits, a modification to the gas transfer system.
- W87: Continuing retrofits to improve the structural integrity and extend the life of the W87 (Alt 342) and continuing the delivery of the new gas transfer system for Alt 345, and the Alternate Storage Container.
- W88: Continuing 3T Terrazzo baseline studies: production engineering for 3T redesign as determined by gas transfer system downselect (FY 02).
- Limited Life Component Exchange (LLCE): Delivering FY 2003 requirements for neutron generators and reservoirs consistent with the Production & Planning Directive (P&PD) and the Master Nuclear Schedule Volume III; producing 1M and 2M gas transfer system reservoirs and deliver gas generator kits for the B61 program; producing reservoirs for the W62, W78, and W80; and deploying new reservoirs on the W87 (Alt 345).
- Transportation Container Enhancement Program (TCEP)-Initial operating capability for various over the road security enhancements will occur during FY 03 with the first enhancement occurring prior to the end of FY 02.

Detailed Program Justification

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
Limited Life Component Exchange	107,321	112,775	127,864

This program includes costs for activities necessary to procure, fabricate, and assemble materials and parts into weapons components that will be used to replace like components in the active and inactive stockpiles, as necessary.

The P&PD and the Master Nuclear Schedule for limited life component exchange is consistent with START I and/or the ability to reactivate to START I. Funding supports the production costs for the W76 neutron generator and reservoir production, engineering and production for the B61, W62, W76, W78 (Alt 351), W80, B83 (Alt 355), W87 (Alt 345), and W88. The increase is associated with neutron generator production and Concurrent Design and Manufacturing at SNL. It will support materials, tooling and additional operators to meet the requirements defined in the P&PD and startup activities to prepare for the W80 and W76 Life Extension Programs .

Life Extension Operations, Repairs, and Maintenance	227,994	235,188	273,293

This program includes costs to procure, fabricate, and assemble material, piece parts, and components that will be used to repair weapons and/or components awaiting repairs at contractor locations.

Supports Stockpile Modernization/Maintenance activities in accordance with the Program Control Documents schedule for the B61 Alts 335, 339, 350 and 356 NDE program; W87 Life Extension Program (Alt 342), W76 Life Extension Program (Mod 1), W80 Life Extension Program (Mod 3), and the B83-1 Alt 750/752/355.

Total, Stockpile Maintenance	**335,315**	**347,963**	**401,157**

Explanation of Funding Changes from FY 2002 to FY 2003

	FY 2003 vs. FY 2002 ($000)
Limited Life Component Exchange	
# The increase is associated with neutron generator production and Concurrent Design and Manufacturing effort at SNL for ramping up the production, establishing the inventory, and delivering the neutron generators for the W76, and setting the requirements and continuing the development work on the neutron generators for the W78, W80, and W87. It will support materials, tooling and additional operators to meet the requirements defined in the Production and Planning Directive.	15,089
Life Extension Operations, Repairs, and Maintenance	
# The increase is for activities supporting Phase 6.3/6.4 for the B61-7/11, W76, and W80 Life Extension Programs. It also supports the B61 Alt 335 and 339 and includes startup of B61-7 Alt 350 common radar, B83 Alt 355.	38,105
Total Funding Change, Stockpile Maintenance	**53,194**

Capital Operating Expenses & Construction Summary

Capital Operating Expenses [a]

	FY 2001	FY 2002	FY 2003	$ Change	% Change
General Plant Projects	0	0	0	0	N/A
Capital Equipment	5,085	5,238	5,395	157	3.00%
Total, Capital Operating Expenses	5,085	5,238	5,395	157	3.00%

[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 2002 and FY 2003 funding shown reflects estimates based on actual FY2001 obligations.

Stockpile Evaluation

Mission Supporting Goals and Objectives

Stockpile Evaluation includes new material laboratory tests, new material flight tests, stockpile laboratory tests, stockpile flight tests, quality evaluations, special testing, and surveillance of weapon systems to support assessment of the safety and reliability of the nuclear weapons stockpile, which contribute to the Annual Certification to the President.

Performance Measures

Performance will be demonstrated by:

- Implementation of the recommendations from the Strategic Review of the Surveillance Program (150-Day Study).
- Conducting planned flight, lab, and component tests.
- Completing the pit/CSA Component Evaluation Program Planning Committee process.
- Redesign of the W78 Joint Test Assembly (JTA)
- Performing non-destructive evaluation of Pits/CSAs at Pantex.
- Testing the first B83 JTA-1A
- Elimination of W76, W80, W88, and B83 backlogs
- Starting pit surveillance at LLNL
- Completing the W87 life extension REST unit evaluations
- Eliminating valve backlogs.
- Apply the new flexible sampling rationale developed in the 150-day study to a second weapon system.
- Performing W78 and W88 Step 2 activities, in anticipation of FY 2004 authorizations. Completing and authorizing W62 Step 2. Starting SS-21 activities on the B61, in anticipation of a FY 2005 authorization. Starting SS-21 activities on the W87, in anticipation of a FY 2004 authorization. Continue B83 SS-21 activities in anticipation of FY 2004 authorization.

Funding Schedule

(dollars in thousands)

	FY2001	FY 2002	FY 2003	$ Change	% Change
Stockpile Laboratory Tests	59,559	63,138	67,678	4,540	7.2%
Stockpile Flight Test	59,527	62,062	67,967	5,905	9.5%
Surveillance	35,021	39,238	45,025	5,787	14.7%

	(dollars in thousands)				
Integrated Safety Management	6,329	9,953	16,514	6,561	65.9%
Total, Stockpile Evaluation	160,436	174,391	197,184	22,793	13.1%

Detailed Program Justification

	(dollars in thousands)		
	FY 2001	FY 2002	FY 2003
Stockpile Laboratory Tests (SLT)	59,559	63,138	67,678

Conducts new material laboratory tests/stockpile laboratory tests to establish confidence in the performance, reliability, and safety of the nuclear weapon inventory. The funding increase will implement the recommendations from the Strategic Review of the Surveillance Program (150-Day Study) and will continue component evaluation/surveillance including pit surveillance at LLNL.

Stockpile Flight Tests (SFT)	59,527	62,062	67,967

Conducts new material flight tests/stockpile flight tests to establish confidence in the performance, reliability, and safety of the nuclear weapon inventory throughout its intended operational environment.

Surveillance	35,021	39,238	45,025

Conducts surveillance testing to include special testing and surveillance of weapon systems to ensure quality evaluation and certification of the reliability of War Reserve weapons and components.

Integrated Safety Management	6,329	9,953	16,514

Conducts activities necessary to formulate the safety basis authorization and certify tooling and processes needed to perform operations with nuclear explosives that are necessary for weapon surveillance and refurbishment activities within the nuclear weapons complex. Integrated safety management activities are included for the B61, W62, W78, B83, and W87.

Total, Stockpile Evaluation	**160,436**	**174,391**	**197,184**

Explanation of Funding Changes from FY 2002 to FY 2003

	FY 2003 vs. FY 2002 ($000)
Stockpile Evaluation	
Stockpile Laboratory Tests -The increase will support implementation of changes recommended by the 150-day study, reduction of surveillance backlog at Pantex and component testing at SNL. The increase will also support the operation of diagnostics deployed through the Enhanced Surveillance Campaign including High Resolution X-Ray Tomography at Pantex	4,540
Stockpile Flight Tests -The increase reflects increased activities for the B61 and W76 to support production of additional flight hardware including high fidelity pits.	5,905
Surveillance-The increase is associated with establishing full pit surveillance capability activities at LLNL and working on the surveillance backlog at LANL	5,787
Integrated Safety Management- The increase supports integrated safety management activities for the B61, W62, W78, B83, and W87	6,561
Total Funding Change, Stockpile Evaluation	**22,793**

Capital Operating Expenses & Construction Summary

Capital Operating Expenses [a]

	FY 2001	FY 2002	FY 2003	$ Change	% Change
General Plant Projects	155	160	164	5	3.00%
Capital Equipment	3,485	3,590	3,697	108	3.00%
Total, Capital Operating Expenses	3,640	3,749	3,862	112	3.00%

[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 2002 and FY 2003 funding shown reflects estimates based on actual FY2001 obligations.

Dismantlement/Disposal

Mission Supporting Goals and Objectives

Dismantlement/Disposal includes all activities, including safety analysis associated with weapon retirement, disassembly, component characterization, and disposal and reclamation of materials and components; the engineering, development, testing, certification, procurement, and refurbishment of containers required for interim storage; and the staging and storage of weapons, components, and materials awaiting dismantlement.

Performance Measures

Performance will be demonstrated by:

- Dismantling weapons in accordance with the Production and Planning Directive, including completion of the W79 disassembly activities and continuation of W56 disassembly activities.
- Continuing characterization, demilitarization, sanitization, and disposal of weapon components in accordance with directive documents (such as Production Control Documents, Shipment Schedules, Y-12 Dismantlement Baseline Plan).
- Continue support of the Nuclear Explosive Safety Process through Hazards/Risk Analysis and Weapons Response Analysis.

Funding Schedule

(dollars in thousands)

	FY2001	FY 2002	FY 2003	$ Change	% Change
Dismantlement/Disposal	24,488	26,342	24,378	-1,964	-7.5%
Total, Dismantlement/Disposal	24,488	26,342	24,378	-1,964	-7.5%

Detailed Program Justification

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
Dismantlement/Disposal	24,488	26,342	24,378

Includes all activities, including safety analysis associated with weapon disassembly, component characterization, and disposal and reclamation of materials and components; the engineering, development, testing, certification, procurement, and refurbishment of containers required for interim storage; and the staging and storage of weapons, components, and materials awaiting dismantlement.

Total, Dismantlement/Disposal	**24,488**	**26,342**	**24,378**

Explanation of Funding Changes from FY 2002 to FY 2003

	FY 2003 vs. FY 2002 ($000)
Dismantlement/Disposal	
# The decrease is largely at Y-12 and is driven by W56 activities (disassembly preparation activities and authorizations will be complete while component work increases) and higher priority work in other programs. There is also a decrease at the Pantex Plant which reflects planned efficiencies from the contract changeover.	-1,964
Total Funding Change, Dismantlement/Disposal	**-1,964**

Capital Operating Expenses & Construction Summary

Capital Operating Expenses [a]

	FY 2001	FY 2002	FY 2003	$ Change	% Change
General Plant Projects	0	0	0	0	N/A
Capital Equipment	64	66	68	2	3.00%
Total, Capital Operating Expenses	64	66	68	2	3.00%

[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 2002 and FY 2003 funding shown reflects estimates based on actual FY2001 obligations.

Production Support

Mission Supporting Goals and Objectives

Production Support includes support activities at the nuclear weapons production plants to conduct the refurbishment and life extension efforts for the stockpile in accordance with Annex E, the P&PD and the Stockpile Life Extension and Refurbishment Planning Component Description Document published by HQ DP. Specific elements for this effort include: quality and production supervision and control, production planning and scheduling; quality assurance; production and process engineering; tool, gauge, and test equipment services; purchasing and material support; manufacturing support; production engineering support; and information systems support.

Production Support activities are part of the manufacturing effort to accomplish the refurbishment of the nuclear weapons stockpile. Production Support primarily occurs in Phase 6.4 (Production Engineering), Phase 6.5 (First Production) and Phase 6.6 (Full-Scale Production) of the refurbishment process, but some efforts can overlap activities conducted during Phase 6.3 (Development Engineering).

Performance Measures

Performance is demonstrated by:

- Providing quality and production efforts related to the W87 life extension program, concurrent quality and production development efforts for the W80 and W76 life extension programs, and similar efforts for the B61-7/11 Canned Sub-Assembly (CSA) refurbishment.
- Supporting Limited Life Component Exchange (LLCE) and component production and process engineering activities for the stockpile.
- Providing production support functions for all ongoing stockpile maintenance and surveillance requirements
- Providing support deliverables in FY03 including production supervision and control, planning and control of material and components for production and inventory purpose, and internal plant production related transportation functions.
- Providing the production plant engineering support deliverables in FY03 including the process and industrial engineering efforts necessary to establish optimum process flows, plant operating procedures, space and equipment scheduling, and determination of labor and material standards.
- Continuing to provide site-determined deliverables for the W87 LEP, W76 and B61 Canned Sub-Assembly (CSA) refurbishments; B61 Alts 335/339/350; W62 reservoir; W78 Alt 351; B83 Alt 750/752 and GTS upgrade; W87 Alt 345 and W76 Acorn and neutron generator production.

Funding Schedule

(dollars in thousands)

	FY2001	FY 2002	FY 2003	$ Change	% Change
Kansas City Plant	66,234	69,634	73,472	3,838	5.5%
Pantex Plant	62,102	44,964	45,427	463	1.0%
Los Alamos National Laboratory	12,046	12,064	13,780	1,716	14.2%
Savannah River Site	4,073	5,588	5,027	-561	-10.0%
Total, Production Support	144,455	132,250	137,706	5,456	4.1%

Detailed Program Justification

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
Production Support			
Kansas City Plant	66,234	69,634	73,472

- Supports program management, planning and scheduling, and production support to meet current PCD workload as highlighted on the Stockpile Maintenance and Stockpile Evaluation activity packages for FY 2003.
- Provides production support for Production Engineering of the Life Extension Programs W80, W76, and B61-7 Alt 357.
- Continues centralized procurement activities for Savannah River, Pantex, Y-12 Plants and Sandia National Laboratory and Los Alamos National Laboratory.
- Supports production, software maintenance, and refinements to the Integrated Production Scheduling System (IPSS).
- Implements Digital Radiographic Inspections.
- Maintains information systems critical for technical and manufacturing computer applications, which include science based and manufacturing design for tool, gages, components, mechanical, and electrical products and information technology infrastructure and operation, in addition to Enterprise Resource Planning (ERP) network and server support.
- Provides support to maintain purchased material inspectors, field quality representatives, and associated leadership and administrative staff to ensure material meets the WR quality requirements for production.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- Provides engineering support leadership and administrative staff, and indirect costs associated with production engineering workload (reflected by program in other Directed Stockpile Work categories such as Stockpile Maintenance and Evaluation). The indirect time of engineers, who perform the direct engineering effort training and process improvement activities, and industrial engineering personnel involved with the measurement of production standards are also provided.
- Provides quality, supervision and control leadership and administrative staff associated with production and final assembly inspection, and quality engineer efforts related to material procurements and manufactured parts.
- Provides tool, gage, and test equipment consisting of calibration and maintenance of test equipment and cutting tools, metrology services, and gage inspection.
- Provides manufacturing support and program planning for a multitude of functions, which include program management, production scheduling, material planning, and the leadership and administrative staff associated with manufacturing.
- Implements Logistical and Manufacturing Center (LMC) initiatives supporting Nuclear Weapons Complex centralized procurement and integrated production scheduling.

Pantex Plant	62,102	44,964	45,427

- Provides the support necessary to accomplish specific measurable activities that are defined in the various direct support activity packages.
- Production support also facilitates the maintaining of specific capabilities critical to the plant mission including, but not limited to: Warehousing of Weapon Components, Weapon Training, Packaging and Container Engineering, and Weapon Special Processes.
- The decrease in this category from FY 2001 reflects a definitional change to move infrastructure support functions to Operations of Facilities within Readiness in Technical Base and Facilities. These activities include facility management, dosimetry and radiological measurements, facility radiological controls, systems engineering, fire protection engineering, nuclear criticality programs, and nuclear facility support.

Los Alamos National Laboratory	12,046	12,064	13,780

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- Provides for coordination with project teams to ensure technical results, equipment, documents, and services are delivered on time and within budget for War Reserve parts to the stockpile or to other production sites and for surveillance.
- Enables project teams to ensure technical results, equipment, documents, and services are delivered on time and within budgets to support War Reserve parts for the stockpile or for other production agencies and surveillance.

- Implements manufacturing integration plan.
- Implements resource planning tool for manufacturing activities.
- Issues weapons policy, provide quality program guidance and assistance to weapons activities, conduct self-assessments, and coordinate product submittal for DOE final acceptance.
- Conducts modeling and analysis of safety and risk in production activities.

Savannah River Site	4,073	5,588	5,027

(dollars in thousands)

FY 2001	FY 2002	FY 2003

- Provides production support functions for Limited Life Component Exchange (Stockpile Maintenance), Reservoir Surveillance (Stockpile Evaluation), and unloading and disposal of non-reusable reservoirs from stockpile (Dismantlement).
- Provides services for Radiographic Inspections, Production Fixture Fabrication, Calorimeter Testing, procedure, and training support associated within loading/unloading/finishing reservoirs, Production Engineering Support and Information Systems Support for the Aged Reservoir Management System.
- Provides production planning and scheduling for WR parts, shipping, coordination and reservoir inventory, and shipping scheduling activities.
- Provides Quality Inspection Services for reservoir and packaging quality verification inspection activities.
- Provides tool, gage and test equipment service for preparation of specifications and design of special tools, gages, jigs, fixtures and test equipment for production and inspection activities.
- Provides manufacturing support for classified training for loading/unloading/finishing of reservoirs, procedure development associated with new/modified Weapons Systems and system/component testing.
- Provides information systems support for activities associated with production processes related computer systems (ie., Automated Reservoir Mgmt. Systems- ARMS)
- Provides production engineering support required for reservoir related production activities (ie., loading, unloading, finishing, ACORN cleaning, reclamation, inert loading, and packaging.

Total, Production Support	**144,455**	**132,250**	**137,706**

Explanation of Funding Changes from FY 2002 to FY 2003

	FY 2003 vs. FY 2002 ($000)
Production Support	
# The increase is primarily at the Kansas City Plant (KCP) and LANL. The change at the KCP is associated with increased manpower costs and production support, and software maintenance. The increase at LANL provides for coordination with project teams to ensure technical results, equipment, documents, and services are delivered on time and within budget to support War Reserve parts for the stockpile or other production sites and surveillance	5,456
Total Funding Change, Production Support	**5,456**

Capital Operating Expenses & Construction Summary

Capital Operating Expenses [a]

	FY 2001	FY 2002	FY 2003	$ Change	% Change
General Plant Projects	0	0	0	0	N/A
Capital Equipment	905	932	960	28	3.00%
Total, Capital Operating Expenses	905	932	960	28	3.00%

[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 2002 and FY 2003 funding shown reflects estimates based on actual FY2001 obligations.

Field Engineering, Training and Manuals

Mission Supporting Goals and Objectives

Field Engineering, Training, and Manuals includes technical training of military and DOE nuclear weapons complex personnel, preparation of and updates to weapon manuals and technical publications, participation in the Joint Task Group of weapon evaluations prior to complete engineering release, and support for field engineering activities on alterations and modifications.

Performance Measures

Performance will be demonstrated by:

- Conducting classroom and field training in weapons handling for DOE, DoD, and laboratory personnel; continuing maintenance, preparation and distribution of approximately 140 technical manuals for DoD.
- Providing field engineering support for approved Alterations/Modifications primarily for B61 bombs and identified weapon repairs
- Timely processing and resolution of Unsatisfactory Reports
- Engineering support and technical advice on Explosive Ordnance Disposal

(dollars in thousands)

	FY2001	FY 2002	FY 2003	$ Change	% Change
Field Engineering, Training, and Manuals	6,229	6,270	6,893	623	9.9%
Total, Field Engineering, Training and Manuals	6,229	6,270	6,893	623	9.9%

Detailed Program Justification

(dollars in thousands)

	FY 2001	FY 2002	FY 2003
Field Engineering, Training and Manuals	6,229	6,270	6,893
Provides technical training of military and DOE nuclear weapons complex personnel, support for field engineering activities for Alts and Mods, and updates to weapon manuals and technical publications.			
Total, Field Engineering, Training and Manuals . . .	**6,229**	**6,270**	**6,893**

Explanation of Funding Changes from FY 2002 to FY 2003

	FY 2003 vs. FY 2002 ($000)
Field Engineering, Training and Manuals	
■ Increase is required to support additional Mod and Alt activities in the field	623
Total Funding Change, Field Engineering, Training and Manuals	**623**