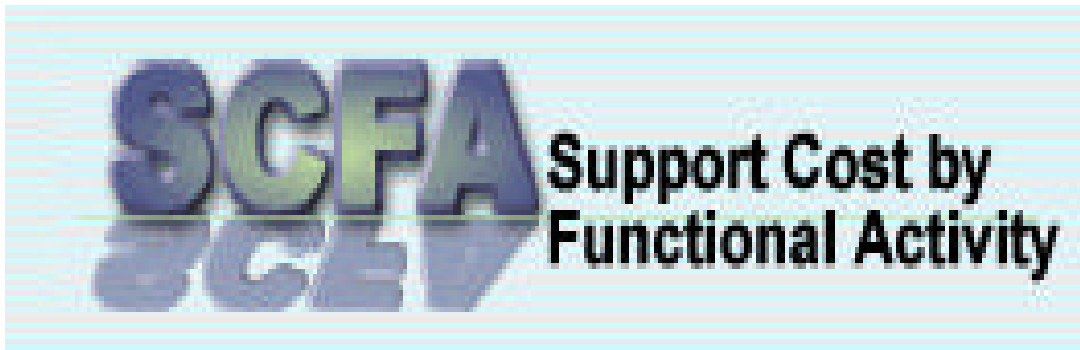


**US DEPARTMENT OF ENERGY**



**REPORT ON TRENDS AND  
REDUCTIONS IN SUPPORT COST  
FISCAL YEAR ENDED SEPTEMBER 30, 2002**



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**SUPPORT COST BY FUNCTIONAL ACTIVITY REPORT**

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**TABLE OF CONTENTS**

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**Introduction, Limitations, Departmental Results, and  
Cost Savings Initiatives**

**Summary - All Sites**

**Summary – Plants**

(Fernald, Hanford, Idaho, Kansas City, Mound, Nevada, OREMEF, Pantex,  
Rocky Flats, Savannah River, WIPP, West Valley, Yucca Mountain & Y-12)

**Summary - Labs**

(Ames, Argonne, Bettis, Brookhaven, Fermi, NREL, Los Alamos, L. Berkeley,  
Knolls, L. Livermore, ORNL, PNNL, Princeton, Stanford & Sandia)

**Summary – Defense Program Sites**

(Kansas City, Los Alamos, Lawrence Livermore, Nevada, Pantex, Sandia & Y-12)

**Summary – Environmental Management Sites**

(Fernald, Hanford, Idaho, Mound, OREMEF, ORNL, Rocky Flats, Savannah River,  
WIPP, West Valley & Y-12)

**Summary - Science Sites**

(Ames, Argonne, Brookhaven, Fermi, Lawrence Berkeley, ORNL, PNNL,  
Princeton & Stanford)

**Summary - Naval Reactors**

(Bettis and Knolls)

**Summary - National Nuclear Security Administration**

(Bettis, Knolls, Kansas City, Los Alamos, Lawrence Livermore, Nevada,  
Pantex, Sandia & Y-12)

**Results of Individual Participating Field Sites/Contractors**

Ames Laboratory/Iowa State University

Argonne National Laboratory/University of Chicago

Bettis Atomic Power Laboratory/Bechtel

Brookhaven National Laboratory/Brookhaven Science Associates

Fermi National Accelerator Laboratory/University Research Associates

Fernald/Fluor Fernald

Hanford/Fluor Daniel, Bechtel & CH2M Hill

Idaho National Eng. & Envir. Lab/Bechtel BWXT Idaho, LLC

Kansas City/Honeywell, FM&T  
Knolls Atomic Power Laboratory/Lockheed Martin  
Los Alamos National Laboratory/University of California  
Lawrence Berkeley National Laboratory/University of California  
Lawrence Livermore National Laboratory/University of California  
Mound/Babcock & Wilcox of Ohio  
National Renewable Energy Laboratory/Midwest Research Institute  
Nevada/Bechtel Nevada  
Oak Ridge Envir. Management & Enrichment Fac./Bechtel Jacobs  
Oak Ridge National Laboratory/UT-Battelle, LLC  
Pacific Northwest National Laboratory/Battelle Memorial Institute  
Pantex/BWXT  
Princeton Plasma Physics Laboratory/Princeton University  
Rocky Flats/Kaiser-Hill  
Sandia National Laboratory/Lockheed Martin  
Savannah River/Westinghouse & Wackenhut  
Stanford Linear Accelerator Center/Stanford University  
Strategic Petroleum Reserve/DynMcDermott Petroleum Operations  
WIPP/Westinghouse  
West Valley/West Valley Nuclear Services  
Yucca Mountain/Bechtel-SAIC  
Y12/BWXT

## **Definitions**

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# SUPPORT COST BY FUNCTIONAL ACTIVITY REPORT

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## INTRODUCTION

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### PURPOSE

The purpose of this report is to highlight the amounts of and trends in support cost incurred by 30 of the Department's largest contractors, classified by functional activity. These do not represent the total support costs for the Department. This report is issued in response to the House Report, 105-581, accompanying the Energy and Water Development Appropriations Act for FY 1999 commending the Department on the development of the Support Cost by Functional Activity (SCFA) (formerly the Functional Support Cost Reporting System), and the annual report on Support Cost by Functional Activity. Support activities are functions that are necessary to be performed to enable Department of Energy (DOE) sites to accomplish their direct mission activities. Accounting, procurement, human resources, safety and health, and maintenance, are examples of support cost. Support costs do not include the costs of capital equipment or construction.

### BACKGROUND

Prior to FY 1997, Department-wide support cost data showing the nature of, amount of, and trends in these costs was not available. For example, the Office of Environmental Management could not determine how much of its funding for environmental cleanup at DOE sites was being expended on actual "hands on" cleanup versus support-related activities. Recognizing the importance of managing these costs, and receiving many requests from Congress and the General Accounting Office (GAO), the Department's Chief Financial Officer implemented the Functional Support Cost Reporting System. In implementing the Functional Support Cost Reporting System to track support-related costs, the Chief Financial Officer has developed consistent functions for 22 specific cost categories—such as "facility management," "safeguards and security," and "site maintenance"—that contractors use in reporting their support-related costs. These 22 specific categories fall into three broad categories: "general support," "mission support," and "site specific support." In addition to tracking support-related costs, the system tracks "mission direct" costs. These costs include all mission operations costs not classified as support related, as well as capital equipment and construction costs.

To ensure that contractors conform to the standardized definitions and categories in reporting their support related costs, the Department's Chief Financial Officer staff has worked closely with the contractors from the inception of the Functional Support Cost Reporting System. DOE and the contractors have interacted through a departmental financial management idea-sharing forum, the Financial Management Systems Improvement Council (FMSIC), on which DOE Chief Financial Officer staff and contractors are represented. FMSIC also conducts a peer review program to ensure data integrity, which includes site reviews by teams from different organizations.

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## SUPPORT COST BY FUNCTIONAL ACTIVITY REPORT

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### LIMITATIONS

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Functional support activities are functions required to be performed at DOE sites that benefit more than one program. These functions do not include the costs of capital equipment and construction. The purpose of this report is to quantify the cost of supporting program activities at DOE's major sites. This report is a cost management tool and is not intended for use in determining individual program funding requirements or for budget formulation purposes.

Functional support cost is not determined based on fully allocated cost and cannot automatically be interpreted as indirect/overhead costs as this term is defined by the Cost Accounting Standards (CAS) included in the Federal Acquisition Regulations. The contractors are subject to CAS and do not budget, accumulate, or distribute costs in their formal accounting system in the manner reflected in this report. In the formal accounts, the amounts reported as functional cost are distributed, directly or indirectly, to program activities and lose their identity. Therefore, the functional support costs are reported on a prime cost basis (i.e., prior to any cost distribution) and, by definition, may include both direct and indirect costs. This can cause some anomalies in reporting, as noted in the following paragraphs.

The data reflected in the reports was obtained by analyzing information contained in the contractors' financial management systems and apportioning costs to the functional categories. While the total cost for each contractor is accurate and a standard set of definitions was used, apportioning the costs to functional categories required the exercise of management judgment. Numerous factors affect the mix and volume of expenditures at a given site. These factors vary from site-to-site in both applicability and relative magnitude. For example, cost differences across sites will result from differences in the type, size, nature, environment, etc., of actual work activities.

Field offices are responsible for the quality of the functional cost and cost savings initiative data. The accuracy of this data has not been verified by Headquarters. The goal for data accuracy is 100 percent, although it is recognized that it may not be possible to achieve an overall accuracy greater than 90 to 95 percent. However, the current level of accuracy is sufficient for comparison on a given site over time, but not necessarily across sites. Also note that the total of all costs reported in the functional cost report reconciles to the Department's cost charged against its appropriations.

Functional support cost is not determined on the basis of fully allocated cost. Instead of classifying costs as direct or indirect, they are classified as either mission direct or support costs. This recognizes that the classification of direct cost and indirect cost are not relevant to measuring the activity required to support direct mission programs in the Department. For instance, the functional cost report includes senior level program manager salaries as direct mission costs whereas a portion of these costs was allocated to LDRD in the “Report on our Laboratory Directed Research and Development (LDRD) Program and Plant Directed Research, Development, and Demonstration Program”. As a result, the total reported LDRD functional cost in FY 2002 is \$281 million, which is approximately \$70 million less than the “Report on our Laboratory Directed Research and Development (LDRD) Program and Plant Directed Research, Development, and Demonstration Program”.

The amounts shown in both reports are accurate for the purposes that they are being used. Also note that the total of all costs reported in the functional cost report reconciles to the Department's cost charged against its appropriations.

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## SUPPORT COST BY FUNCTIONAL ACTIVITY

### DEPARTMENTAL RESULTS AND SUMMARY SCHEDULE

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Based on the schedule and charts included in this section, total support cost increased \$827 million since FY 1998. However, the Department's mission activities increased \$1.87 billion for the same period. Normally, when mission activities increase, the cost of supporting those missions also increases. The percentage of total support cost to total cost actually declined 1.6%. Had this percentage remained constant the Department would have incurred an additional \$272 million in support cost. As a result of the Department's efforts, and the participating contractors' efforts, the Department has controlled the cost of supporting mission activities, resulting in proportionately more funds expended on direct mission activities.

Support costs for all 30 contractors are summarized by category below. The five largest categories of support cost are Maintenance, Safety and Health, Information Services, Safeguards and Security, and Facilities Management. The first four remain the same in all 5 years, with Facilities Management moving from sixth in FY2001 to fifth in FY2002.

TOTAL FOR ALL DOE (\$ in 000's)	FY 2002	
MAINTENANCE	881,434	13.3%
SAFETY AND HEALTH	741,390	11.2%
INFORMATION SERVICES	702,411	10.6%
SAFEGUARDS AND SECURITY	606,455	9.1%
FACILITIES MANAGEMENT	472,290	7.1%
MANAGEMENT/INCENTIVE FEE	470,530	7.1%
UTILITIES	413,269	6.2%
LDRD/PDRD/SDRD	280,585	4.2%
CENTRAL ADMIN SERVICES	203,890	3.1%
ENVIRONMENTAL	198,682	3.0%
HUMAN RESOURCES	191,391	2.9%
PROGRAM/PROJECT CONTROL	186,689	2.8%
EXECUTIVE DIRECTION	176,514	2.7%
LABORATORY/TECHNICAL SUPPORT	163,184	2.5%
LOGISTICS SUPPORT	162,834	2.5%
INFORMATION OUTREACH	144,366	2.2%
CFO	142,694	2.1%
QUALITY ASSURANCE	133,322	2.0%
PROCUREMENT	131,728	2.0%
TAXES	95,569	1.4%
OTHER	77,671	1.2%
LEGAL	62,861	0.9%
TOTAL SUPPORT COST	6,639,759	100%

The four categories with the largest percentage increase from FY 1998 to FY 2002 are Safeguards and Security (50.5%), Legal (48.0%), Facilities Management (44.9%) and Executive Direction (36.8%).

Three categories declined when measured as a percentage of total cost from FY 1998 to FY 2002; Other (-33.5%), CFO (-8.6%) and Laboratory/Technical Support (-1.2%).



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## **SUPPORT COST BY FUNCTIONAL ACTIVITY REPORT**

### **COST SAVING INITIATIVES**

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As part of the FY 2002 submission for the Report on Support Costs by Functional Activity, many of the Department's major contractors provided information related to initiatives implemented to manage and reduce functional support costs at their sites. The following seven initiatives have broad applicability within the Department and may provide opportunities that could be used by contractors across the Department. In addition to the initiatives with the potential for broad applicability detailed below, 56 site-specific cost savings initiatives were reported with aggregate savings of \$75.2 million. These are included with the results for individual sites.

The reported cost savings were for FY 2002. As a result, any savings should already have been considered in midyear adjustments to financial plans, FY 2003 budget requests, or disposition of uncosted balances.

#### **SIX SIGMA PROCESS**

Initiative reported by Idaho National Engineering and Environmental Laboratory, Nevada, Oak Ridge Environmental Management Enrichment Facility, Savannah River Site and Y-12. Aggregate savings reported were \$6.6 million.

Six Sigma is a rigorous, statistically based, customer-focused business methodology to improve work processes. Six Sigma allows for the design and monitoring of everyday business activities to minimize waste and resources, while increasing customer satisfaction. Six Sigma is a methodology that applies advanced statistical tools to identify and eliminate defects, waste, rework, and non-value activities from business processes, resulting in improved customer satisfaction, employee satisfaction, and cost savings. By applying the disciplined and rigorous Six Sigma methodology and performance-based leadership tools, sustainable solutions to business problems can be delivered. This approach focuses on identifying and eliminating the cost of poor quality embedded in current business and operational processes through the use of qualitative and advanced quantitative tools and techniques.

#### **SITE-WIDE SOFTWARE LICENSING**

Initiative reported by Argonne National Laboratory and Lawrence Livermore National Laboratory. Aggregate savings reported were \$22.7 million.

The net cost savings comes from site-wide licensing of software and volume purchase agreements. A site license for Microsoft Enterprise was negotiated which covers licenses for the Windows operating system, Office software, and Client Access and contributes to the savings. Additionally, the use of institutional desktop standards for computer software has contributed to the cost savings.

## REDUCTION OF NON-OWNED SPACE AND MANAGED FLOOR SPACE

Initiative reported by Ames Laboratory, Brookhaven National Laboratory, Fernald Environmental Management Project, National Renewable Energy Laboratory, and Y-12 Plant. Aggregate savings reported were \$1.1 million.

Rented space has been closely scrutinized and significant efforts have been made to reduce occupancy of non-owned space and to renegotiate lower lease costs. In addition, sites have developed downsizing plans to reduce the total managed floor space and return vacated space to the General Services Administration.

## ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT

Initiative reported by Fernald Environmental Management Project and Lawrence Livermore National Laboratory. Aggregate savings reported were \$6.1 million.

The cleanup of water levels and discharge levels to the Great Miami River (Fernald) were reviewed and changed to 30 parts per billion from 20 parts per billion. In addition, Livermore successfully negotiated with the Regional Water Quality Control Board, the Environmental Protection Agency, and the Department of Toxic Substances Control to reduce reporting and monitoring requirements by 50%.

## DECONTAMINATION AND DEMOLITION PROJECT/REDUCTION OF HAZARDOUS MATERIAL FOOTPRINT

Initiative reported by Lawrence Livermore National Laboratory and Oak Ridge National Laboratory. Aggregate savings reported were \$5.7 million.

Development of highly efficient, cost-effective means for managing excess facilities and decontamination and demolition projects. Identification and demolition of excess buildings avoids costs associated with eliminating maintenance backlog and avoids ongoing annual maintenance costs.

In addition, cost savings can be achieved by reducing the hazardous material footprint at sites. Specifically, costs can be reduced by transferring hazardous materials from locations where they are no longer needed to safe storage and by identifying material not suitable for reuse and processed as waste. Efforts improved overall hazardous material safety by removing unwanted chemicals from individuals' inventories, improved the accuracy of hazardous materials inventory system and provided a chemical removal and delivery service.

## WORK FOR OTHERS (WFO) APPROVAL PROCESS

Initiative reported by Lawrence Livermore National Laboratory. Aggregate savings reported were \$.4 million.

Lawrence Livermore National Laboratory performed a review of the approval process for federal and non-federal work for others proposals and cut the approval time by more than 50%. For WFO Department of Energy proposals, the approval time was cut by approximately 90%.

## REDUCING UTILITY COSTS

Initiative reported by Brookhaven National Laboratory, National Renewable Energy Laboratory and Pacific Northwest National Laboratory. Aggregate savings reported were \$11.8 million.

At Brookhaven, the operation of the Central Steam Plant provides steam necessary for heating laboratory buildings and the operation of the centralized chilled water system. With the careful timing of oil purchases, along with select use of natural gas, the laboratory has been able to achieve annual savings of \$600,000 or above. The maximization of fuel oil on hand at the end of FY 2002 enabled Brookhaven to have an adequate amount of fuel oil on hand for the start of the 2002-2003 winter months. This allowed the Laboratory to postpone significant new procurements of fuel until the end of the winter season thereby minimizing the amount of fuel that must be purchased during the highest priced part of the year.

In addition, Plant Engineering oversees negotiation for contracting between Brookhaven and the New York Power Authority (NYPA) for procurement of electric power at favorable rates to be delivered to the lab over regional power lines. The alternative is to procure all electric power from the local Long Island Power authority at considerable higher costs. The laboratory operates several user facilities such as the Relativistic Heavy Ion Collider (RHIC) and National Synchrotron Light Source (NSLS) that, along with other special and general power requirements, consume approximately 300 GWh of electricity a year at a cost in the \$15 to \$16 million dollar range since the startup of RHIC. Without the NYPA contract, the Laboratory's electrical cost would be in the range of \$11 million dollars more a year.

NREL initiated a lab-wide program to make laboratory operations more sustainable, meaning less impact on the environment without decreasing financial or personnel effectiveness. This initiative includes several different elements; the three elements that provide cost savings are reducing energy use in buildings, reducing the impact of transportation, and reducing water use. Utilities costs decreased from \$1,130K in FY 2001 to \$967K in FY 2002. Some of the specific activities undertaken or planned include: replacing water fixtures with low or waterless units (toilets, urinals, showerheads, etc); replacing boilers, chillers, and other major building equipment with newer, more efficient units, and in some cases, replacing electric with natural-gas-powered units; enforcing the purchase of Energy Star rated office equipment; replacing some older lighting with newer, more energy-efficient lighting; installing energy saving devices on vending machines; and installing electricity and water meters throughout the

complex, in all individual buildings, to better manage and control energy and water use. In addition, SPR scheduled operations during off-peak hours which resulted in a discount in the cost of power.

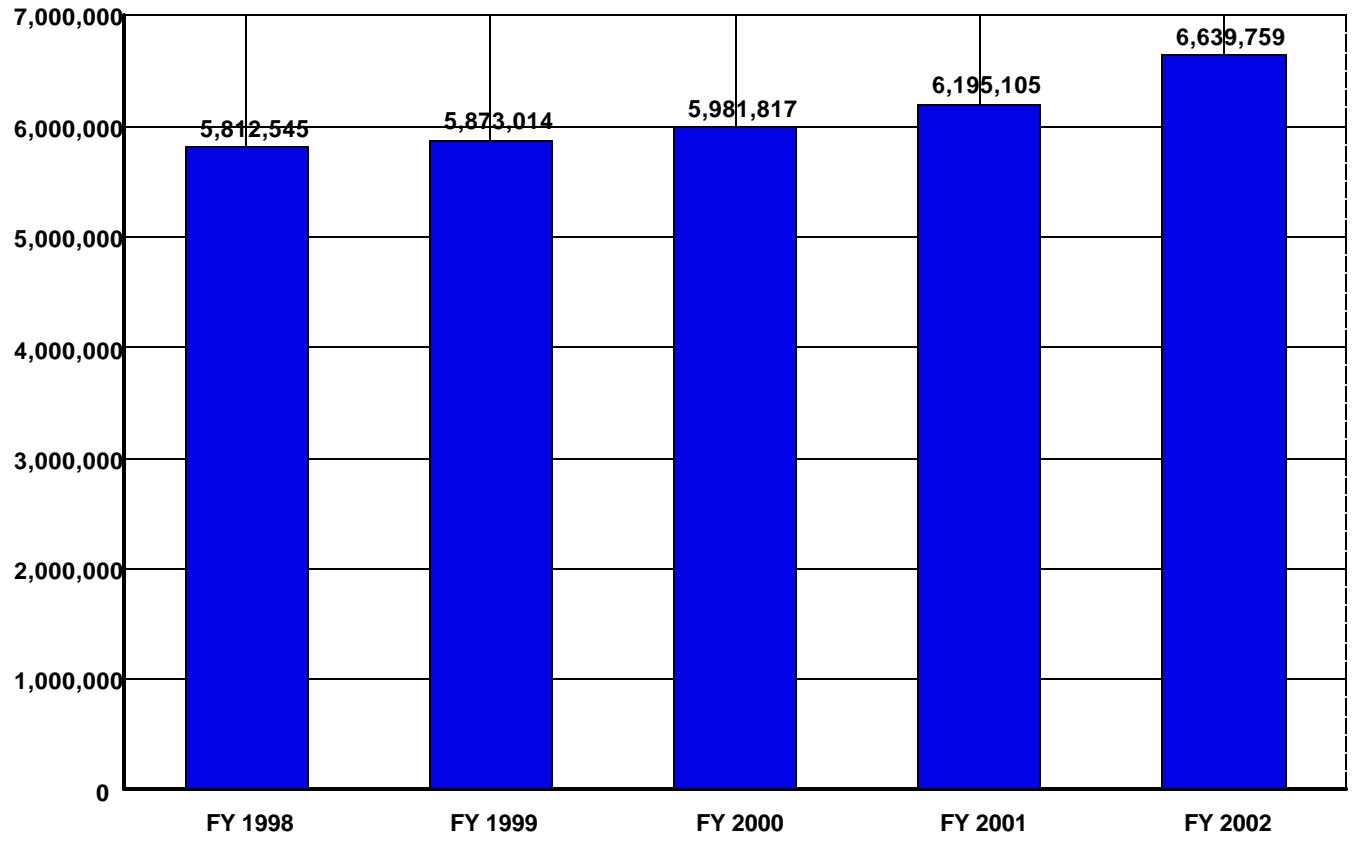
**TOTAL FOR ALL  
FY 2002**

**Trends in Total Functional Support Cost Categories**

(\$ in 000's)

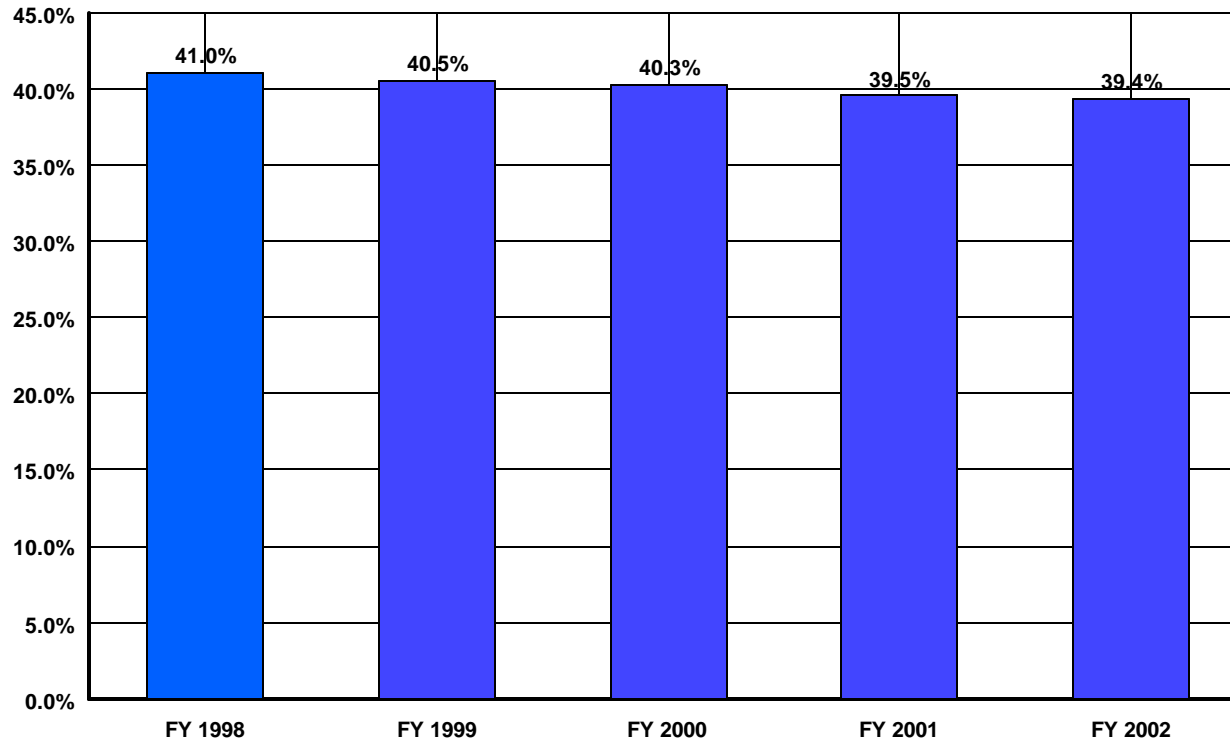
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	129,027	140,812	147,335	156,662	176,514	47,487	36.8%
HUMAN RESOURCES	160,795	166,061	181,693	184,959	191,391	30,596	19.0%
CFO	156,139	147,194	136,165	147,376	142,694	-13,445	-8.6%
PROCUREMENT	123,206	124,527	126,821	130,142	131,728	8,522	6.9%
LEGAL	42,486	56,499	60,199	60,587	62,861	20,375	48.0%
CENTRAL ADMIN SERVICES	188,908	181,078	189,259	191,894	203,890	14,982	7.9%
PROGRAM/PROJECT CONTROL	178,807	187,475	189,473	184,129	186,689	7,882	4.4%
INFORMATION OUTREACH	139,012	138,947	137,942	134,530	144,366	5,354	3.9%
INFORMATION SERVICES	649,535	635,927	649,809	645,695	702,411	52,876	8.1%
OTHER	116,870	86,191	88,138	95,561	77,671	-39,199	-33.5%
<b>TOTAL GENERAL SUPPORT</b>	<b>1,884,785</b>	<b>1,864,711</b>	<b>1,906,834</b>	<b>1,931,535</b>	<b>2,020,215</b>	<b>135,430</b>	<b>7.2%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	192,252	194,539	196,756	201,115	198,682	6,430	3.3%
SAFETY AND HEALTH	618,499	658,719	677,246	708,937	741,390	122,891	19.9%
FACILITIES MANAGEMENT	325,958	328,601	384,950	424,573	472,290	146,332	44.9%
MAINTENANCE	878,704	900,261	856,179	830,911	881,434	2,730	0.3%
UTILITIES	372,290	352,685	346,506	385,518	413,269	40,979	11.0%
SAFEGUARDS AND SECURITY	402,860	430,202	484,016	509,294	606,455	203,595	50.5%
LOGISTICS SUPPORT	139,412	145,117	151,278	162,220	162,834	23,422	16.8%
QUALITY ASSURANCE	129,131	124,859	126,227	133,161	133,322	4,191	3.2%
LABORATORY/TECHNICAL SUPPOR	165,233	165,216	159,497	162,513	163,184	-2,049	-1.2%
<b>TOTAL MISSION SUPPORT</b>	<b>3,224,339</b>	<b>3,300,199</b>	<b>3,382,655</b>	<b>3,518,242</b>	<b>3,772,860</b>	<b>548,521</b>	<b>17.0%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	432,289	422,510	464,145	427,432	470,530	38,241	8.8%
TAXES	74,249	75,967	73,133	83,271	95,569	21,320	28.7%
LDRD / PDRD / SDRD	196,883	209,627	155,050	234,625	280,585	83,702	42.5%
<b>TOTAL SITE SPECIFIC</b>	<b>703,421</b>	<b>708,104</b>	<b>692,328</b>	<b>745,328</b>	<b>846,684</b>	<b>143,263</b>	<b>20.4%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>5,812,545</b>	<b>5,873,014</b>	<b>5,981,817</b>	<b>6,195,105</b>	<b>6,639,759</b>	<b>827,214</b>	<b>14.2%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	7,166,865	7,452,206	7,745,124	8,121,411	8,764,588	1,597,723	22.3%
Capital Construction	1,182,007	1,170,798	1,123,656	1,354,736	1,454,053	272,046	23.0%
<b>TOTAL MISSION DIRECT</b>	<b>8,348,872</b>	<b>8,623,004</b>	<b>8,868,780</b>	<b>9,476,147</b>	<b>10,218,641</b>	<b>1,869,769</b>	<b>22.4%</b>
<b>Total Costs</b>	14,161,417	14,496,018	14,850,597	15,671,252	16,858,400	2,696,983	19.0%
<b>Total Costs w/o Construction</b>	12,979,410	13,325,220	13,726,941	14,316,516	15,404,347	2,424,937	18.7%
General Support % Total Costs	13.3%	12.9%	12.8%	12.3%	12.0%		
Mission Support % Total Costs	22.8%	22.8%	22.8%	22.5%	22.4%		
Site Specific % Total Costs	5.0%	4.9%	4.7%	4.8%	5.0%		
Total Support % Total Costs	41.0%	40.5%	40.3%	39.5%	39.4%		
Total Support % Total Costs w/o Co	44.8%	44.1%	43.6%	43.3%	43.1%		

## Total Support Costs (000's) All 30 Sites



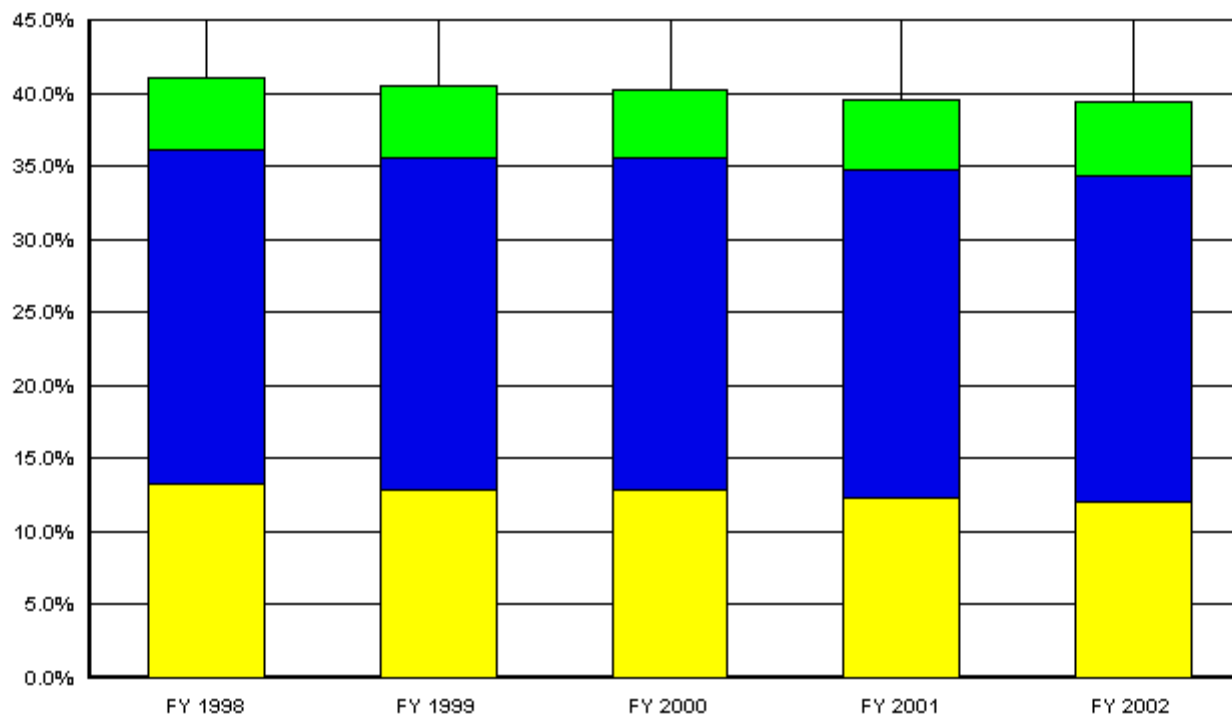
	Total Functional Support				
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	5,812,545	5,873,014	5,981,817	6,195,105	6,639,759

## Support Cost as a % of Total Cost All 30 Sites



	Total Functional Support				
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
Total Functional Support	41.0%	40.5%	40.3%	39.5%	39.4%

**US Department of Energy  
Percent of Support Category to Total  
TOTAL FOR ALL DOE**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	13.3%	12.9%	12.8%	12.3%	12.0%
<b>Mis Sup</b>	22.8%	22.8%	22.8%	22.5%	22.4%
<b>Site Specific</b>	5.0%	4.9%	4.7%	4.8%	5.0%



**Total Plants**

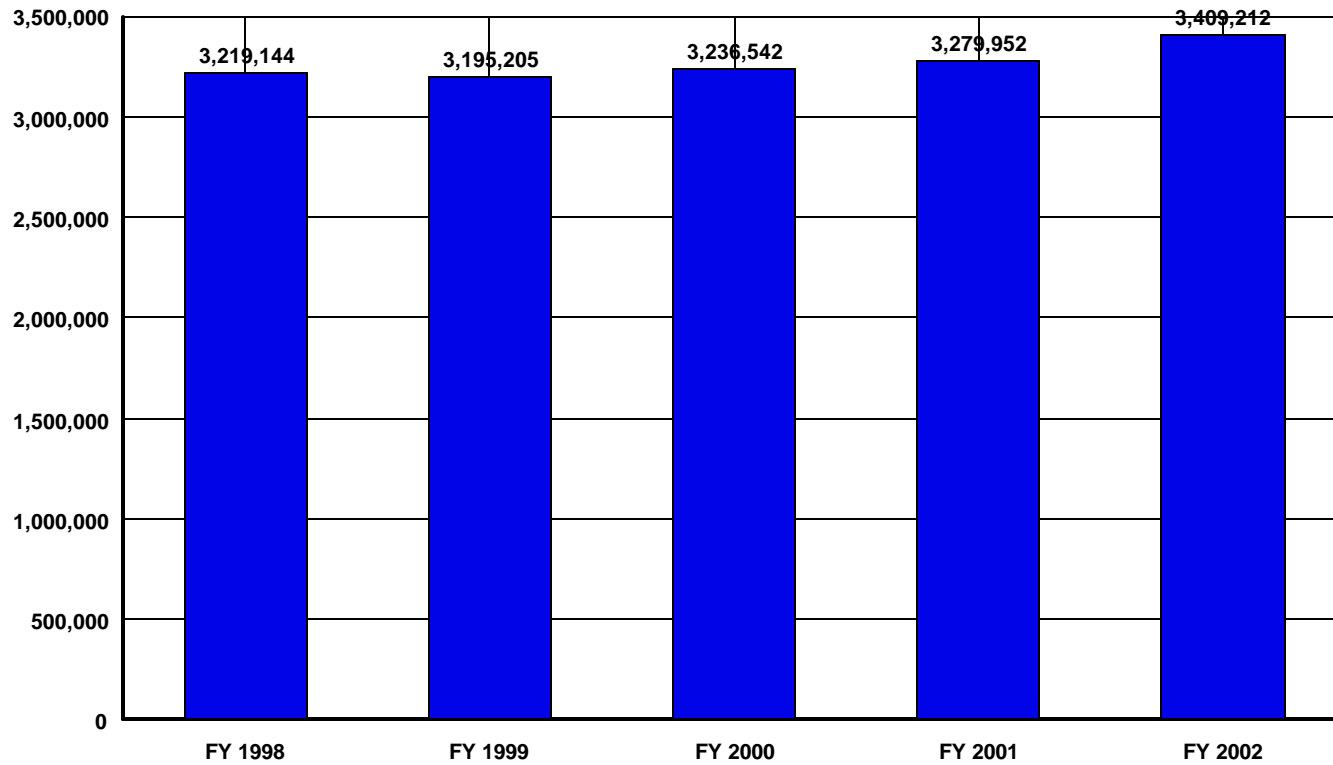
**Trends in Total Functional Support Cost Categories**

**FY 2002**

(\$ in 000's)

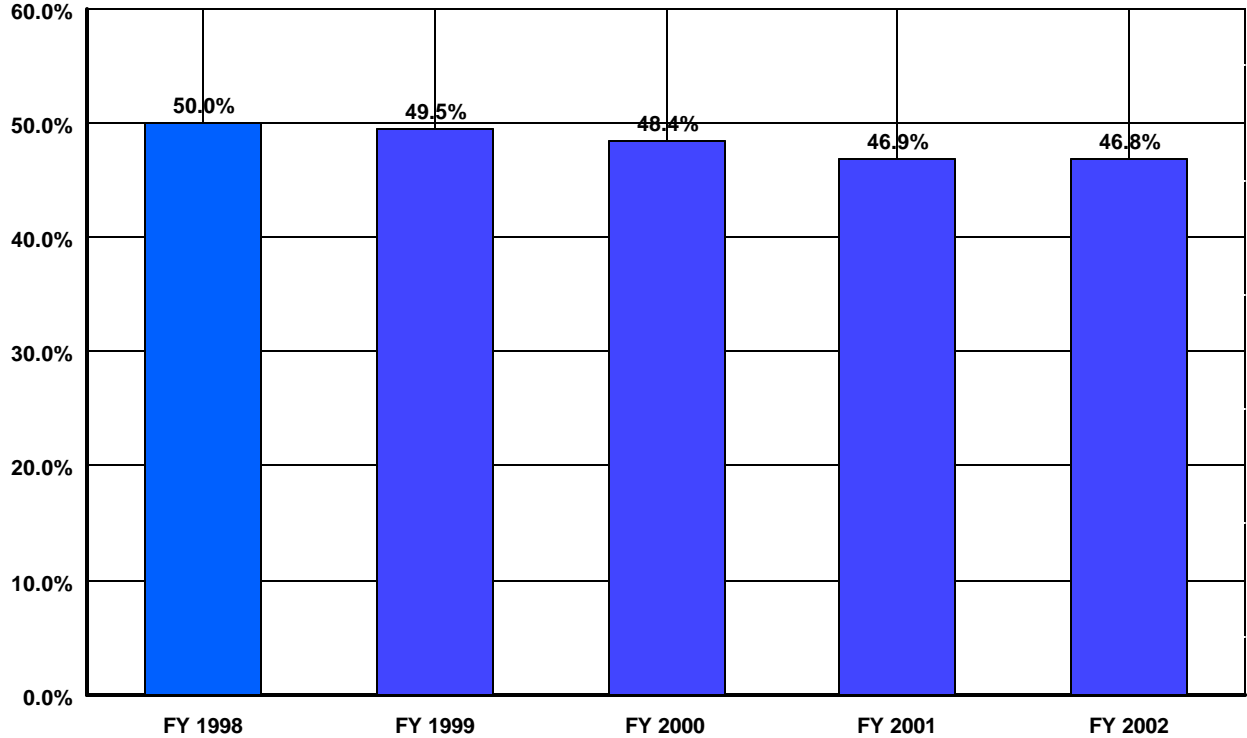
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	60,492	60,766	59,990	60,084	54,276	-6,216	-10.3%
HUMAN RESOURCES	81,036	80,823	87,674	86,276	85,082	4,046	5.0%
CFO	86,567	78,827	66,322	81,688	68,886	-17,681	-20.4%
PROCUREMENT	54,815	55,805	59,074	62,140	63,354	8,539	15.6%
LEGAL	17,807	28,067	28,970	27,441	31,463	13,656	76.7%
CENTRAL ADMIN SERVICES	95,546	89,098	91,647	93,082	99,983	4,437	4.6%
PROGRAM/PROJECT CONTROL	105,981	111,963	113,801	117,497	128,118	22,137	20.9%
INFORMATION OUTREACH	45,848	47,442	49,972	41,193	42,008	-3,840	-8.4%
INFORMATION SERVICES	324,725	294,755	298,369	285,238	287,693	-37,032	-11.4%
OTHER	52,175	37,152	36,765	33,856	28,828	-23,347	-44.7%
<b>TOTAL GENERAL SUPPORT</b>	<b>924,992</b>	<b>884,698</b>	<b>892,584</b>	<b>888,495</b>	<b>889,691</b>	<b>-35,301</b>	<b>-3.8%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	117,541	123,360	121,459	121,887	111,731	-5,810	-4.9%
SAFETY AND HEALTH	389,671	417,953	423,752	454,988	473,628	83,957	21.5%
FACILITIES MANAGEMENT	201,735	203,238	178,472	177,484	169,536	-32,199	-16.0%
MAINTENANCE	502,211	496,169	497,829	474,962	495,142	-7,069	-1.4%
UTILITIES	201,564	179,119	168,052	179,963	190,138	-11,426	-5.7%
SAFEGUARDS AND SECURITY	236,335	258,170	288,655	309,505	357,116	120,781	51.1%
LOGISTICS SUPPORT	80,646	86,507	89,943	98,388	93,257	12,611	15.6%
QUALITY ASSURANCE	99,005	91,130	88,878	96,168	98,594	-411	-0.4%
LABORATORY/TECHNICAL SUPPOR	111,672	105,103	108,100	112,048	109,417	-2,255	-2.0%
<b>TOTAL MISSION SUPPORT</b>	<b>1,940,380</b>	<b>1,960,749</b>	<b>1,965,140</b>	<b>2,025,393</b>	<b>2,098,559</b>	<b>158,179</b>	<b>8.2%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	320,797	313,158	354,490	316,330	355,224	34,427	10.7%
TAXES	24,544	25,866	20,089	29,115	36,415	11,871	48.4%
LDRD / PDRD / SDRD	8,431	10,734	4,239	20,619	29,323	20,892	247.8%
<b>TOTAL SITE SPECIFIC</b>	<b>353,772</b>	<b>349,758</b>	<b>378,818</b>	<b>366,064</b>	<b>420,962</b>	<b>67,190</b>	<b>19.0%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>3,219,144</b>	<b>3,195,205</b>	<b>3,236,542</b>	<b>3,279,952</b>	<b>3,409,212</b>	<b>190,068</b>	<b>5.9%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	2,763,424	2,869,887	3,102,338	3,270,977	3,440,618	677,194	24.5%
Capital Construction	451,216	392,249	347,372	439,762	431,810	-19,406	-4.3%
<b>TOTAL MISSION DIRECT</b>	<b>3,214,640</b>	<b>3,262,136</b>	<b>3,449,710</b>	<b>3,710,739</b>	<b>3,872,428</b>	<b>657,788</b>	<b>20.5%</b>
<b>Total Costs</b>	<b>6,433,784</b>	<b>6,457,341</b>	<b>6,686,252</b>	<b>6,990,691</b>	<b>7,281,640</b>	<b>847,856</b>	<b>13.2%</b>
<b>Total Costs w/o Construction</b>	<b>5,982,568</b>	<b>6,065,092</b>	<b>6,338,880</b>	<b>6,550,929</b>	<b>6,849,830</b>	<b>867,262</b>	<b>14.5%</b>
General Support % Total Costs	14.4%	13.7%	13.3%	12.7%	12.2%		
Mission Support % Total Costs	30.2%	30.4%	29.4%	29.0%	28.8%		
Site Specific % Total Costs	5.5%	5.4%	5.7%	5.2%	5.8%		
Total Support % Total Costs	50.0%	49.5%	48.4%	46.9%	46.8%		
Total Support % Total Costs w/o Co	53.8%	52.7%	51.1%	50.1%	49.8%		

## Total Support Costs (000's) Plants



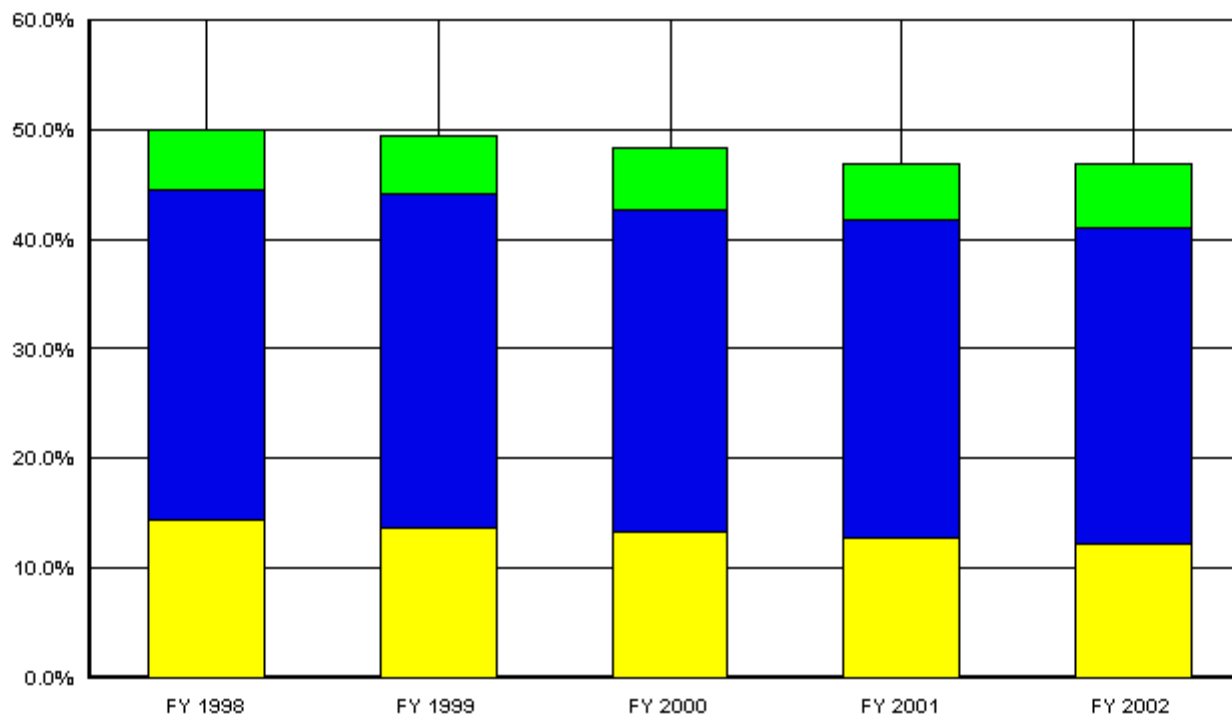
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	3,219,144	3,195,205	3,236,542	3,279,952	3,409,212

# Support Cost as a % of Total Cost Plants



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	50.0%	49.5%	48.4%	46.9%	46.8%

**US Department of Energy  
Percent of Support Category to Total  
Total Plants**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	14.4%	13.7%	13.3%	12.7%	12.2%
<b>Mis Sup</b>	30.2%	30.4%	29.4%	29.0%	28.8%
<b>Site Specific</b>	5.5%	5.4%	5.7%	5.2%	5.8%

**Total Labs**

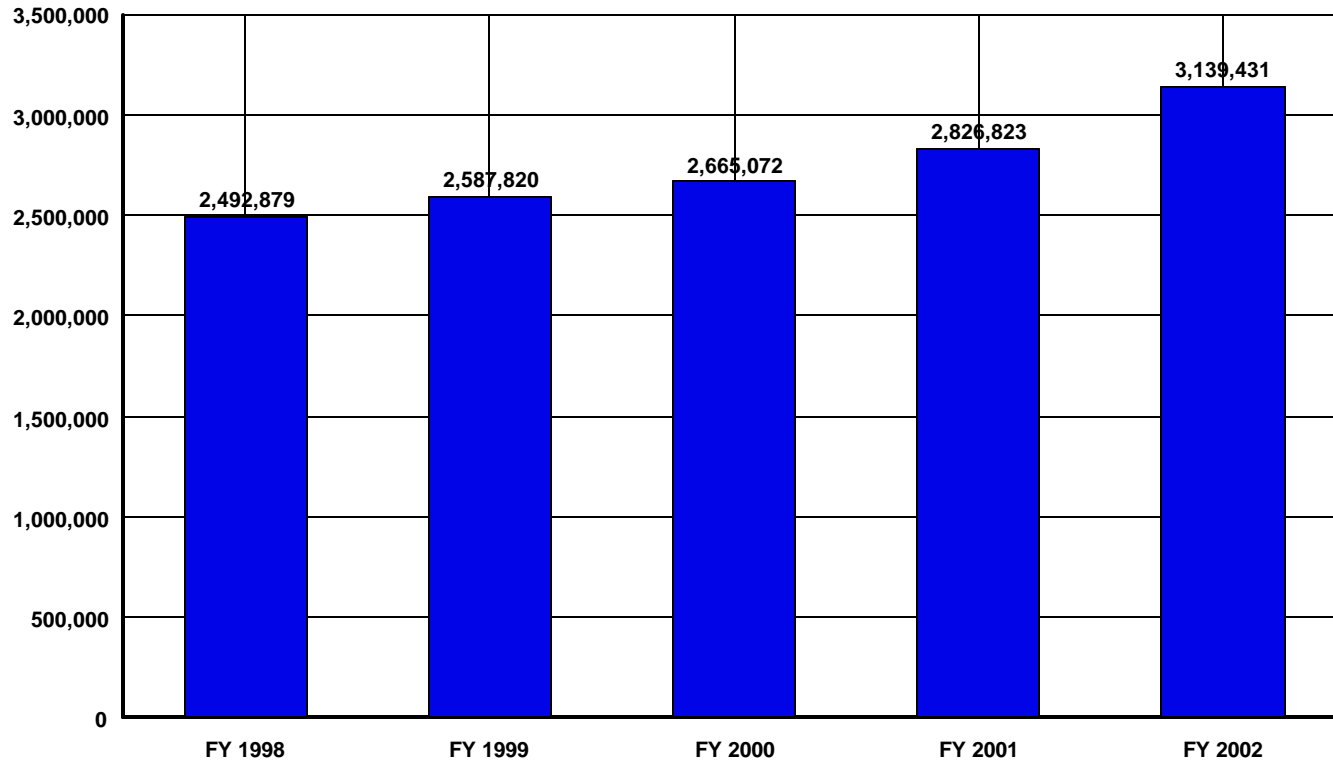
**Trends in Total Functional Support Cost Categories**

**FY 2002**

(\$ in 000's)

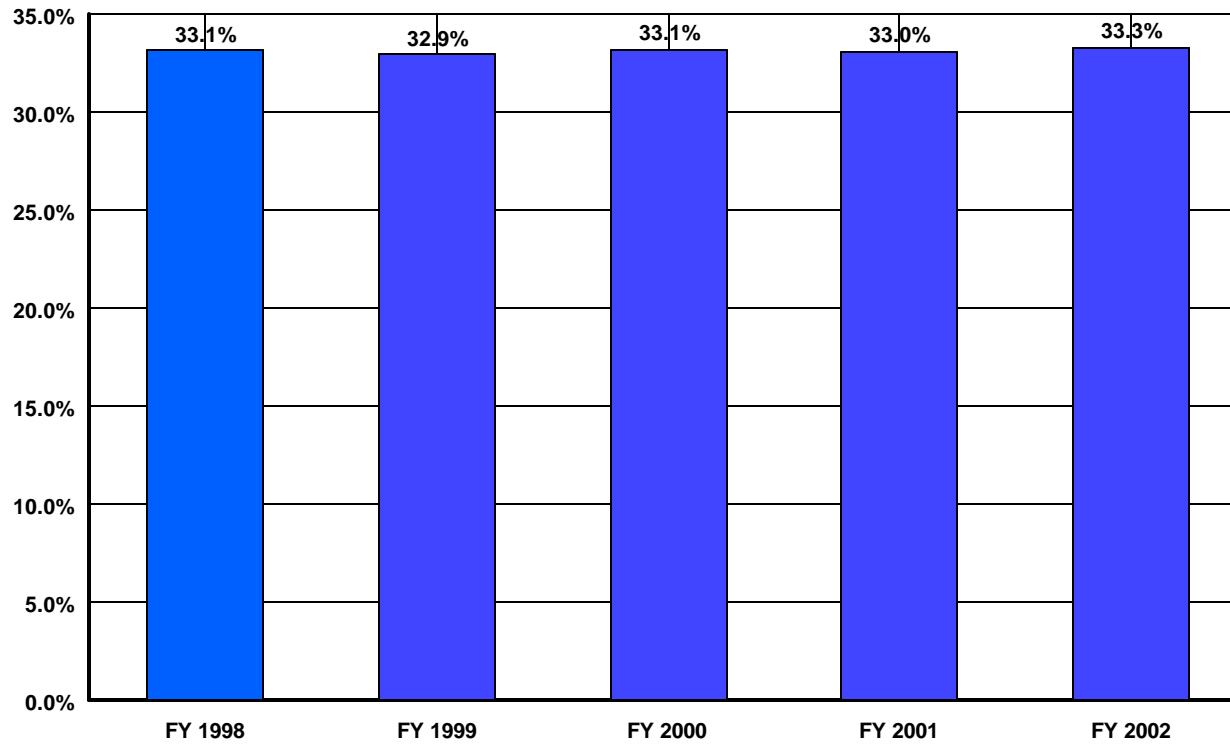
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	67,193	78,882	86,785	96,284	121,978	54,785	81.5%
HUMAN RESOURCES	78,014	83,724	91,989	97,347	105,050	27,036	34.7%
CFO	67,441	66,519	68,020	63,719	72,011	4,570	6.8%
PROCUREMENT	66,077	66,715	65,967	66,084	66,417	340	0.5%
LEGAL	23,942	27,793	29,744	32,392	30,866	6,924	28.9%
CENTRAL ADMIN SERVICES	91,430	90,304	96,138	97,819	103,209	11,779	12.9%
PROGRAM/PROJECT CONTROL	66,249	69,807	70,204	61,884	53,641	-12,608	-19.0%
INFORMATION OUTREACH	91,237	89,833	86,180	90,975	100,506	9,269	10.2%
INFORMATION SERVICES	311,287	329,442	342,332	349,100	404,890	93,603	30.1%
OTHER	64,695	49,039	51,373	61,705	48,843	-15,852	-24.5%
<b>TOTAL GENERAL SUPPORT</b>	<b>927,565</b>	<b>952,058</b>	<b>988,732</b>	<b>1,017,309</b>	<b>1,107,411</b>	<b>179,846</b>	<b>19.4%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	72,118	68,929	73,219	77,015	84,601	12,483	17.3%
SAFETY AND HEALTH	226,040	238,347	250,949	250,811	265,262	39,222	17.4%
FACILITIES MANAGEMENT	123,395	124,645	205,669	246,373	301,739	178,344	144.5%
MAINTENANCE	341,549	373,781	332,515	326,485	358,882	17,333	5.1%
UTILITIES	168,321	171,480	176,418	202,652	220,531	52,210	31.0%
SAFEGUARDS AND SECURITY	154,088	161,244	184,619	187,965	229,351	75,263	48.8%
LOGISTICS SUPPORT	54,604	55,000	58,479	60,153	66,622	12,018	22.0%
QUALITY ASSURANCE	27,954	31,845	35,605	35,334	33,007	5,053	18.1%
LABORATORY/TECHNICAL SUPPOR	53,561	60,113	51,397	50,465	53,767	206	0.4%
<b>TOTAL MISSION SUPPORT</b>	<b>1,221,630</b>	<b>1,285,384</b>	<b>1,368,870</b>	<b>1,437,253</b>	<b>1,613,762</b>	<b>392,132</b>	<b>32.1%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	105,527	101,384	103,615	104,099	107,990	2,463	2.3%
TAXES	49,705	50,101	53,044	54,156	59,006	9,301	18.7%
LDRD / PDRD / SDRD	188,452	198,893	150,811	214,006	251,262	62,810	33.3%
<b>TOTAL SITE SPECIFIC</b>	<b>343,684</b>	<b>350,378</b>	<b>307,470</b>	<b>372,261</b>	<b>418,258</b>	<b>74,574</b>	<b>21.7%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>2,492,879</b>	<b>2,587,820</b>	<b>2,665,072</b>	<b>2,826,823</b>	<b>3,139,431</b>	<b>646,552</b>	<b>25.9%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	4,308,866	4,500,282	4,604,995	4,813,394	5,280,007	971,141	22.5%
Capital Construction	730,791	778,549	776,284	914,974	1,022,243	291,452	39.9%
<b>TOTAL MISSION DIRECT</b>	<b>5,039,657</b>	<b>5,278,831</b>	<b>5,381,279</b>	<b>5,728,368</b>	<b>6,302,250</b>	<b>1,262,593</b>	<b>25.1%</b>
<b>Total Costs</b>	<b>7,532,536</b>	<b>7,866,651</b>	<b>8,046,351</b>	<b>8,555,191</b>	<b>9,441,681</b>	<b>1,909,145</b>	<b>25.3%</b>
<b>Total Costs w/o Construction</b>	<b>6,801,745</b>	<b>7,088,102</b>	<b>7,270,067</b>	<b>7,640,217</b>	<b>8,419,438</b>	<b>1,617,693</b>	<b>23.8%</b>
General Support % Total Costs	12.3%	12.1%	12.3%	11.9%	11.7%		
Mission Support % Total Costs	16.2%	16.3%	17.0%	16.8%	17.1%		
Site Specific % Total Costs	4.6%	4.5%	3.8%	4.4%	4.4%		
Total Support % Total Costs	33.1%	32.9%	33.1%	33.0%	33.3%		
Total Support % Total Costs w/o Co	36.7%	36.5%	36.7%	37.0%	37.3%		

## Total Support Costs (000's) Labs



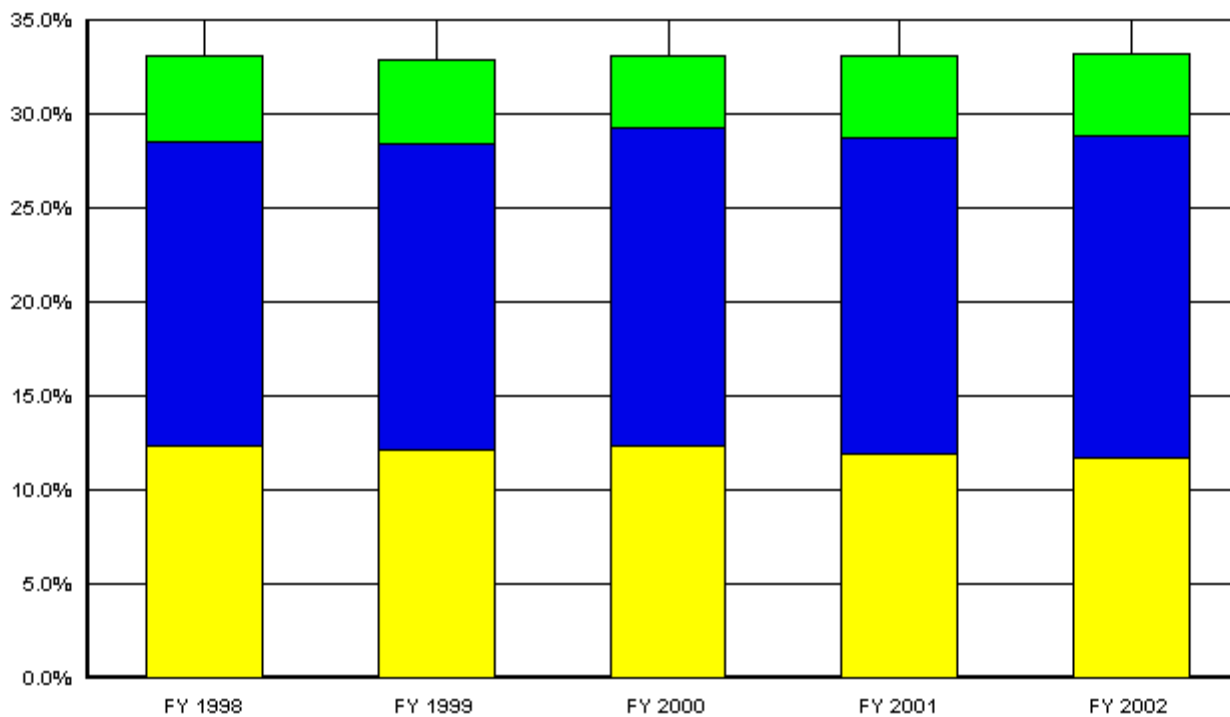
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	2,492,879	2,587,820	2,665,072	2,826,823	3,139,431

## Support Cost as a % of Total Cost Labs



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	33.1%	32.9%	33.1%	33.0%	33.3%

**US Department of Energy  
Percent of Support Category to Total  
Total Labs**



Gen Sup
  Mis Sup
  Site Specific

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	12.3%	12.1%	12.3%	11.9%	11.7%
<b>Mis Sup</b>	16.2%	16.3%	17.0%	16.8%	17.1%
<b>Site Specific</b>	4.6%	4.5%	3.8%	4.4%	4.4%



**Total DP Sites**

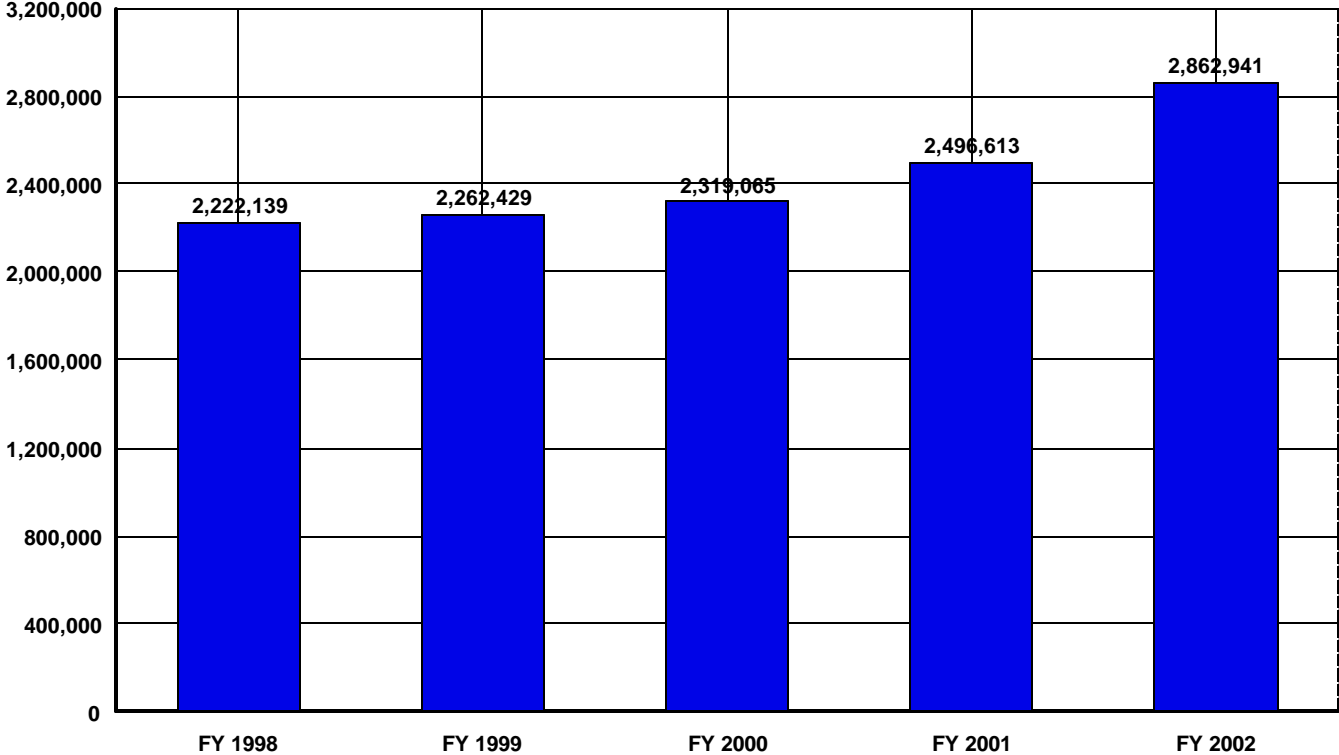
**Trends in Total Functional Support Cost Categories**

**FY 2002**

(\$ in 000's)

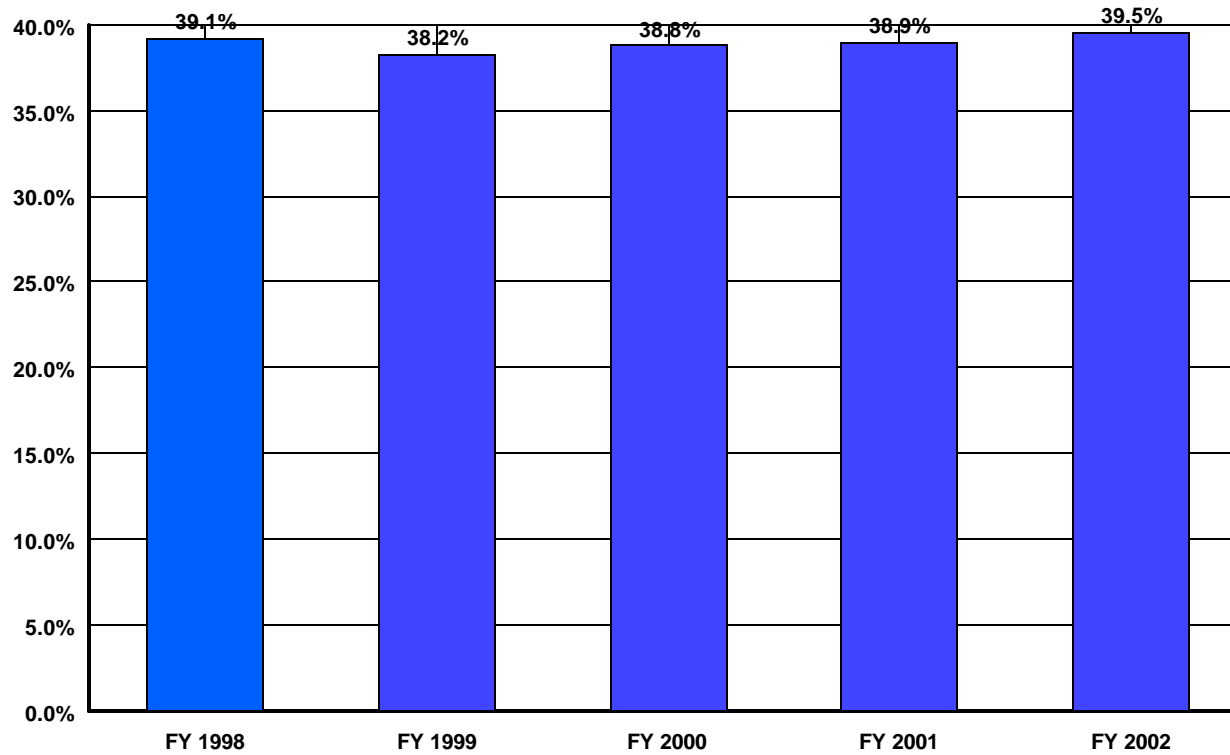
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	44,538	54,303	62,113	70,417	81,108	36,570	82.1%
HUMAN RESOURCES	65,868	68,668	76,515	81,838	87,500	21,632	32.8%
CFO	44,592	44,906	47,759	47,557	50,476	5,884	13.2%
PROCUREMENT	47,567	49,163	49,131	51,028	52,586	5,019	10.6%
LEGAL	17,594	20,026	22,686	23,804	24,063	6,469	36.8%
CENTRAL ADMIN SERVICES	79,357	75,669	77,686	77,873	86,080	6,723	8.5%
PROGRAM/PROJECT CONTROL	46,079	50,623	48,153	46,740	48,783	2,704	5.9%
INFORMATION OUTREACH	63,238	57,267	53,923	56,990	60,209	-3,029	-4.8%
INFORMATION SERVICES	275,125	271,015	281,151	287,085	346,699	71,574	26.0%
OTHER	60,800	28,619	26,635	34,594	17,749	-43,051	-70.8%
<b>TOTAL GENERAL SUPPORT</b>	<b>744,758</b>	<b>720,259</b>	<b>745,752</b>	<b>777,926</b>	<b>855,253</b>	<b>110,495</b>	<b>14.8%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	73,825	70,227	68,733	63,434	70,224	-3,601	-4.9%
SAFETY AND HEALTH	168,866	199,691	213,444	216,154	246,657	77,791	46.1%
FACILITIES MANAGEMENT	93,704	93,656	168,214	202,429	258,052	164,348	175.4%
MAINTENANCE	346,456	346,030	303,821	305,299	345,007	-1,449	-0.4%
UTILITIES	156,188	156,188	152,678	179,934	197,967	41,779	26.7%
SAFEGUARDS AND SECURITY	187,159	221,058	254,822	267,643	333,546	146,387	78.2%
LOGISTICS SUPPORT	45,460	50,116	52,752	57,378	61,889	16,429	36.1%
QUALITY ASSURANCE	46,011	36,863	37,503	40,277	43,878	-2,133	-4.6%
LABORATORY/TECHNICAL SUPPOR	38,072	41,852	39,882	40,306	40,881	2,809	7.4%
<b>TOTAL MISSION SUPPORT</b>	<b>1,155,741</b>	<b>1,215,681</b>	<b>1,291,849</b>	<b>1,372,854</b>	<b>1,598,101</b>	<b>442,360</b>	<b>38.3%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	121,758	120,525	117,941	117,684	134,399	12,641	10.4%
TAXES	51,605	52,553	55,329	59,562	67,447	15,842	30.7%
LDRD / PDRD / SDRD	148,277	153,411	108,194	168,587	207,741	59,464	40.1%
<b>TOTAL SITE SPECIFIC</b>	<b>321,640</b>	<b>326,489</b>	<b>281,464</b>	<b>345,833</b>	<b>409,587</b>	<b>87,947</b>	<b>27.3%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>2,222,139</b>	<b>2,262,429</b>	<b>2,319,065</b>	<b>2,496,613</b>	<b>2,862,941</b>	<b>640,802</b>	<b>28.8%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	2,985,833	3,117,680	3,164,685	3,292,316	3,689,757	703,924	23.6%
Capital Construction	469,423	539,929	498,973	629,753	689,949	220,526	47.0%
<b>TOTAL MISSION DIRECT</b>	<b>3,455,256</b>	<b>3,657,609</b>	<b>3,663,658</b>	<b>3,922,069</b>	<b>4,379,706</b>	<b>924,450</b>	<b>26.8%</b>
<b>Total Costs</b>	5,677,395	5,920,038	5,982,723	6,418,682	7,242,647	1,565,252	27.6%
<b>Total Costs w/o Construction</b>	5,207,972	5,380,109	5,483,750	5,788,929	6,552,698	1,344,726	25.8%
General Support % Total Costs	13.1%	12.2%	12.5%	12.1%	11.8%		
Mission Support % Total Costs	20.4%	20.5%	21.6%	21.4%	22.1%		
Site Specific % Total Costs	5.7%	5.5%	4.7%	5.4%	5.7%		
Total Support % Total Costs	39.1%	38.2%	38.8%	38.9%	39.5%		
Total Support % Total Costs w/o Co	42.7%	42.1%	42.3%	43.1%	43.7%		

## Total Support Costs (000's) Defense Program Sites



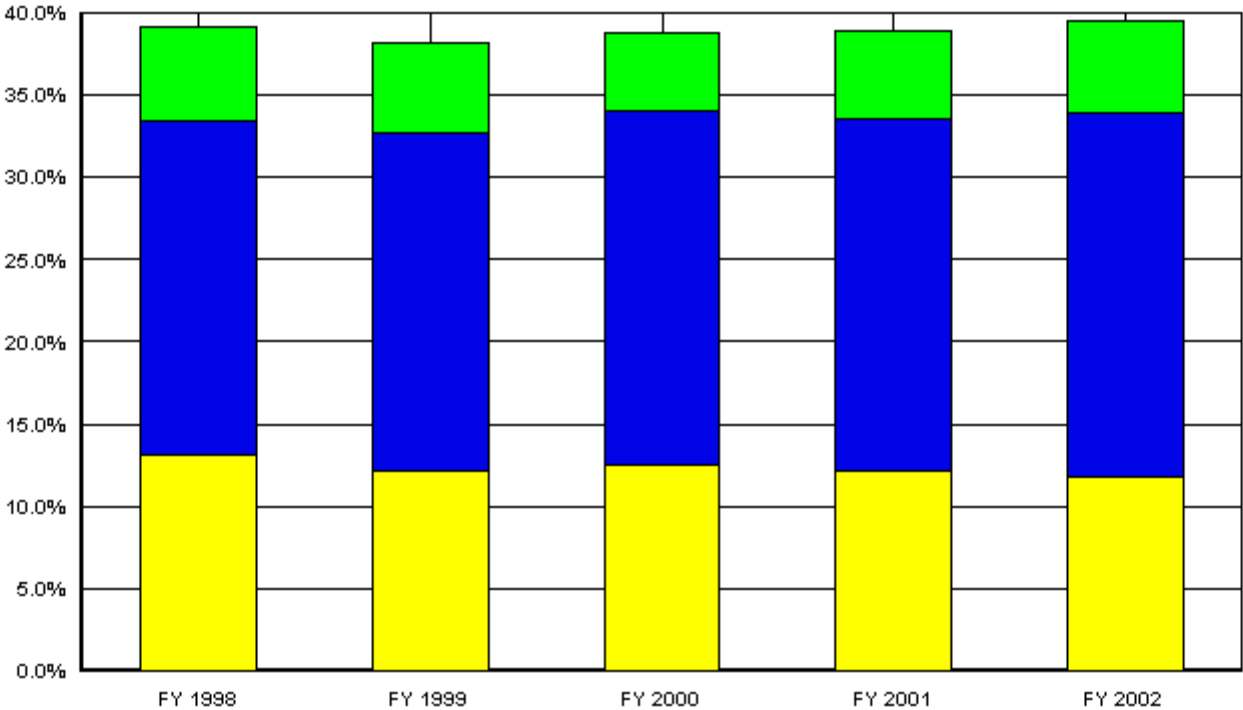
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	2,222,139	2,262,429	2,319,065	2,496,613	2,862,941

## Support Cost as a % of Total Cost Defense Program Sites



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	39.1%	38.2%	38.8%	38.9%	39.5%

**US Department of Energy  
Percent of Support Category to Total  
Total DP Sites**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	13.1%	12.2%	12.5%	12.1%	11.8%
<b>Mis Sup</b>	20.4%	20.5%	21.6%	21.4%	22.1%
<b>Site Specific</b>	5.7%	5.5%	4.7%	5.4%	5.7%

**Total EM Sites**

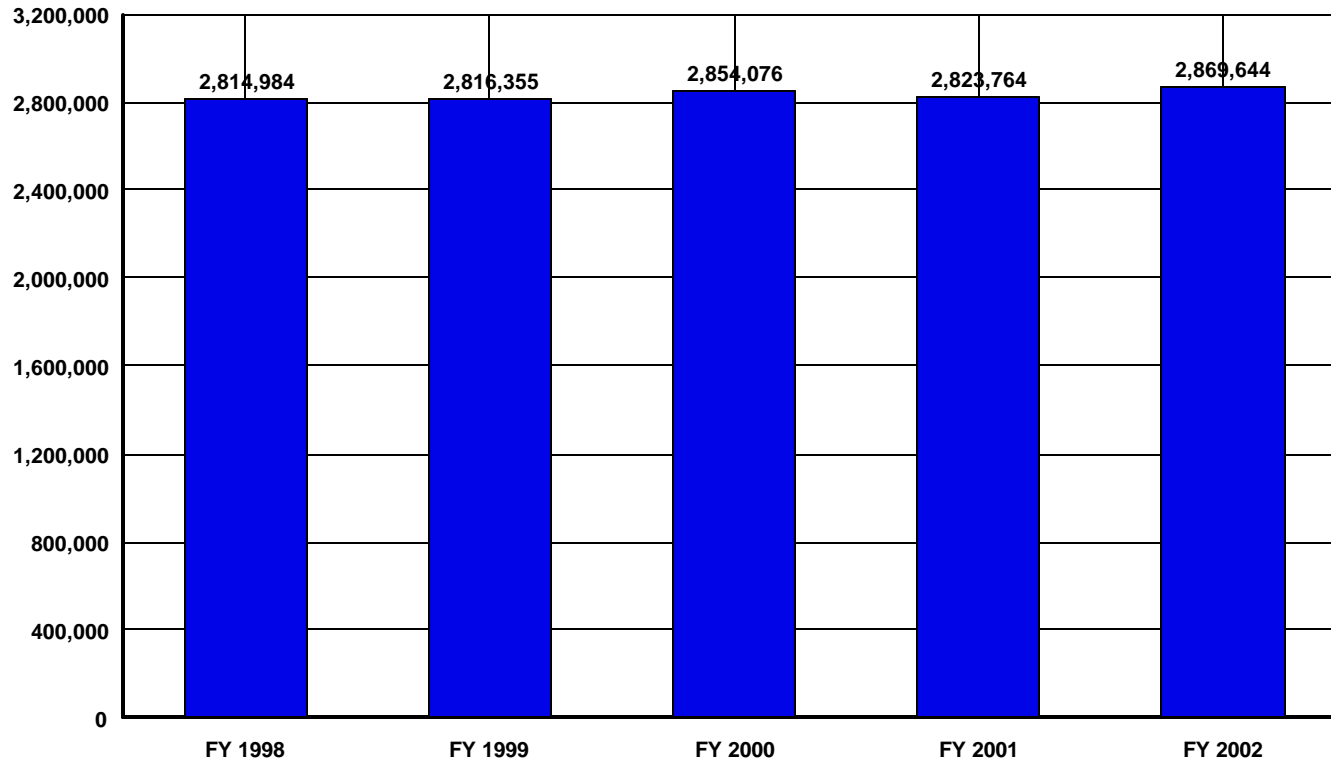
**Trends in Total Functional Support Cost Categories**

**FY 2002**

(\$ in 000's)

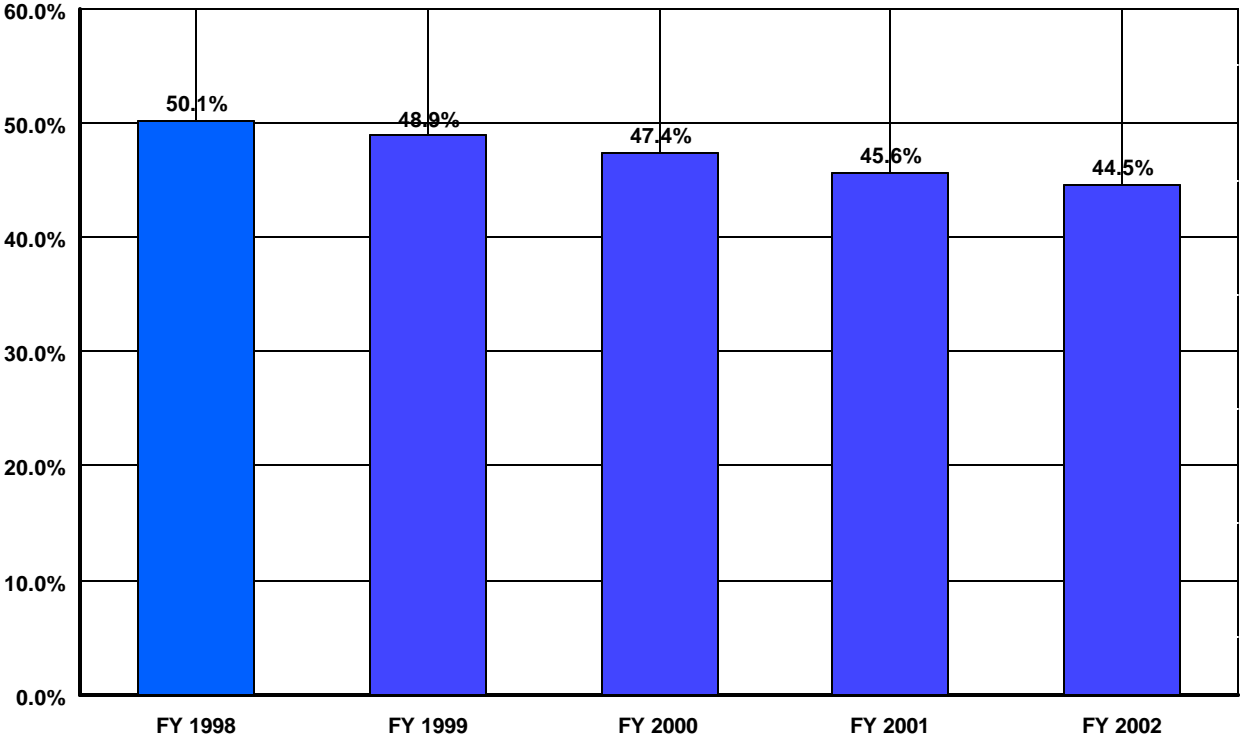
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	52,201	51,704	51,279	49,483	47,177	-5,024	-9.6%
HUMAN RESOURCES	70,282	71,742	77,574	73,505	71,224	942	1.3%
CFO	79,498	73,018	58,491	67,908	58,150	-21,348	-26.9%
PROCUREMENT	46,502	47,299	49,773	52,478	51,540	5,038	10.8%
LEGAL	15,957	26,343	28,782	28,599	30,404	14,447	90.5%
CENTRAL ADMIN SERVICES	83,160	78,996	82,263	78,593	78,505	-4,655	-5.6%
PROGRAM/PROJECT CONTROL	93,126	101,417	100,711	103,808	109,796	16,670	17.9%
INFORMATION OUTREACH	40,161	40,511	44,430	37,500	36,850	-3,311	-8.2%
INFORMATION SERVICES	263,333	249,950	254,631	242,399	228,151	-35,182	-13.4%
OTHER	43,572	42,286	41,725	25,865	29,736	-13,836	-31.8%
<b>TOTAL GENERAL SUPPORT</b>	<b>787,792</b>	<b>783,266</b>	<b>789,659</b>	<b>760,138</b>	<b>741,533</b>	<b>-46,259</b>	<b>-5.9%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	93,416	103,543	102,330	106,573	95,879	2,463	2.6%
SAFETY AND HEALTH	377,249	393,709	398,550	424,619	430,025	52,776	14.0%
FACILITIES MANAGEMENT	172,531	174,376	156,657	152,787	139,475	-33,056	-19.2%
MAINTENANCE	436,079	454,776	453,602	422,224	442,437	6,358	1.5%
UTILITIES	180,563	160,093	152,274	160,474	169,140	-11,423	-6.3%
SAFEGUARDS AND SECURITY	198,086	195,233	221,800	232,757	266,098	68,012	34.3%
LOGISTICS SUPPORT	67,011	68,994	72,425	74,524	71,174	4,163	6.2%
QUALITY ASSURANCE	91,242	84,096	80,871	80,403	80,803	-10,439	-11.4%
LABORATORY/TECHNICAL SUPPOR	105,809	99,576	100,493	102,617	100,388	-5,421	-5.1%
<b>TOTAL MISSION SUPPORT</b>	<b>1,721,986</b>	<b>1,734,396</b>	<b>1,739,002</b>	<b>1,756,978</b>	<b>1,795,419</b>	<b>73,433</b>	<b>4.3%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	268,848	262,591	299,163	256,447	272,959	4,111	1.5%
TAXES	20,376	16,567	14,335	22,314	28,045	7,669	37.6%
LDRD / PDRD / SDRD	15,982	19,535	11,917	27,887	31,688	15,706	98.3%
<b>TOTAL SITE SPECIFIC</b>	<b>305,206</b>	<b>298,693</b>	<b>325,415</b>	<b>306,648</b>	<b>332,692</b>	<b>27,486</b>	<b>9.0%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>2,814,984</b>	<b>2,816,355</b>	<b>2,854,076</b>	<b>2,823,764</b>	<b>2,869,644</b>	<b>54,660</b>	<b>1.9%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	2,396,032	2,585,775	2,816,202	2,945,183	3,096,575	700,543	29.2%
Capital Construction	403,032	361,693	354,342	424,721	477,920	74,888	18.6%
<b>TOTAL MISSION DIRECT</b>	<b>2,799,064</b>	<b>2,947,468</b>	<b>3,170,544</b>	<b>3,369,904</b>	<b>3,574,495</b>	<b>775,431</b>	<b>27.7%</b>
<b>Total Costs</b>	5,614,048	5,763,823	6,024,620	6,193,668	6,444,139	830,091	14.8%
<b>Total Costs w/o Construction</b>	5,211,016	5,402,130	5,670,278	5,768,947	5,966,219	755,203	14.5%
General Support % Total Costs	14.0%	13.6%	13.1%	12.3%	11.5%		
Mission Support % Total Costs	30.7%	30.1%	28.9%	28.4%	27.9%		
Site Specific % Total Costs	5.4%	5.2%	5.4%	5.0%	5.2%		
Total Support % Total Costs	50.1%	48.9%	47.4%	45.6%	44.5%		
Total Support % Total Costs w/o Co	54.0%	52.1%	50.3%	48.9%	48.1%		

## Total Support Costs (000's) Environmental Management Sites



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	2,814,984	2,816,355	2,854,076	2,823,764	2,869,644

# Support Cost as a % of Total Cost Environmental Management Sites

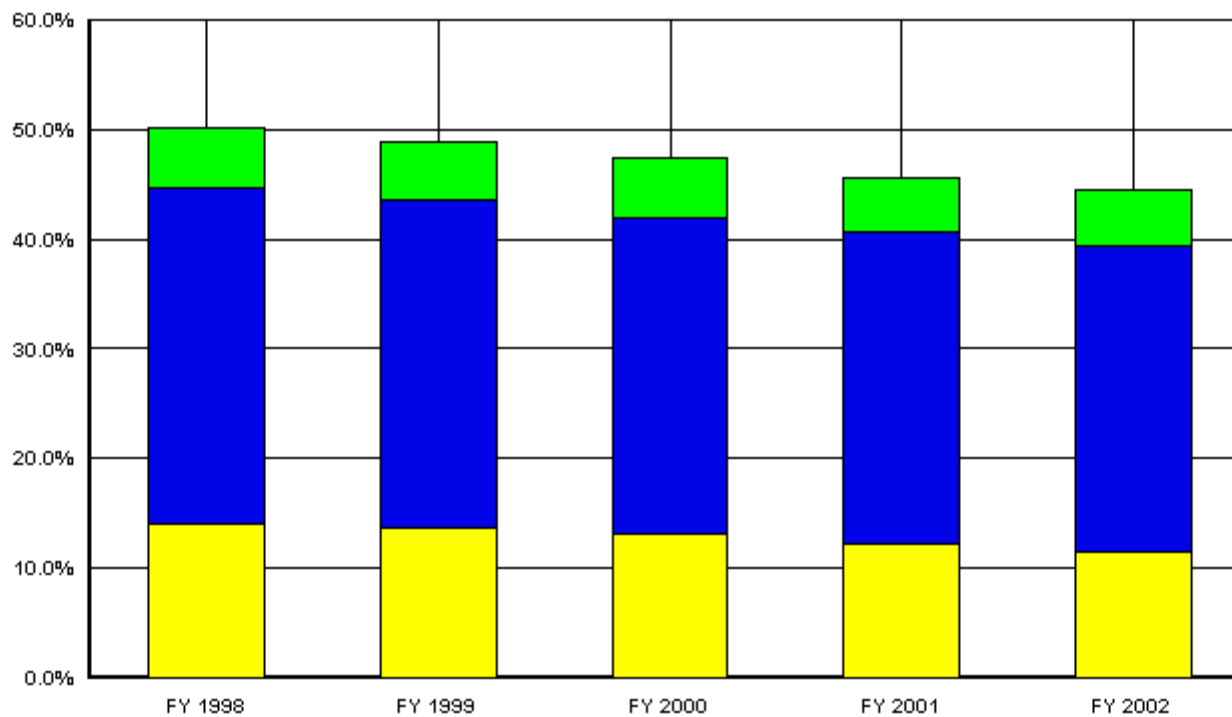


FY 1998      FY 1999      FY 2000      FY 2001      FY 2002

**Total Functional Support**

50.1%      48.9%      47.4%      45.6%      44.5%

**US Department of Energy  
Percent of Support Category to Total  
Total EM Sites**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	14.0%	13.6%	13.1%	12.3%	11.5%
<b>Mis Sup</b>	30.7%	30.1%	28.9%	28.4%	27.9%
<b>Site Specific</b>	5.4%	5.2%	5.4%	5.0%	5.2%



**Total SC Sites**

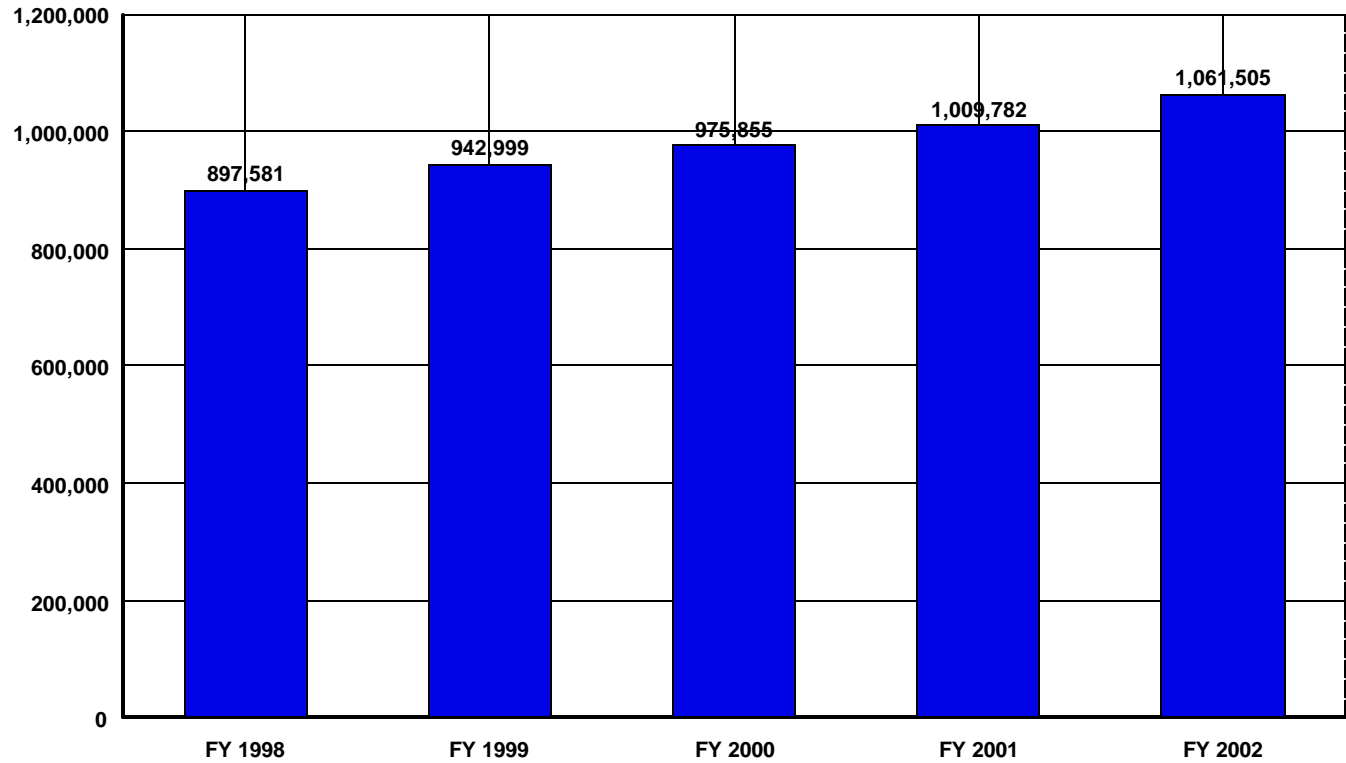
**Trends in Total Functional Support Cost Categories**

**FY 2002**

(\$ in 000's)

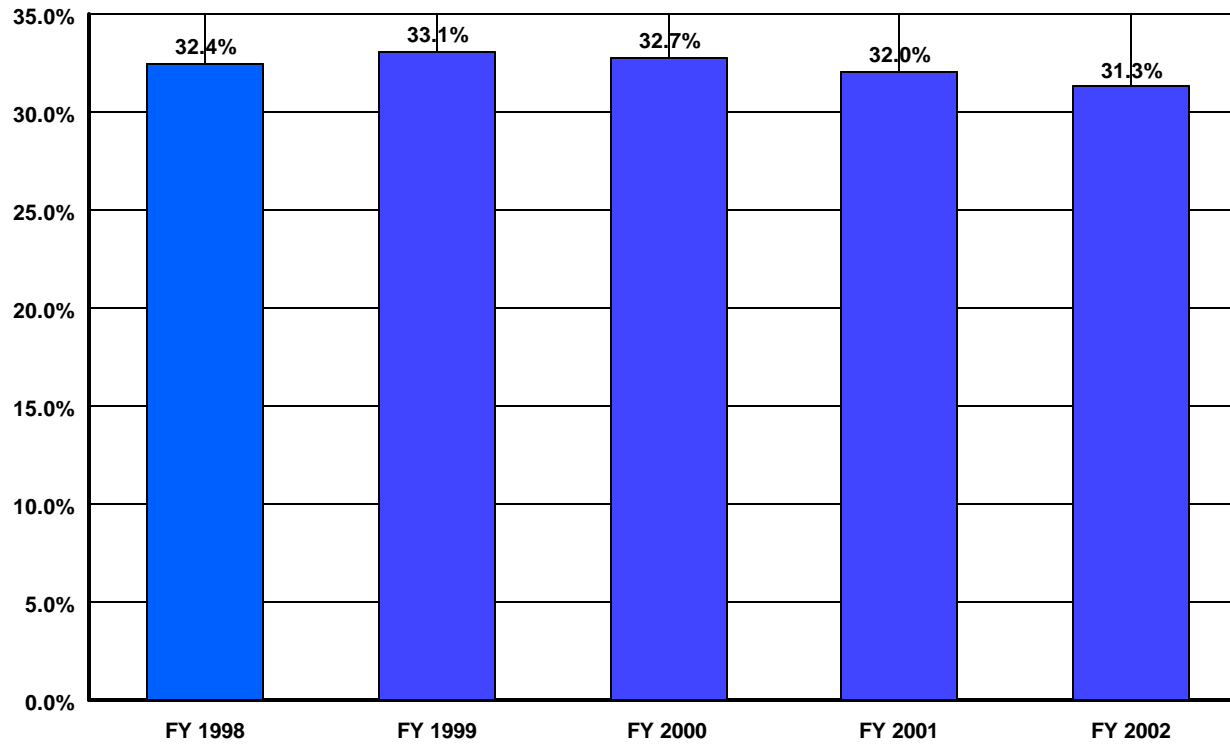
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	30,624	33,923	34,637	37,181	45,156	14,532	47.5%
HUMAN RESOURCES	24,783	26,399	26,262	27,209	28,416	3,633	14.7%
CFO	33,631	32,822	32,465	31,112	35,986	2,355	7.0%
PROCUREMENT	24,279	24,260	23,697	22,652	23,133	-1,146	-4.7%
LEGAL	8,597	9,633	9,393	11,842	11,137	2,540	29.5%
CENTRAL ADMIN SERVICES	28,071	27,799	32,592	33,803	34,021	5,950	21.2%
PROGRAM/PROJECT CONTROL	25,051	26,950	29,613	27,638	28,163	3,112	12.4%
INFORMATION OUTREACH	28,204	29,421	28,122	30,704	35,456	7,252	25.7%
INFORMATION SERVICES	90,076	103,647	115,768	122,761	124,089	34,013	37.8%
OTHER	32,535	26,212	29,660	32,785	35,594	3,059	9.4%
<b>TOTAL GENERAL SUPPORT</b>	<b>325,851</b>	<b>341,066</b>	<b>362,209</b>	<b>377,687</b>	<b>401,151</b>	<b>75,300</b>	<b>23.1%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	17,003	20,229	23,093	27,230	25,989	8,986	52.8%
SAFETY AND HEALTH	98,920	95,838	101,852	102,956	100,067	1,147	1.2%
FACILITIES MANAGEMENT	44,730	48,021	50,717	60,613	70,916	26,186	58.5%
MAINTENANCE	134,688	154,008	153,052	147,679	151,473	16,785	12.5%
UTILITIES	83,179	88,299	90,011	100,244	102,277	19,098	23.0%
SAFEGUARDS AND SECURITY	38,134	29,382	34,480	34,033	38,131	-3	0.0%
LOGISTICS SUPPORT	24,753	24,153	25,480	24,338	26,952	2,199	8.9%
QUALITY ASSURANCE	7,772	10,056	11,847	12,676	9,430	1,658	21.3%
LABORATORY/TECHNICAL SUPPOR	39,084	43,424	36,011	35,504	37,129	-1,955	-5.0%
<b>TOTAL MISSION SUPPORT</b>	<b>488,263</b>	<b>513,410</b>	<b>526,543</b>	<b>545,273</b>	<b>562,364</b>	<b>74,101</b>	<b>15.2%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	40,701	41,120	40,472	39,191	40,795	94	0.2%
TAXES	4,522	3,439	4,014	2,212	3,648	-874	-19.3%
LDRD / PDRD / SDRD	38,244	43,964	42,617	45,419	53,547	15,303	40.0%
<b>TOTAL SITE SPECIFIC</b>	<b>83,467</b>	<b>88,523</b>	<b>87,103</b>	<b>86,822</b>	<b>97,990</b>	<b>14,523</b>	<b>17.4%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>897,581</b>	<b>942,999</b>	<b>975,855</b>	<b>1,009,782</b>	<b>1,061,505</b>	<b>163,924</b>	<b>18.3%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	1,538,971	1,646,790	1,726,009	1,807,025	1,924,165	385,194	25.0%
Capital Construction	333,152	262,747	279,877	337,556	409,615	76,463	23.0%
<b>TOTAL MISSION DIRECT</b>	<b>1,872,123</b>	<b>1,909,537</b>	<b>2,005,886</b>	<b>2,144,581</b>	<b>2,333,780</b>	<b>461,657</b>	<b>24.7%</b>
<b>Total Costs</b>	2,769,704	2,852,536	2,981,741	3,154,363	3,395,285	625,581	22.6%
<b>Total Costs w/o Construction</b>	2,436,552	2,589,789	2,701,864	2,816,807	2,985,670	549,118	22.5%
General Support % Total Costs	11.8%	12.0%	12.1%	12.0%	11.8%		
Mission Support % Total Costs	17.6%	18.0%	17.7%	17.3%	16.6%		
Site Specific % Total Costs	3.0%	3.1%	2.9%	2.8%	2.9%		
Total Support % Total Costs	32.4%	33.1%	32.7%	32.0%	31.3%		
Total Support % Total Costs w/o Co	36.8%	36.4%	36.1%	35.8%	35.6%		

## Total Support Costs (000's) Science Sites



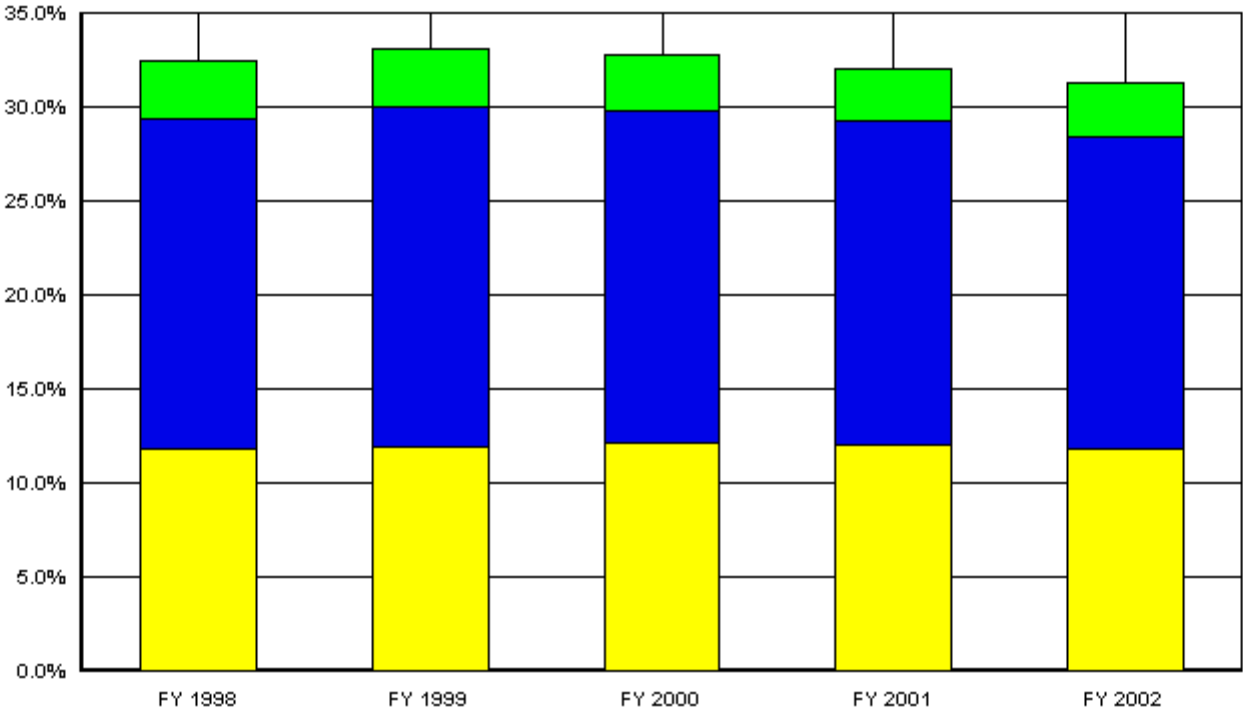
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	897,581	942,999	975,855	1,009,782	1,061,505

## Support Cost as a % of Total Cost Science Sites



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	32.4%	33.1%	32.7%	32.0%	31.3%

**US Department of Energy  
Percent of Support Category to Total  
Total SC Sites**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	11.8%	12.0%	12.1%	12.0%	11.8%
<b>Mis Sup</b>	17.6%	18.0%	17.7%	17.3%	16.6%
<b>Site Specific</b>	3.0%	3.1%	2.9%	2.8%	2.9%

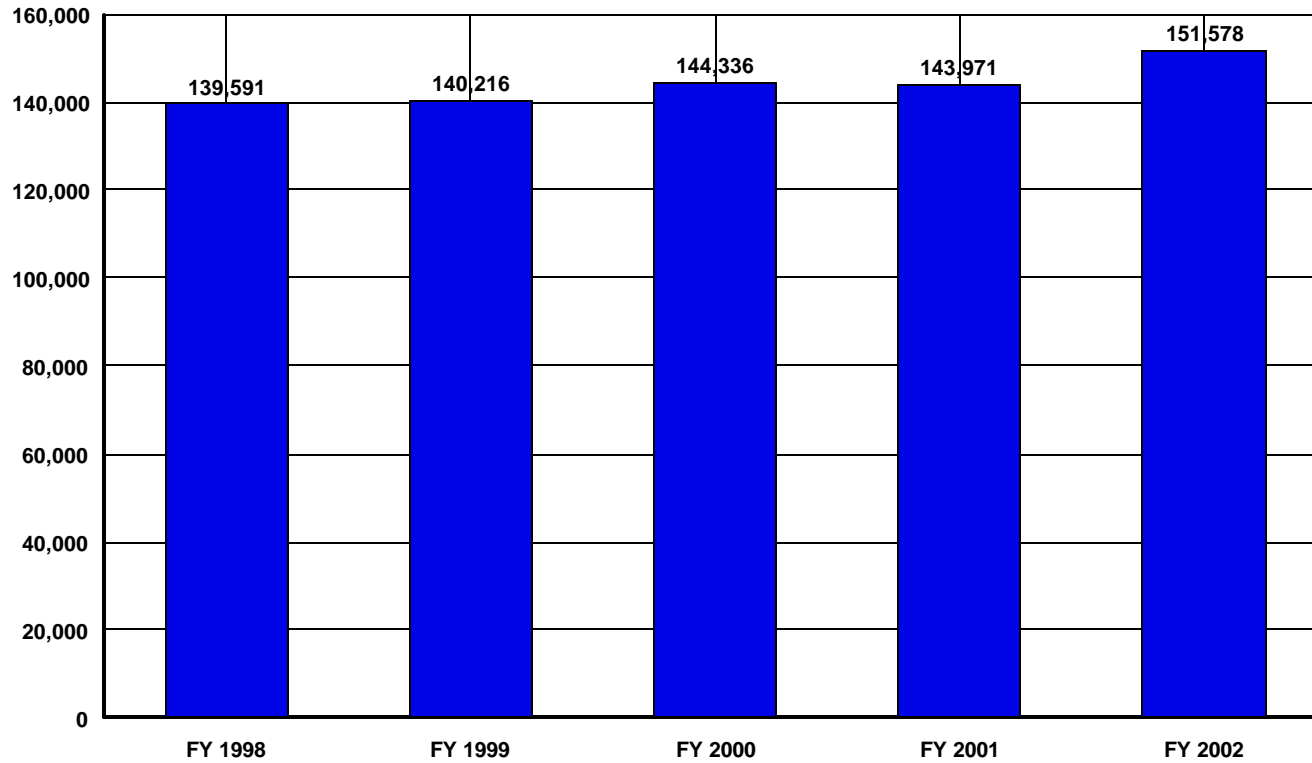
**Total Naval Reacto**  
**FY 2002**

**Trends in Total Functional Support Cost Categories**

(\$ in 000's)

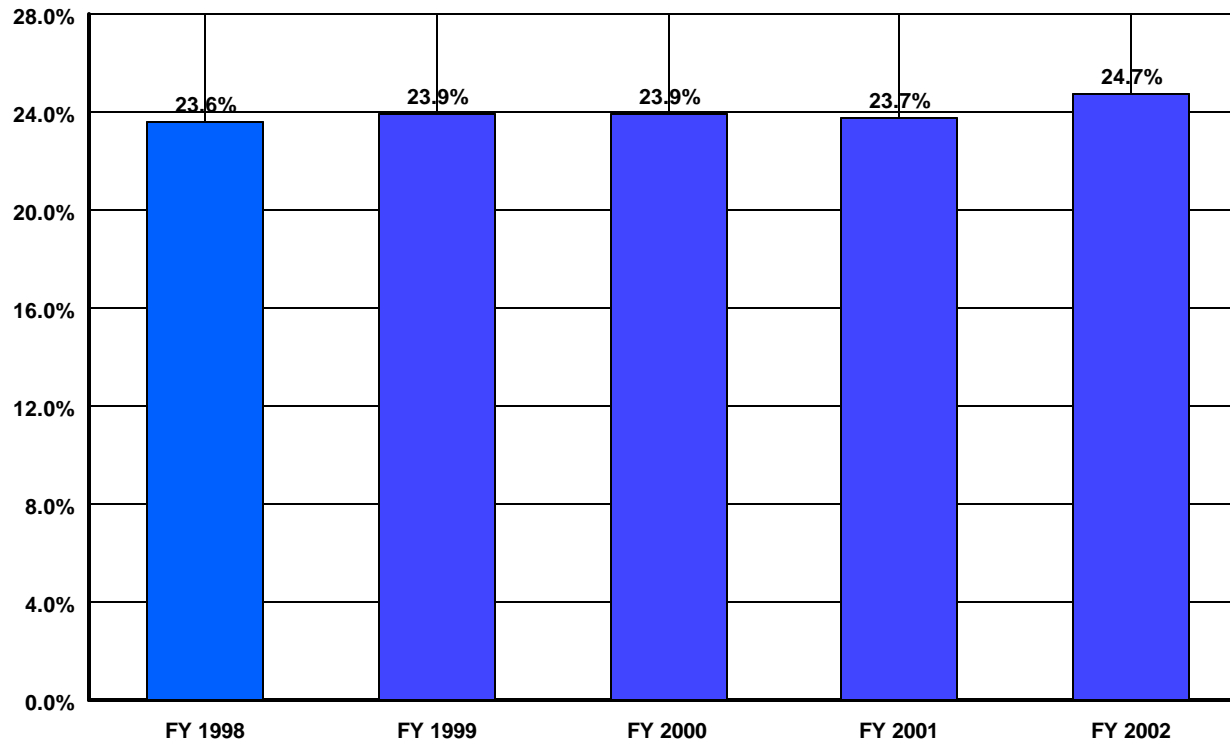
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	3,526	4,478	4,802	6,293	6,006	2,480	70.3%
HUMAN RESOURCES	4,366	5,743	6,698	6,440	7,225	2,859	65.5%
CFO	6,546	6,494	5,592	5,133	4,736	-1,810	-27.7%
PROCUREMENT	3,690	3,528	3,550	4,100	3,878	188	5.1%
LEGAL	263	573	1,489	522	337	74	28.1%
CENTRAL ADMIN SERVICES	2,776	2,816	2,431	2,429	2,727	-49	-1.8%
PROGRAM/PROJECT CONTROL	641	516	562	744	900	259	40.4%
INFORMATION OUTREACH	0	0	0	0	0	0	0.0%
INFORMATION SERVICES	18,400	19,723	19,270	17,675	21,845	3,445	18.7%
OTHER	0	0	0	0	0	0	0.0%
<b>TOTAL GENERAL SUPPORT</b>	<b>40,208</b>	<b>43,871</b>	<b>44,394</b>	<b>43,336</b>	<b>47,654</b>	<b>7,446</b>	<b>18.5%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	6,785	8,122	8,574	10,535	10,741	3,956	58.3%
SAFETY AND HEALTH	21,852	22,096	22,961	23,294	23,825	1,973	9.0%
FACILITIES MANAGEMENT	7,202	7,468	8,081	8,527	6,919	-283	-3.9%
MAINTENANCE	19,506	18,982	19,647	17,257	18,849	-657	-3.4%
UTILITIES	4,691	4,365	4,932	5,699	5,454	763	16.3%
SAFEGUARDS AND SECURITY	9,913	10,037	10,790	12,020	13,754	3,841	38.7%
LOGISTICS SUPPORT	4,251	4,317	4,834	4,959	5,750	1,499	35.3%
QUALITY ASSURANCE	8,034	7,144	7,474	7,611	7,965	-69	-0.9%
LABORATORY/TECHNICAL SUPPOR	0	0	0	0	0	0	0.0%
<b>TOTAL MISSION SUPPORT</b>	<b>82,234</b>	<b>82,531</b>	<b>87,293</b>	<b>89,902</b>	<b>93,257</b>	<b>11,023</b>	<b>13.4%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	16,258	12,488	11,804	10,169	9,577	-6,681	-41.1%
TAXES	891	1,326	845	564	1,090	199	22.3%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>17,149</b>	<b>13,814</b>	<b>12,649</b>	<b>10,733</b>	<b>10,667</b>	<b>-6,482</b>	<b>-37.8%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>139,591</b>	<b>140,216</b>	<b>144,336</b>	<b>143,971</b>	<b>151,578</b>	<b>11,987</b>	<b>8.6%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	405,780	400,933	409,586	419,218	425,701	19,921	4.9%
Capital Construction	46,373	45,505	50,357	43,563	35,301	-11,072	-23.9%
<b>TOTAL MISSION DIRECT</b>	<b>452,153</b>	<b>446,438</b>	<b>459,943</b>	<b>462,781</b>	<b>461,002</b>	<b>8,849</b>	<b>2.0%</b>
<b>Total Costs</b>	<b>591,744</b>	<b>586,654</b>	<b>604,279</b>	<b>606,752</b>	<b>612,580</b>	<b>20,836</b>	<b>3.5%</b>
<b>Total Costs w/o Construction</b>	<b>545,371</b>	<b>541,149</b>	<b>553,922</b>	<b>563,189</b>	<b>577,279</b>	<b>31,908</b>	<b>5.9%</b>
General Support % Total Costs	6.8%	7.5%	7.3%	7.1%	7.8%		
Mission Support % Total Costs	13.9%	14.1%	14.4%	14.8%	15.2%		
Site Specific % Total Costs	2.9%	2.4%	2.1%	1.8%	1.7%		
Total Support % Total Costs	23.6%	23.9%	23.9%	23.7%	24.7%		
Total Support % Total Costs w/o Co	25.6%	25.9%	26.1%	25.6%	26.3%		

## Total Support Costs (000's) Naval Reactors



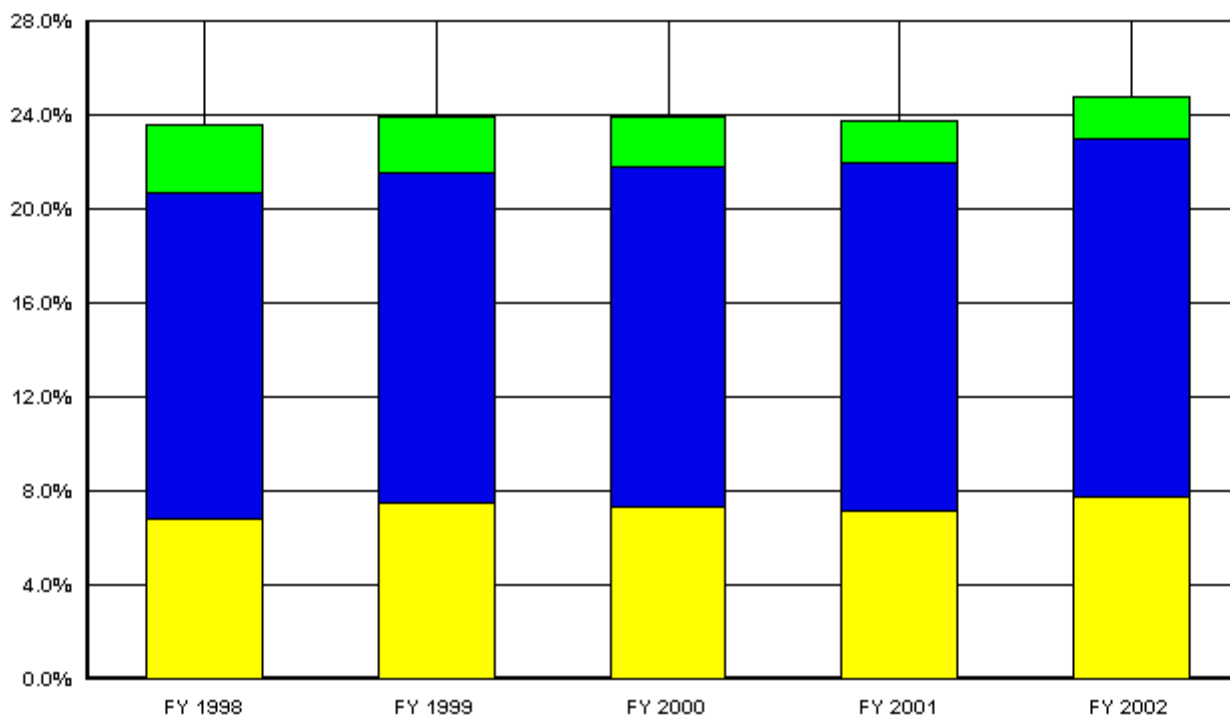
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	139,591	140,216	144,336	143,971	151,578

## Support Cost as a % of Total Cost Naval Reactors



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	23.6%	23.9%	23.9%	23.7%	24.7%

**US Department of Energy  
Percent of Support Category to Total  
Total Naval Reactors**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	6.8%	7.5%	7.3%	7.1%	7.8%
<b>Mis Sup</b>	13.9%	14.1%	14.4%	14.8%	15.2%
<b>Site Specific</b>	2.9%	2.4%	2.1%	1.8%	1.7%



**Total NNSA Sites**

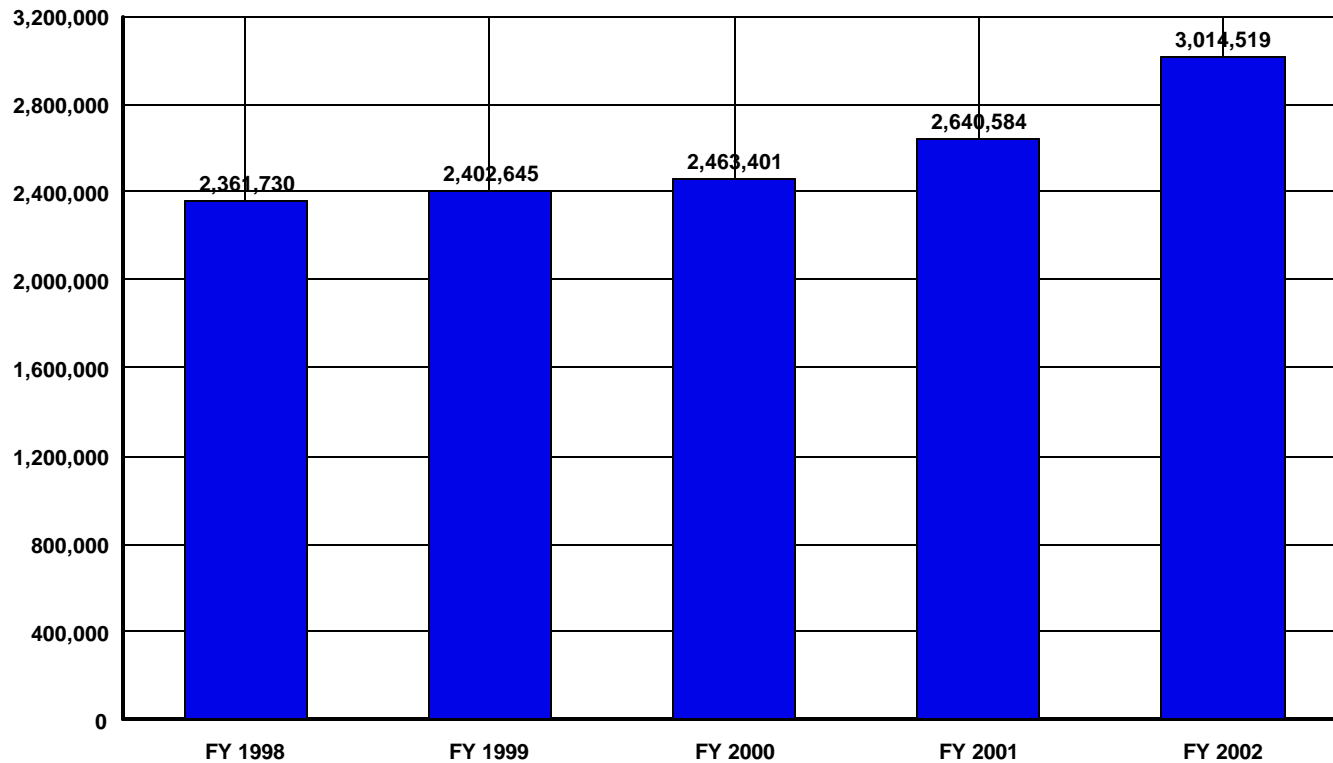
**Trends in Total Functional Support Cost Categories**

**FY 2002**

(\$ in 000's)

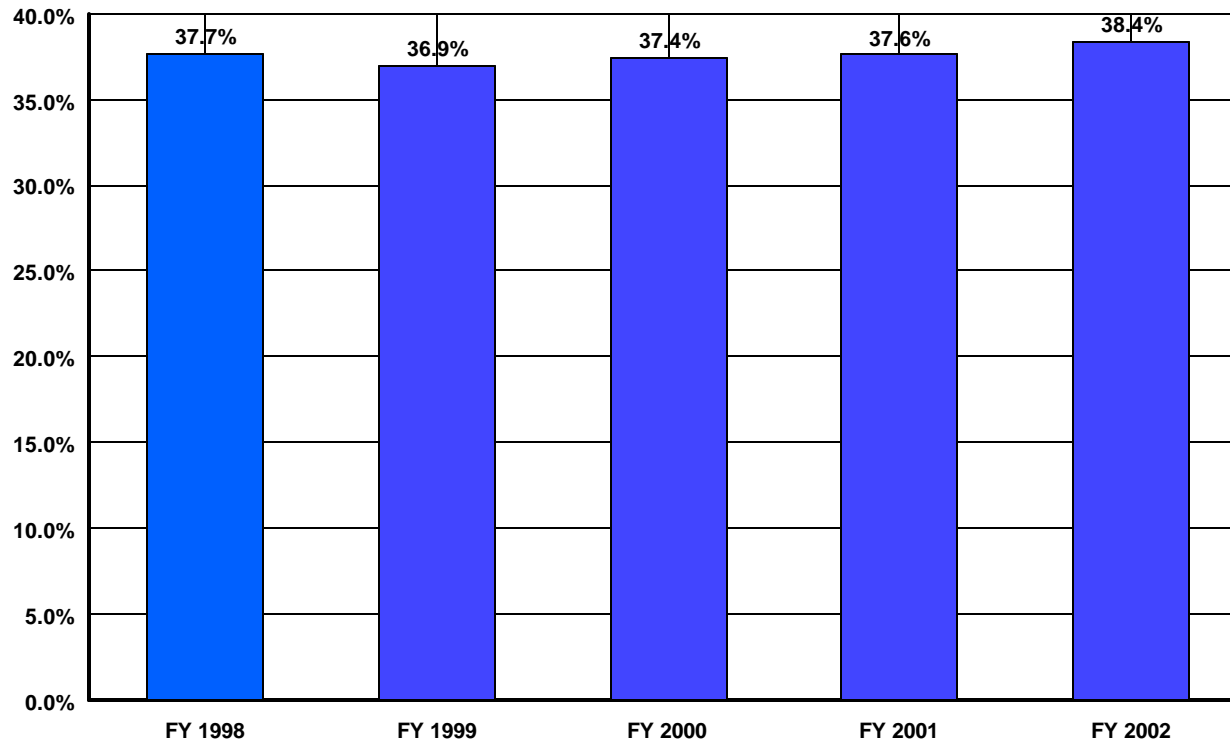
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	48,064	58,781	66,915	76,710	87,114	39,050	81.2%
HUMAN RESOURCES	70,234	74,411	83,213	88,278	94,725	24,491	34.9%
CFO	51,138	51,400	53,351	52,690	55,212	4,074	8.0%
PROCUREMENT	51,257	52,691	52,681	55,128	56,464	5,207	10.2%
LEGAL	17,857	20,599	24,175	24,326	24,400	6,543	36.6%
CENTRAL ADMIN SERVICES	82,133	78,485	80,117	80,302	88,807	6,674	8.1%
PROGRAM/PROJECT CONTROL	46,720	51,139	48,715	47,484	49,683	2,963	6.3%
INFORMATION OUTREACH	63,238	57,267	53,923	56,990	60,209	-3,029	-4.8%
INFORMATION SERVICES	293,525	290,738	300,421	304,760	368,544	75,019	25.6%
OTHER	60,800	28,619	26,635	34,594	17,749	-43,051	-70.8%
<b>TOTAL GENERAL SUPPORT</b>	<b>784,966</b>	<b>764,130</b>	<b>790,146</b>	<b>821,262</b>	<b>902,907</b>	<b>117,941</b>	<b>15.0%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	80,610	78,349	77,307	73,969	80,965	355	0.4%
SAFETY AND HEALTH	190,718	221,787	236,405	239,448	270,482	79,764	41.8%
FACILITIES MANAGEMENT	100,906	101,124	176,295	210,956	264,971	164,065	162.6%
MAINTENANCE	365,962	365,012	323,468	322,556	363,856	-2,106	-0.6%
UTILITIES	160,879	160,553	157,610	185,633	203,421	42,542	26.4%
SAFEGUARDS AND SECURITY	197,072	231,095	265,612	279,663	347,300	150,228	76.2%
LOGISTICS SUPPORT	49,711	54,433	57,586	62,337	67,639	17,928	36.1%
QUALITY ASSURANCE	54,045	44,007	44,977	47,888	51,843	-2,202	-4.1%
LABORATORY/TECHNICAL SUPPOR	38,072	41,852	39,882	40,306	40,881	2,809	7.4%
<b>TOTAL MISSION SUPPORT</b>	<b>1,237,975</b>	<b>1,298,212</b>	<b>1,379,142</b>	<b>1,462,756</b>	<b>1,691,358</b>	<b>453,383</b>	<b>36.6%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	138,016	133,013	129,745	127,853	143,976	5,960	4.3%
TAXES	52,496	53,879	56,174	60,126	68,537	16,041	30.6%
LDRD / PDRD / SDRD	148,277	153,411	108,194	168,587	207,741	59,464	40.1%
<b>TOTAL SITE SPECIFIC</b>	<b>338,789</b>	<b>340,303</b>	<b>294,113</b>	<b>356,566</b>	<b>420,254</b>	<b>81,465</b>	<b>24.0%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>2,361,730</b>	<b>2,402,645</b>	<b>2,463,401</b>	<b>2,640,584</b>	<b>3,014,519</b>	<b>652,789</b>	<b>27.6%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	3,391,613	3,518,613	3,574,271	3,711,534	4,115,458	723,845	21.3%
Capital Construction	515,796	585,434	549,330	673,316	725,250	209,454	40.6%
<b>TOTAL MISSION DIRECT</b>	<b>3,907,409</b>	<b>4,104,047</b>	<b>4,123,601</b>	<b>4,384,850</b>	<b>4,840,708</b>	<b>933,299</b>	<b>23.9%</b>
<b>Total Costs</b>	6,269,139	6,506,692	6,587,002	7,025,434	7,855,227	1,586,088	25.3%
<b>Total Costs w/o Construction</b>	5,753,343	5,921,258	6,037,672	6,352,118	7,129,977	1,376,634	23.9%
General Support % Total Costs	12.5%	11.7%	12.0%	11.7%	11.5%		
Mission Support % Total Costs	19.7%	20.0%	20.9%	20.8%	21.5%		
Site Specific % Total Costs	5.4%	5.2%	4.5%	5.1%	5.3%		
Total Support % Total Costs	37.7%	36.9%	37.4%	37.6%	38.4%		
Total Support % Total Costs w/o Co	41.0%	40.6%	40.8%	41.6%	42.3%		

## Total Support Costs (000's) National Nuclear Security Administration



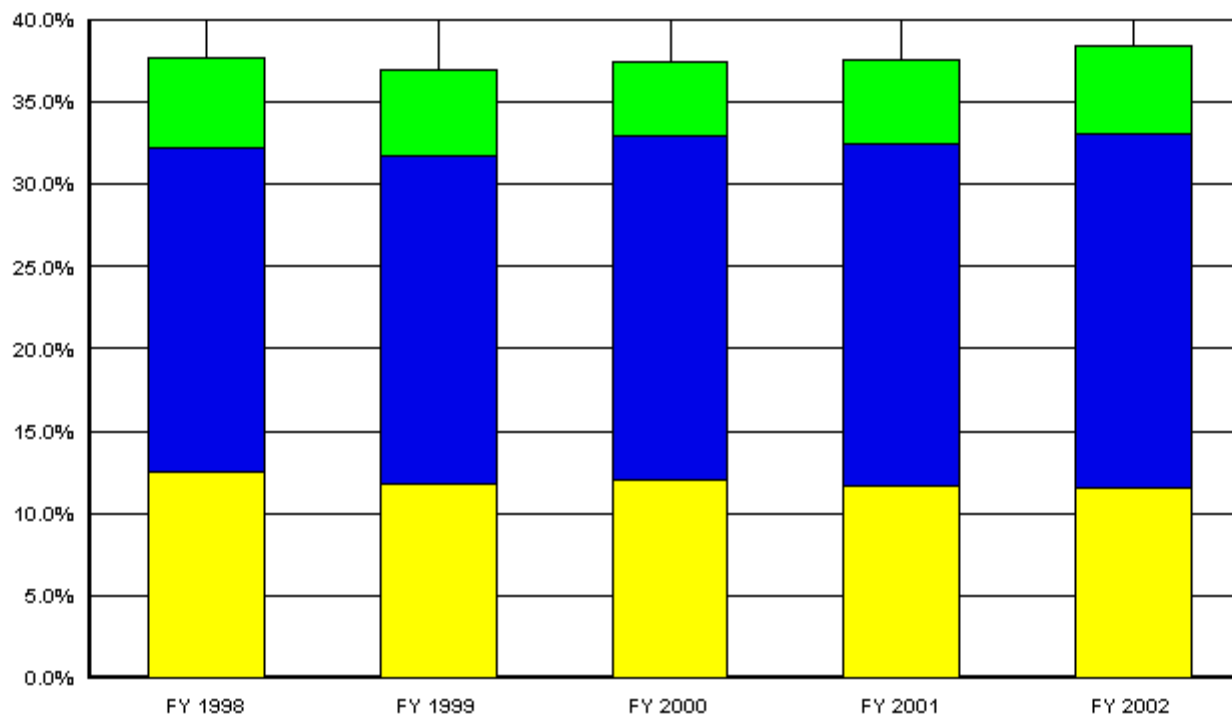
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	2,361,730	2,402,645	2,463,401	2,640,584	3,014,519

## Support Cost as a % of Total Cost National Nuclear Security Administration



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	37.7%	36.9%	37.4%	37.6%	38.4%

**US Department of Energy  
Percent of Support Category to Total  
Total NNSA Sites**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	12.5%	11.7%	12.0%	11.7%	11.5%
<b>Mis Sup</b>	19.7%	20.0%	20.9%	20.8%	21.5%
<b>Site Specific</b>	5.4%	5.2%	4.5%	5.1%	5.3%

## Ames

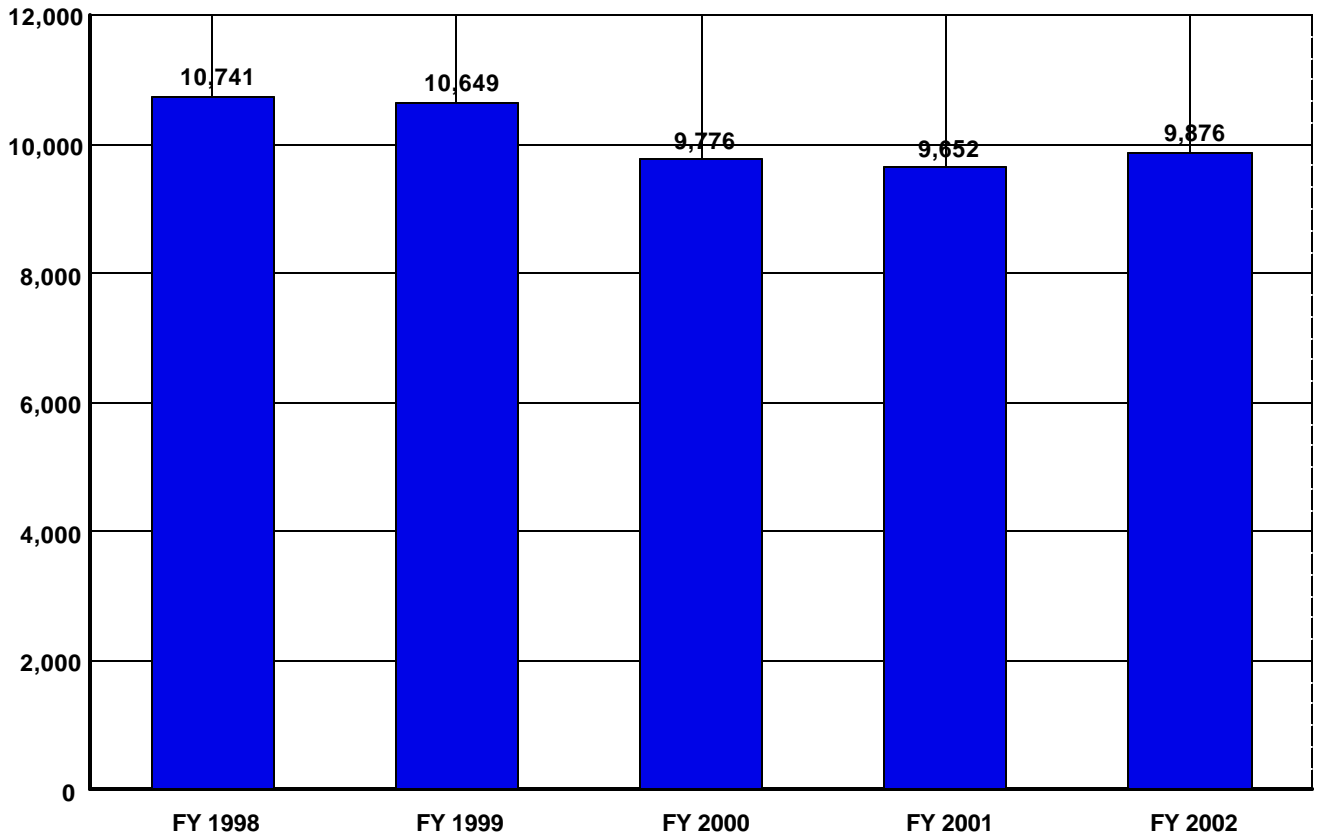
## Trends in Total Functional Support Cost Categories

FY 2002

(\$ in 000's)

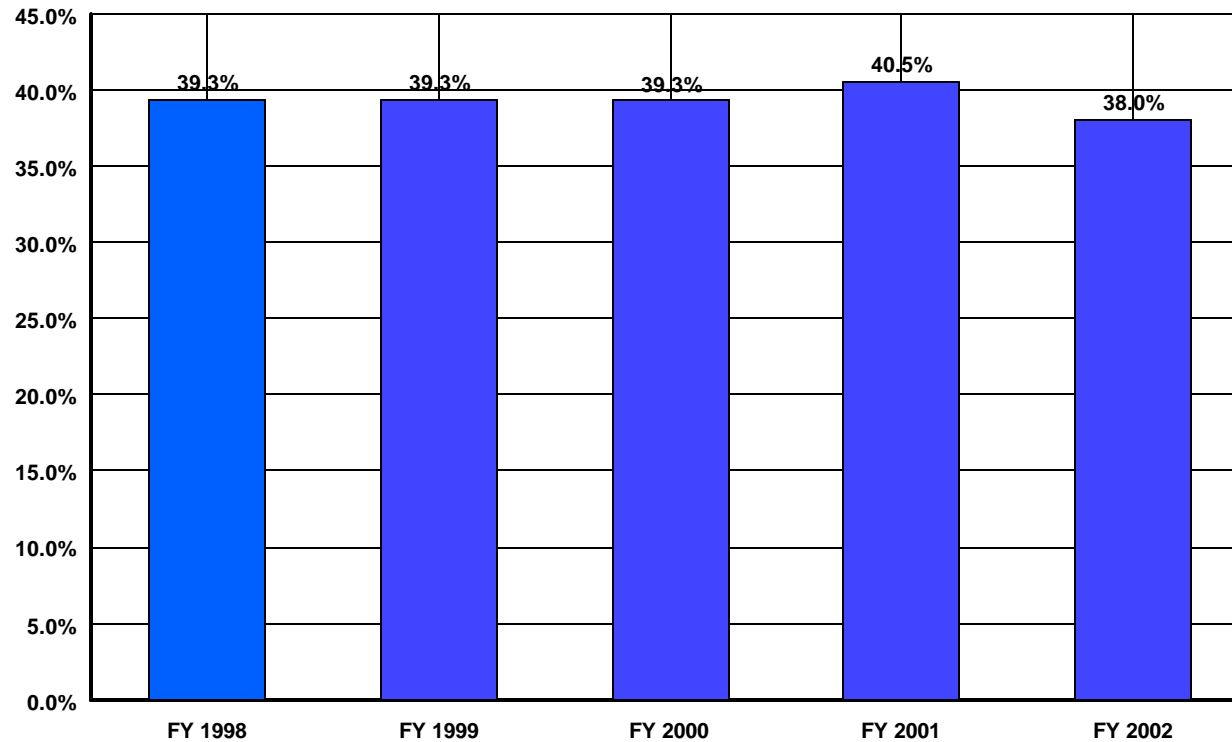
GENERAL SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
EXECUTIVE DIRECTION	674	668	656	653	639	-35	-5.2%
HUMAN RESOURCES	234	232	235	243	251	17	7.3%
CFO	698	692	802	867	901	203	29.1%
PROCUREMENT	193	191	164	179	187	-6	-3.1%
LEGAL	0	0	0	0	0	0	0.0%
CENTRAL ADMIN SERVICES	242	240	209	186	153	-89	-36.8%
PROGRAM/PROJECT CONTROL	1,314	1,303	1,217	1,230	1,220	-94	-7.2%
INFORMATION OUTREACH	367	364	348	360	366	-1	-0.3%
INFORMATION SERVICES	1,000	992	843	843	778	-222	-22.2%
OTHER	-320	-317	-143	-310	-367	-47	14.7%
<b>TOTAL GENERAL SUPPORT</b>	<b>4,402</b>	<b>4,365</b>	<b>4,331</b>	<b>4,251</b>	<b>4,128</b>	<b>-274</b>	<b>-6.2%</b>
MISSION SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
ENVIRONMENTAL	16	15	30	31	40	24	150.0%
SAFETY AND HEALTH	1,031	1,022	1,024	994	1,055	24	2.3%
FACILITIES MANAGEMENT	328	326	163	140	276	-52	-15.9%
MAINTENANCE	1,461	1,448	1,294	1,325	1,325	-136	-9.3%
UTILITIES	911	903	860	902	965	54	5.9%
SAFEGUARDS AND SECURITY	129	128	142	152	212	83	64.3%
LOGISTICS SUPPORT	306	303	289	299	324	18	5.9%
QUALITY ASSURANCE	59	59	58	59	60	1	1.7%
LABORATORY/TECHNICAL SUPPOR	1,041	1,032	711	656	602	-439	-42.2%
<b>TOTAL MISSION SUPPORT</b>	<b>5,282</b>	<b>5,236</b>	<b>4,571</b>	<b>4,558</b>	<b>4,859</b>	<b>-423</b>	<b>-8.0%</b>
SITE SPECIFIC	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
MANAGEMENT/INCENTIVE FEE	901	893	858	843	889	-12	-1.3%
TAXES	0	0	0	0	0	0	0.0%
LDRD / PDRD / SDRD	156	155	16	0	0	-156	-100.0%
<b>TOTAL SITE SPECIFIC</b>	<b>1,057</b>	<b>1,048</b>	<b>874</b>	<b>843</b>	<b>889</b>	<b>-168</b>	<b>-15.9%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>10,741</b>	<b>10,649</b>	<b>9,776</b>	<b>9,652</b>	<b>9,876</b>	<b>-865</b>	<b>-8.1%</b>
MISSION DIRECT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
Mission Direct Operation	13,850	13,730	13,056	12,498	13,559	-291	-2.1%
Capital Construction	2,715	2,692	2,066	1,654	2,538	-177	-6.5%
<b>TOTAL MISSION DIRECT</b>	<b>16,565</b>	<b>16,422</b>	<b>15,122</b>	<b>14,152</b>	<b>16,097</b>	<b>-468</b>	<b>-2.8%</b>
<b>Total Costs</b>	<b>27,306</b>	<b>27,071</b>	<b>24,898</b>	<b>23,804</b>	<b>25,973</b>	<b>-1,333</b>	<b>-4.9%</b>
<b>Total Costs w/o Construction</b>	<b>24,591</b>	<b>24,379</b>	<b>22,832</b>	<b>22,150</b>	<b>23,435</b>	<b>-1,156</b>	<b>-4.7%</b>
General Support % Total Costs	16.1%	16.1%	17.4%	17.9%	15.9%		
Mission Support % Total Costs	19.3%	19.3%	18.4%	19.1%	18.7%		
Site Specific % Total Costs	3.9%	3.9%	3.5%	3.5%	3.4%		
Total Support % Total Costs	39.3%	39.3%	39.3%	40.5%	38.0%		
Total Support % Total Costs w/o Co	43.7%	43.7%	42.8%	43.6%	42.1%		

## Total Support Costs (000's) Ames Lab – Iowa State University



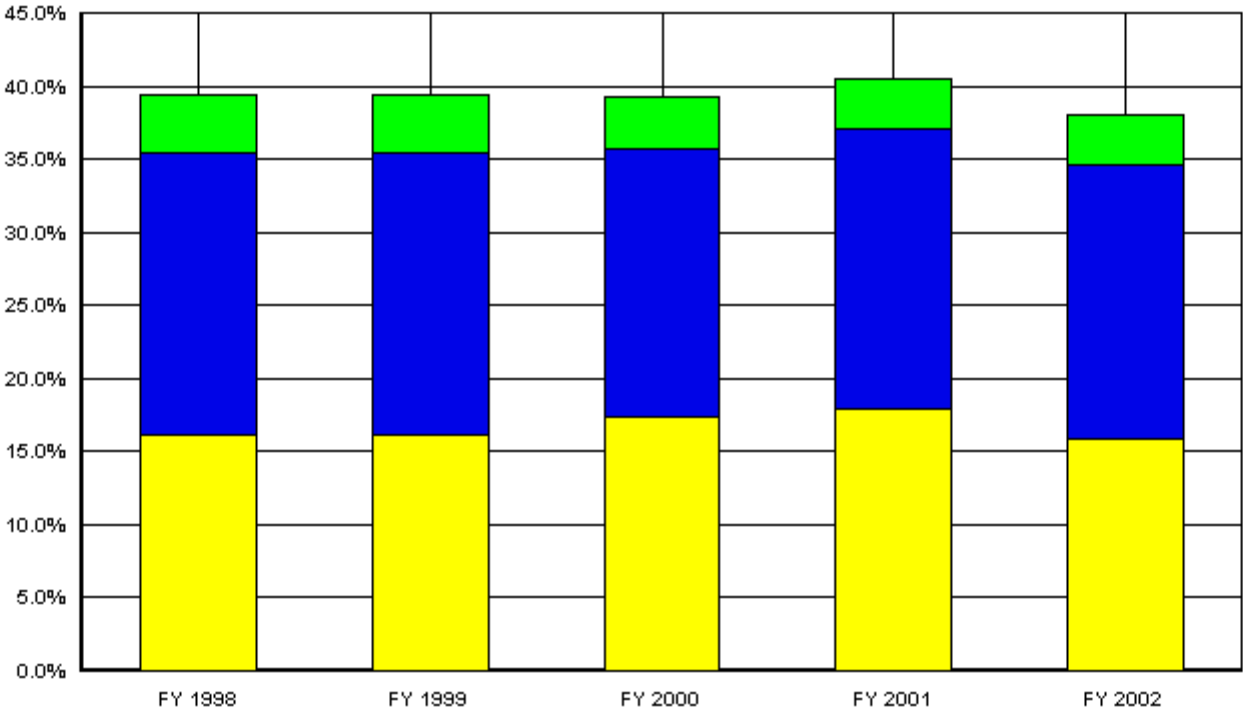
	Total Functional Support				
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	10,741	10,649	9,776	9,652	9,876

## Support Cost as a % of Total Cost Ames Lab - Iowa State University



	Total Functional Support				
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	39.3%	39.3%	39.3%	40.5%	38.0%

**US Department of Energy  
Percent of Support Category to Total  
Ames**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	16.1%	16.1%	17.4%	17.9%	15.9%
<b>Mis Sup</b>	19.3%	19.3%	18.4%	19.1%	18.7%
<b>Site Specific</b>	3.9%	3.9%	3.5%	3.5%	3.4%



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**SITE PROFILE**  
**AMES LABORATORY – IOWA STATE UNIVERSITY**

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**I. BACKGROUND**

Ames Laboratory is operated for the Department of Energy by Iowa State University. Ames is a single purpose laboratory engaged in basic research in a wide variety of scientific disciplines with a diverse customer base (Energy Efficiency and Renewable Energy, Environmental Management, Fossil Energy, Nuclear Nonproliferation, Science, and Work for Others). The Laboratory's mission is to conduct fundamental research in the physical, chemical, materials, and mathematical sciences and engineering which underlie energy generating, conversion, transmission and storage technologies, environmental improvement, and other technical areas essential to national needs. These efforts will be maintained so as to contribute to the achievement of the vision of the Department of Energy and, more specifically, to increase the general levels of knowledge and technical capabilities, to prepare engineering and physical sciences students for the future, and to develop new technologies and practical applications arising from our basic scientific programs. The Laboratory will approach all its operations with the safety and health of all workers as a constant objective and with genuine concern for the environment.

Recent Scientific Achievements include:

- Material for magnetic refrigeration that improves refrigerator efficiency by an estimated 40 percent in large-scale refrigeration units and air conditioners.
- Lead-free solder that is stronger, easier to use, stands up better in high-heat conditions and is environmentally safe. Three licensing agreements have been signed on lead-free solder.
- Biosensor technology that helps determine an individual's risk of getting cancer from chemical pollutants.
- Capillary electrophoresis unit that can analyze multiple chemical samples simultaneously, which has applications in the pharmaceutical, genetics, medical and forensics fields. This technology has been the basis of a spin-off business.
- The design and demonstration of photonic band gap crystals, a geometrical arrangement of dielectric materials that allows light to pass except when the frequency falls within a forbidden range. These materials would make it easier to develop numerous practical devices, including optical lasers, optical computers, and solar cells.

The Ames site is located on approximately 10 acres of land owned by Iowa State University in Ames, Iowa that is leased to the Federal government on a long-term (99 year) basis. DOE owned buildings include three research buildings; one building housing management, administration, and technical support groups; and several small auxiliary buildings housing material receiving areas, warehouse functions, and shop facilities. Some research space is also leased from Iowa State University. The Laboratory operates as a customer of the local utility providers and does not operate central heating/chilling/power plant operations, water supply/treatment facilities, or sewage systems. Approximately 700 people (300 FTE's) worked at Ames Laboratory in FY2002. **II. HIGHLIGHT OF TRENDS**

- Ames Laboratory's total costs decreased from \$27,306K in FY1998 to \$25,973K in FY2002. This was a decrease of 4.9%. The Laboratory's total functional support costs dropped from \$10,741K in FY1998 to \$9,876K in FY2002, a decrease of 8.1%.

- Functional support costs as a percentage of total site costs:

FY1998- 39.3%

FY1999- 39.3%

FY2000 - 39.3%

FY2001 - 40.5%

FY2002 – 38.0%

### **III. ANALYSIS OF CHANGE IN COST DATA FROM FY1999 TO FY2002**

Executive Direction – Clerical staff was reduced in FY2002.

Chief Financial Officer – One position vacated in FY1999 was filled in FY2000. FY2001 costs reflect a normalized level of effort.

Procurement – Reflects the reduction of one FTE in FY2000.

Central Administrative Services – Reduction of one FTE in FY2000 due to a reduced demand for printing services. FY2001 reflects a full year of cost savings. FY2002 saw a reduction of 75% of an additional FTE (\$40K) in graphics design due to reduced demand for the service.

Program/Project Planning & Control – This functional category fluctuates relative to the funding levels of the Laboratory. Although, in FY2002 the research in KC0301, Fundamental Interactions, and KC0302, Processes & Techniques, was reorganized under one program director and one laboratory program director was eliminated, reducing program administrative costs by approximately \$21K.

Information Services – FY1999 included gigabit components procured to upgrade the efficiency and speed of the network backbone. With the completion of this onetime upgrade in FY1999, FY2000 costs were reduced. FY2001 costs included an upgrade to the mainframe computer (\$56K), software for monitoring network traffic and for an application development tool (\$20K), and an upgrade to 100 megabit components for faster desktop connections (\$20K). These items were one time costs that were not repeated in FY2002.

Other – This category includes the annual change in the Laboratory's accrued vacation liability costs. These costs are a factor resulting from the difference in the vacation earned and used by each individual employee in the laboratory and can vary significantly each year.

Environmental – EM-40 discontinued direct funding of certain activities related to environmental monitoring and stewardship. Those activities are now financed with the Laboratory's overhead funds in this functional category in FY2000; they had been included in EM mission direct in prior years. FY2002 costs increased approximately \$8K due to efforts associated with the development and review of a documentation system for the Laboratory's Environmental Management System.

Safety & Health – FY2000 includes one-time upgrades of radiation protection instrumentation (\$17K) and specifically targeted remediation efforts (unused fume ducts and removal of drains) in Wilhelm Hall were completed in FY2000 (\$29K).

Facilities Management – Includes space rental, which dropped from \$196K in FY1999 to \$32K in FY2000 to \$3K in FY2001. Two new research initiatives were funded in FY2002. Space rental increased to \$133K.

Maintenance – In FY2000 the Facilities Services Group experienced a shortage of available man- hours due to the turnover of several staff members. Therefore, maintenance efforts were reduced in FY2000 but returned to a more normalized level of effort in FY2001.

Safeguards/Security – Supplemental funding was received in FY2002 to fund cyber security efforts and procure hardware and software to enhance cyber security (\$41K), to upgrade radios to new Federal Communications Commission regulations for bandwidths (\$6K), and badge the Ames Laboratory personnel after the attack of 9/11 (\$6K).

Laboratory/Technical Support – Reductions in the need for Laboratory Technical Services parallel the reduction in research funding. The Electronic Engineers section in the Engineering Services Group was eliminated in FY2000 due to reduced demand for these services by the scientific community (reduction of approximately 2.5 FTE’s). The Auger services of the Materials Preparation Center were eliminated (0.6 FTE’s) in FY2002 due to reduced need for the service.

LDRD – Due to declining research funds, Laboratory Management did not fund any new LDRD activities in FY2000, FY2001, or FY2002. The \$16K in FY2000 represents the carryover from prior years.

**IV. COST SAVING INITIATIVES**

Cost saving initiatives include elimination of the automobile pool, reduction in the number of guards, and reduction of various other support positions at the Laboratory. In FY2000 one position each was reduced in procurement and printing services and a second full-time position in graphics design was decreased by 75% of an FTE in FY2002. The Electronic Engineers section in the Engineering Services Group, the Auger service of the Materials Preparation Center, and efforts in the Graphics and Printing shop were eliminated due to reduced demand for these services by the scientific community (reduction of approximately 2.5, 0.6, and 1.75 FTE’s respectively), as well as one administrative position in the Engineering Services Group. And finally, rented space has been closely scrutinized and significant efforts have been made to reduce the Laboratory’s occupancy of non-owned space (note anomaly in the Functional Category – Facilities Management).

**V. OTHER**

<u>Item</u>	<u>Value</u>
Reimbursable Services	\$(789.4)K
Early Retirement Incentive Program, Accrued Vacation	336.0
Liability Change, Disability, Law Suit Settlement	
Workman’s Compensation Refund	(8.8)
Lab Residual	94.9
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TOTAL	\$(367.3)K

Argonne

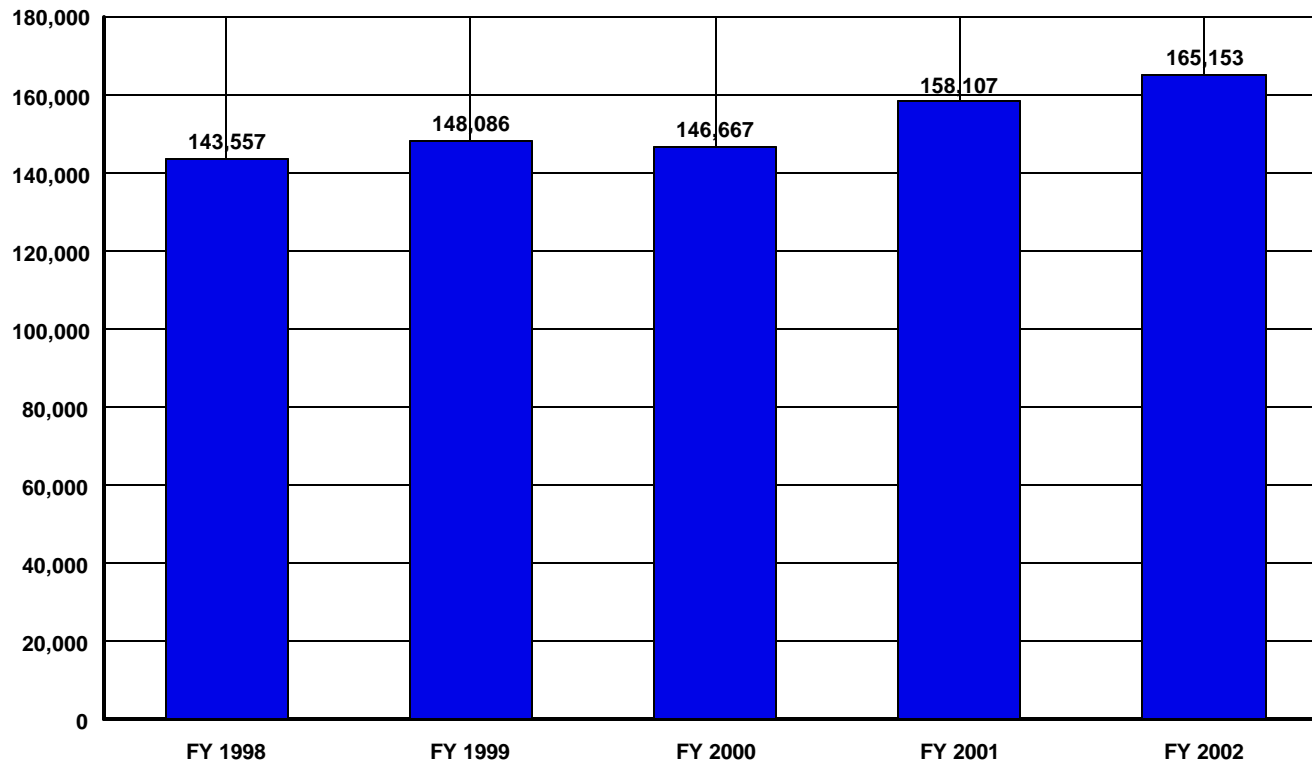
FY 2002

Trends in Total Functional Support Cost Categories

(\$ in 000's)

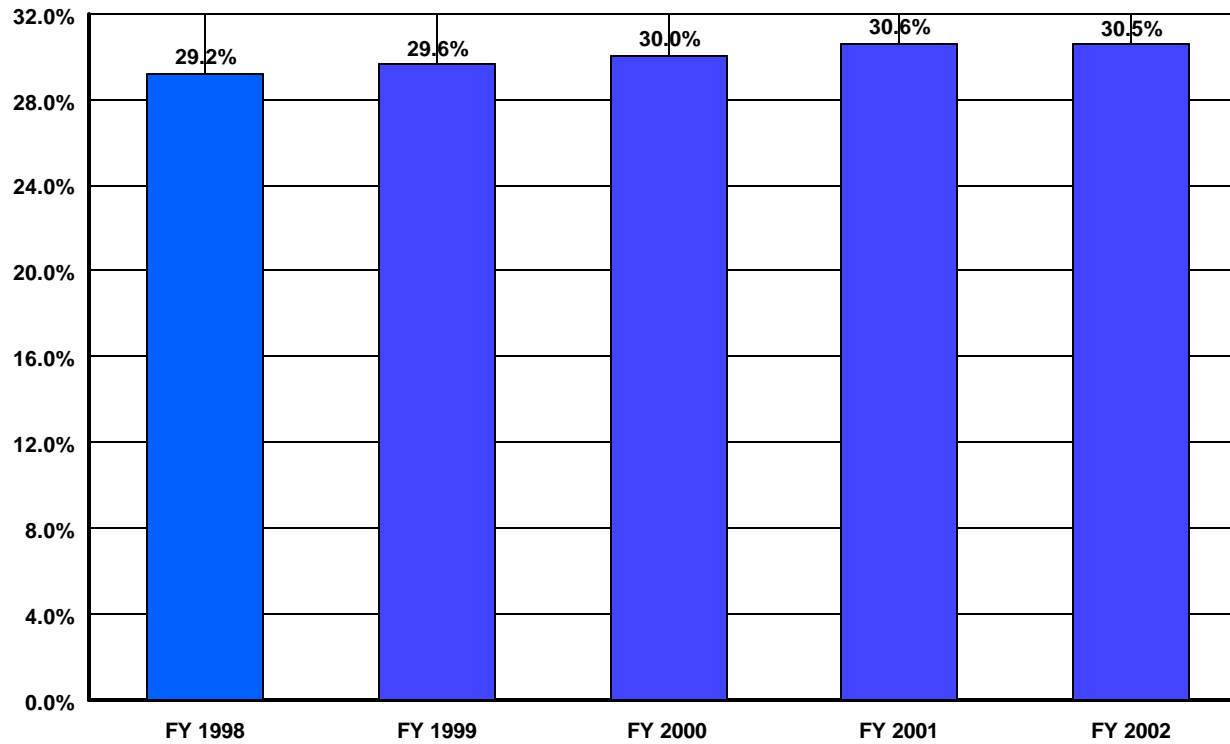
GENERAL SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
EXECUTIVE DIRECTION	5,832	4,977	5,170	5,857	8,024	2,192	37.6%
HUMAN RESOURCES	4,084	4,106	4,131	4,171	4,215	131	3.2%
CFO	5,150	5,171	5,043	4,982	5,043	-107	-2.1%
PROCUREMENT	3,979	4,204	4,191	4,107	4,216	237	6.0%
LEGAL	1,925	2,232	2,043	2,394	2,500	575	29.9%
CENTRAL ADMIN SERVICES	10,052	10,204	10,217	10,912	11,064	1,012	10.1%
PROGRAM/PROJECT CONTROL	772	785	787	797	696	-76	-9.8%
INFORMATION OUTREACH	4,316	4,296	4,233	4,102	3,963	-353	-8.2%
INFORMATION SERVICES	15,526	16,124	16,437	17,796	18,776	3,250	20.9%
OTHER	-449	-34	-123	1,547	1,216	1,665	370.8%
<b>TOTAL GENERAL SUPPORT</b>	<b>51,187</b>	<b>52,065</b>	<b>52,129</b>	<b>56,665</b>	<b>59,713</b>	<b>8,526</b>	<b>16.7%</b>
MISSION SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
ENVIRONMENTAL	4,276	4,052	4,532	5,120	7,462	3,186	74.5%
SAFETY AND HEALTH	15,740	16,469	17,313	16,702	13,365	-2,375	-15.1%
FACILITIES MANAGEMENT	6,852	8,158	7,322	8,233	9,942	3,090	45.1%
MAINTENANCE	16,613	16,711	16,627	16,769	17,481	868	5.2%
UTILITIES	18,814	17,895	16,838	18,495	19,070	256	1.4%
SAFEGUARDS AND SECURITY	7,275	7,086	7,224	9,079	10,566	3,291	45.2%
LOGISTICS SUPPORT	5,104	5,098	5,336	5,665	5,679	575	11.3%
QUALITY ASSURANCE	468	518	414	366	376	-92	-19.7%
LABORATORY/TECHNICAL SUPPOR	0	0	0	121	119	119	100.0%
<b>TOTAL MISSION SUPPORT</b>	<b>75,142</b>	<b>75,987</b>	<b>75,606</b>	<b>80,550</b>	<b>84,060</b>	<b>8,918</b>	<b>11.9%</b>
SITE SPECIFIC	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
MANAGEMENT/INCENTIVE FEE	6,730	6,795	5,998	5,419	6,195	-535	-7.9%
TAXES	30	0	0	0	0	-30	-100.0%
LDRD / PDRD / SDRD	10,468	13,239	12,934	15,473	15,185	4,717	45.1%
<b>TOTAL SITE SPECIFIC</b>	<b>17,228</b>	<b>20,034</b>	<b>18,932</b>	<b>20,892</b>	<b>21,380</b>	<b>4,152</b>	<b>24.1%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>143,557</b>	<b>148,086</b>	<b>146,667</b>	<b>158,107</b>	<b>165,153</b>	<b>21,596</b>	<b>15.0%</b>
MISSION DIRECT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
Mission Direct Operation	324,033	322,432	322,621	329,642	349,502	25,469	7.9%
Capital Construction	24,503	29,402	19,045	29,182	26,194	1,691	6.9%
<b>TOTAL MISSION DIRECT</b>	<b>348,536</b>	<b>351,834</b>	<b>341,666</b>	<b>358,824</b>	<b>375,696</b>	<b>27,160</b>	<b>7.8%</b>
<b>Total Costs</b>	<b>492,093</b>	<b>499,920</b>	<b>488,333</b>	<b>516,931</b>	<b>540,849</b>	<b>48,756</b>	<b>9.9%</b>
<b>Total Costs w/o Construction</b>	<b>467,590</b>	<b>470,518</b>	<b>469,288</b>	<b>487,749</b>	<b>514,655</b>	<b>47,065</b>	<b>10.1%</b>
General Support % Total Costs	10.4%	10.4%	10.7%	11.0%	11.0%		
Mission Support % Total Costs	15.3%	15.2%	15.5%	15.6%	15.5%		
Site Specific % Total Costs	3.5%	4.0%	3.9%	4.0%	4.0%		
Total Support % Total Costs	29.2%	29.6%	30.0%	30.6%	30.5%		
Total Support % Total Costs w/o Co	30.7%	31.5%	31.3%	32.4%	32.1%		

## Total Support Costs (000's) Argonne – University of Chicago



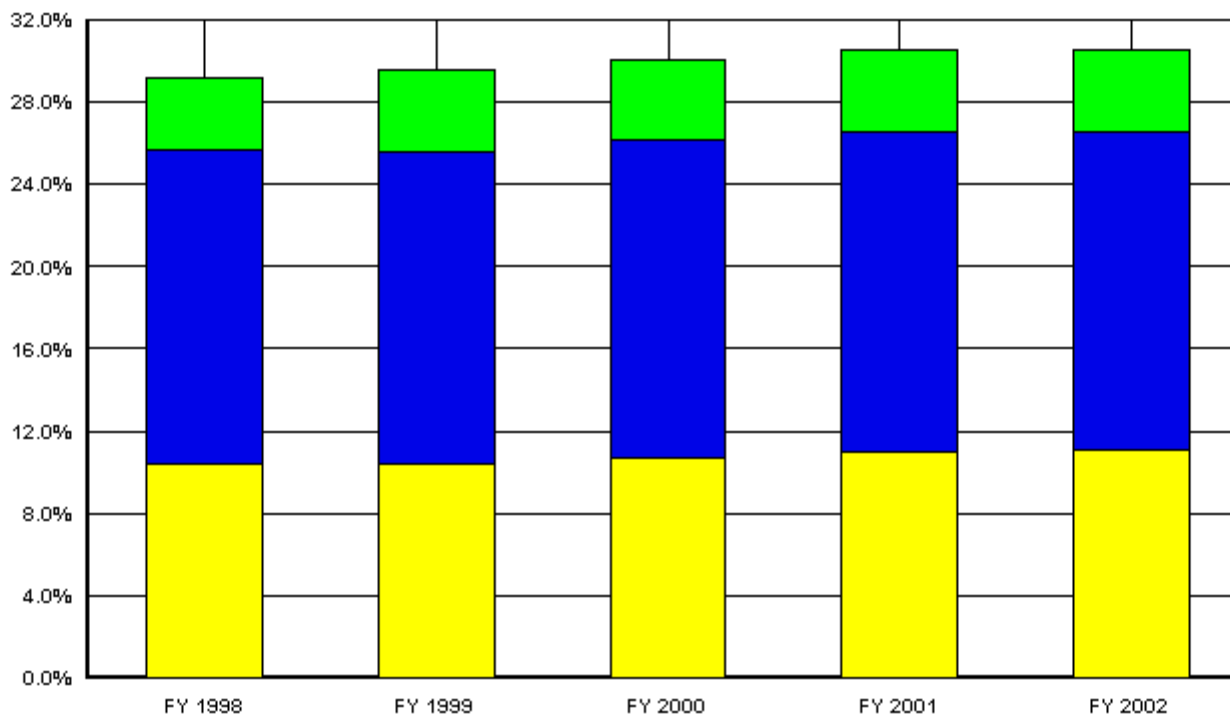
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	143,557	148,086	146,667	158,107	165,153

## Support Cost as a % of Total Cost Argonne – University of Chicago



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	29.2%	29.6%	30.0%	30.6%	30.5%

**US Department of Energy  
Percent of Support Category to Total  
Argonne**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	10.4%	10.4%	10.7%	11.0%	11.0%
<b>Mis Sup</b>	15.3%	15.2%	15.5%	15.6%	15.5%
<b>Site Specific</b>	3.5%	4.0%	3.9%	4.0%	4.0%

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**SITE PROFILE**  
**ARGONNE NATIONAL LABORATORY – UNIVERSITY OF CHICAGO**

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## **I. SITE CHARACTERISTICS**

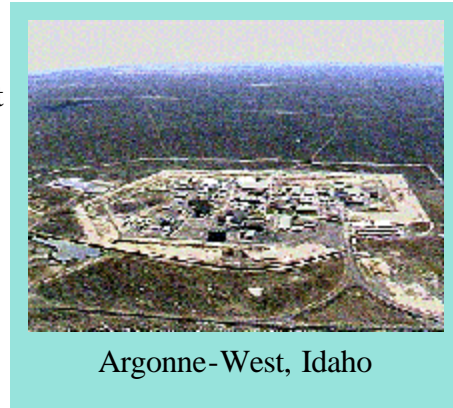
### **America's first national laboratory**

Argonne is one of the U.S. Department of Energy's largest research centers and is also the nation's first national laboratory, chartered in 1946. Argonne is a direct descendant of the University of Chicago's Metallurgical Laboratory, part of the World War Two Manhattan Project to build the atomic bomb. It was at the Met Lab where, on Dec. 2, 1942, Enrico Fermi and his band of about 50 colleagues created the world's first controlled nuclear chain reaction in a squash court at the University of Chicago. After the war, Argonne was given the mission of developing nuclear reactors for peaceful purposes.



Over the years, Argonne's research expanded to include many other areas of science, engineering and technology. Argonne is not and never has been a weapons laboratory. Today, the laboratory has close to 4,000 employees, including about 1,400 scientists and engineers, of whom about 700 hold doctorate degrees. Argonne supports upwards of 1900 research projects, ranging from studies of the atomic nucleus to global climate change research. Since 1990, Argonne has worked with more than 600 companies and numerous federal agencies and other organizations.

Argonne occupies two sites. The Illinois site is surrounded by forest preserve about 25 miles southwest of Chicago's Loop. About 3,300 of Argonne's 4,000 employees work on the site's 1,500 wooded acres. The site also houses the U.S. Department of Energy's Chicago Operations Office. Argonne-West occupies about 900 acres about 50 miles west of Idaho Falls in the Snake River Valley. It is the home of most of Argonne's major nuclear reactor research facilities. About 700 of Argonne's employees work there.



Argonne research falls into four broad categories:

- **Basic science** seeks solutions to a wide variety of scientific challenges. This includes experimental and theoretical work in materials science, physics, chemistry, biology, high-energy physics, and mathematics and computer science, including high-performance computing.



- **Scientific facilities** like Argonne's Advanced Photon Source help advance America's scientific leadership and prepare the nation for the future. The laboratory designs, builds and operates sophisticated research facilities that would be too expensive for a single company or university to build and operate. They are used by scientists from Argonne, industry, academia and other national laboratories, and often by scientists from other nations. The laboratory is also home to the Intense Pulsed Neutron Source, the Argonne Tandem Linear Accelerator System and other facilities.
- **Energy resources** programs help ensure a reliable supply of efficient and clean energy for the future. Argonne scientists and engineers are developing advanced batteries and fuel cells, as well as advanced electric power generation and storage systems. They are also working to improve the safety and longevity of both American and Soviet-designed nuclear reactors.
- **Environmental management** includes work on managing and solving the nation's environmental problems and promoting environmental stewardship. Research in this area includes alternative energy systems; environmental risk and economic impact assessments; hazardous waste site analysis and remediation planning and electrometallurgical treatment to prepare spent nuclear fuel for disposal.

Industrial technology development is an important activity in moving benefits of Argonne's publicly funded research to industry to help strengthen the nation's technology base. Argonne's Division of Educational Programs provides a wide range of educational opportunities for faculty and students ranging from leading national universities to local junior high schools. Argonne is operated by the University of Chicago for the U.S. Department of Energy.

## II. HIGHLIGHTS OF TRENDS (\$ IN THOUSANDS)

	<u>FY1998</u>	<u>FY1999</u>	<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>
General Support	\$51,187	\$52,065	\$52,129	\$56,665	\$59,713
Mission Support	\$75,142	\$75,987	\$75,606	\$80,550	\$84,060
Site Specific	\$17,228	\$20,034	\$18,932	\$20,892	\$21,380
Total Functional Costs	\$143,557	\$148,086	\$146,667	\$158,107	\$165,153
Mission Direct	\$324,033	\$322,432	\$322,621	\$329,642	\$349,502
Capital/Construction	\$24,503	\$29,402	\$19,045	\$29,182	\$26,194
Total Site	\$492,093	\$499,920	\$488,333	\$516,931	\$540,849
Functional Costs As % of Site	29.2%	29.6%	30.0%	30.6%	30.5%

- Functional support costs averaged about 30% of the total Laboratory operating budget in the period stretching from FY1998 through FY2002.

- General Support Costs increased primarily due to Executive Direction, which increased from \$5.8M in FY1998 to \$8.0M in FY2002. Executive Direction includes Laboratory Management, for which five executive-level special assistants to the Laboratory Director have been added. It also includes management of the ANL-West site, which reorganized in FY2002. Information services is the other main cause of cost increase in the area, which rose from \$15.5M in FY1998 to \$18.8M in FY2002 primarily due to cyber security needs.
- Mission Support Costs increased primarily due to Safeguards and Security, which increased from \$7.3M in FY1998 to \$10.6M in FY2002, due to the events of Sept. 11, 2001 and resulting needs for increased security. An additional factor was the increase in Facilities Management, which increased from \$6.9M in FY1998 to \$9.9M in FY2002 due to fuel price hikes and major repairs.
- The Site Specific Costs reflect a stronger emphasis on Laboratory Directed Research and Development which increased from \$10.5M in FY1998 to \$15.2M in FY2002.
- Argonne controlled expenses and absorbed inflation and salary adjustments.

Increased productivity and reduced overheads have resulted in enhanced research programs and to some degree offset the impact of fixed costs (Allowances, Awards, etc.) in an era of relatively flat R&D budgets.

### **III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR**

#### **Executive Direction**

Executive Direction increased from \$5,857K in FY2001 to \$8,024K in FY2002. This is primarily due to the addition of a Science Officer and three Special Assistants to the Laboratory Director and associated staff support. Also included is a reorganization of the ANL-West site management, which centralized several managers into one cost center.

#### **Information Services**

Information Services increased from \$17,796K in FY2001 to \$18,776K in FY2002. This category includes Central Computing Services, Telecommunications, and Management Information Services. Inflation (primarily merit increases) of 4% accounts for \$711K of the increase. The balance of the increase is attributable to aggregated networking expenditures.

#### **Other**

Other expenses decreased from \$1,547K in FY2001 to \$1,216K in FY2002. This category includes miscellaneous expenses such as public liability insurance, miscellaneous income, cleaning of uniforms, postage and operating costs for ANL-West Reactor Program Services as detailed below:

<b>Description</b>	<b><u>FY2001</u></b>	<b><u>FY2002</u></b>
Reactor Program General Expense	\$2,111	\$2,352
Public Liability Insurance	\$434	(\$102)
Miscellaneous Income	(\$996)	(\$1,034)
Laboratory General Expense	<u>(\$2)</u>	<u>\$0</u>
Total - Other	\$1,547	\$1,216

### **Environmental**

This category includes Environment and Quality Oversight and Waste Management Operations. The \$2,342K increase represents additional demand for waste management services for clean up of laboratories and work areas.

### **Safety and Health**

Safety and Health expenses decreased from \$16,702K in FY2001 to \$13,365K in FY2002, caused by decentralization of the Health Physics function, which now primarily resides in the direct-funded scientific cost centers.

### **Facilities Management**

Facilities Management expenses increased from \$8,233K in FY2001 to \$9,942K in FY2002. An additional \$1.1M was dedicated to major repairs, \$0.2M was spent for demolition of obsolete buildings and apparatus. The additional \$0.4M was for increased operating costs for the Child Care Facility and Argonne Information Center, wildlife damage management, postage and other miscellaneous facilities management expenses.

### **Safeguards and Security**

Safeguards and Security expenses increased from \$9,079K in FY2001 to \$10,566K in FY2002. This category includes Counter-Intelligence as well as the Guard forces at both sites. Heightened security as a result of the events of Sept. 11, 2001 caused the increases, as well as a visit from President Bush last summer.

## **IV. COST SAVINGS INITIATIVES**

- During FY2002, Argonne National Laboratory coordinated the purchase of a site-wide Microsoft software license with the University of Chicago. This coordinated purchase eliminated the need for individuals and departments to purchase individual Microsoft software licenses and resulted in a \$400,000 annual savings.

	<b>FY2002</b>	<b>FY2003</b>	<b>FY2004</b>
Savings	\$400,000	\$400,000	\$400,000

- Argonne National Laboratory takes an aggressive approach in contract negotiations for subcontracts and purchase orders. This has resulted in significant cost savings/cost avoidance each year.

	FY2001	FY2002
Savings	\$2,729,146	\$5,247,756

- Argonne National Laboratory has taken numerous steps to reduce the cost of fringe benefits. The changes resulted in a direct savings to the Laboratory by consolidating costs, negotiating better terms, shifting expenses to employees or by reducing the benefit. A detailed list of the changes is provided below:
- In FY2002, Argonne National Laboratory reduced the number of HMO medical/dental carriers that are available to employees. This resulted in an annual savings of \$133,000 achieved through a 3% rate reduction from the one remaining HMO carrier (HMO Illinois).

	FY2002	FY2003	FY2004
Savings	\$133,000	\$133,000	\$133,000

- Also in FY2002, Argonne National Laboratory joined the CIGNA PPO dental plan, which includes a significant number of dentists that charge a lower contract price for services. This will result in an annual savings of \$100,000

	FY2002	FY2003	FY2004
Savings	\$100,000	\$100,000	\$100,000

- In late FY2002, Argonne National Laboratory joined the Chicago Business Group on Health, a health purchasing initiative. Membership in this coalition enabled Argonne to take advantage of a negotiated reduction in a planned fee increase from 30.3% to 19.5% in the FY2003 premium. The annual membership fee of \$25,000 will result in a savings of \$548,000 annually.

	FY2003	FY2004
Savings	\$548,000	\$548,000
Investment	\$ 25,000	\$ 25,000
Net Savings	\$523,000	\$523,000

- During FY2003, Argonne National Laboratory limited the coordination of benefits for retirees and current employees to the amount covered by the primary insurer. This will result in an annual savings of \$305,000.

	FY2003	FY2004
Savings	\$305,000	\$305,000

- In FY2003, Argonne National Laboratory increased the employee's portion of their co-pay payment on mail order prescription drug purchases resulting in savings of \$212,000.

	FY2003	FY2004
Savings	\$212,000	\$212,000

- Also in FY2003, Argonne National Laboratory implemented a health monitoring program that provided screening for coronary heart disease and diabetes. The initial cost of this program was \$70,000, however, we will receive a \$210,000 savings in the insurance premiums that are paid.

	FY2003	FY2004
Savings	\$210,000	\$210,000
Investment	\$ 70,000	0
Net Savings	\$140,000	\$210,000

- For many years, Argonne National Laboratory maintained two separate medical plans for retirees. In FY2003, the two plans were merged into one new plan that will save \$29,000 annually.

	FY2003	FY2004
Savings	\$29,000	\$29,000

- In FY2003, Argonne National Laboratory increased the employee co-pay on HMO claims, which will save the Laboratory \$67,000 per year.

	FY2003	FY2004
Savings	\$67,000	\$67,000

**Bettis Lab**

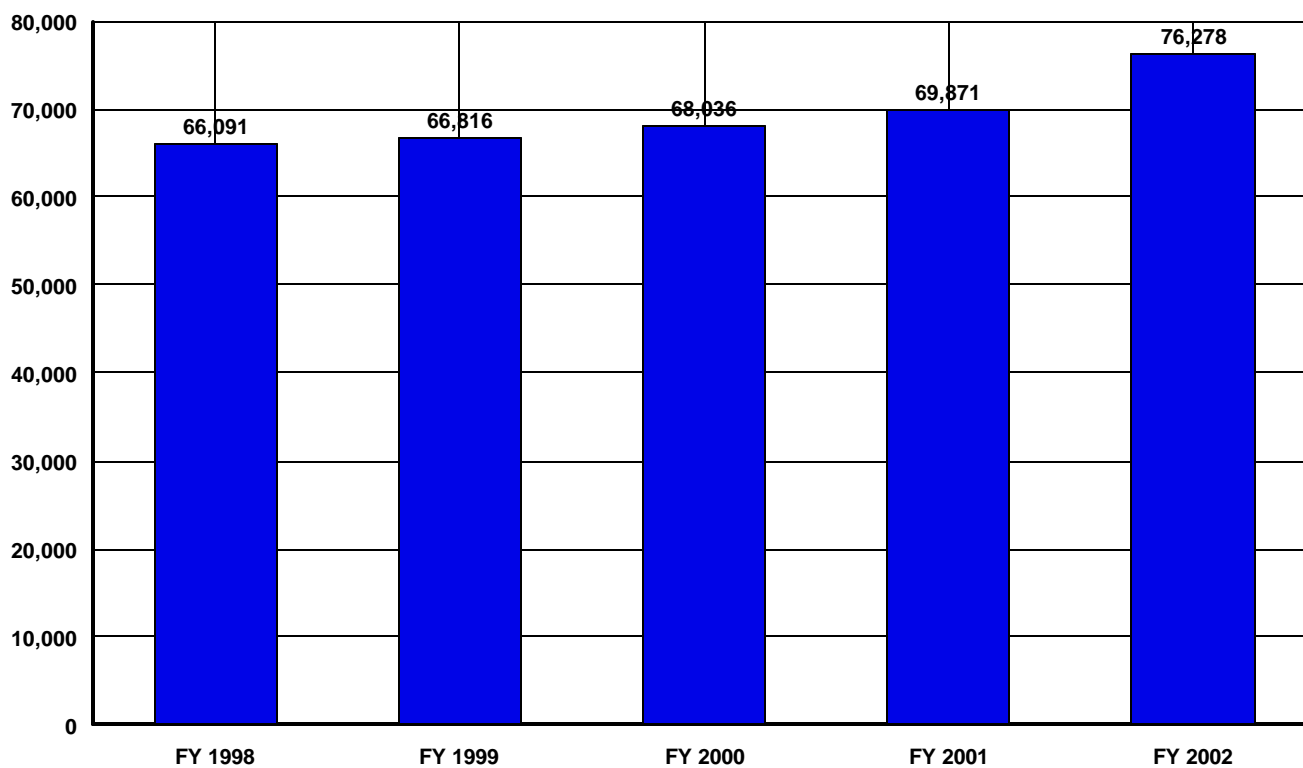
**Trends in Total Functional Support Cost Categories**

**FY 2002**

(\$ in 000's)

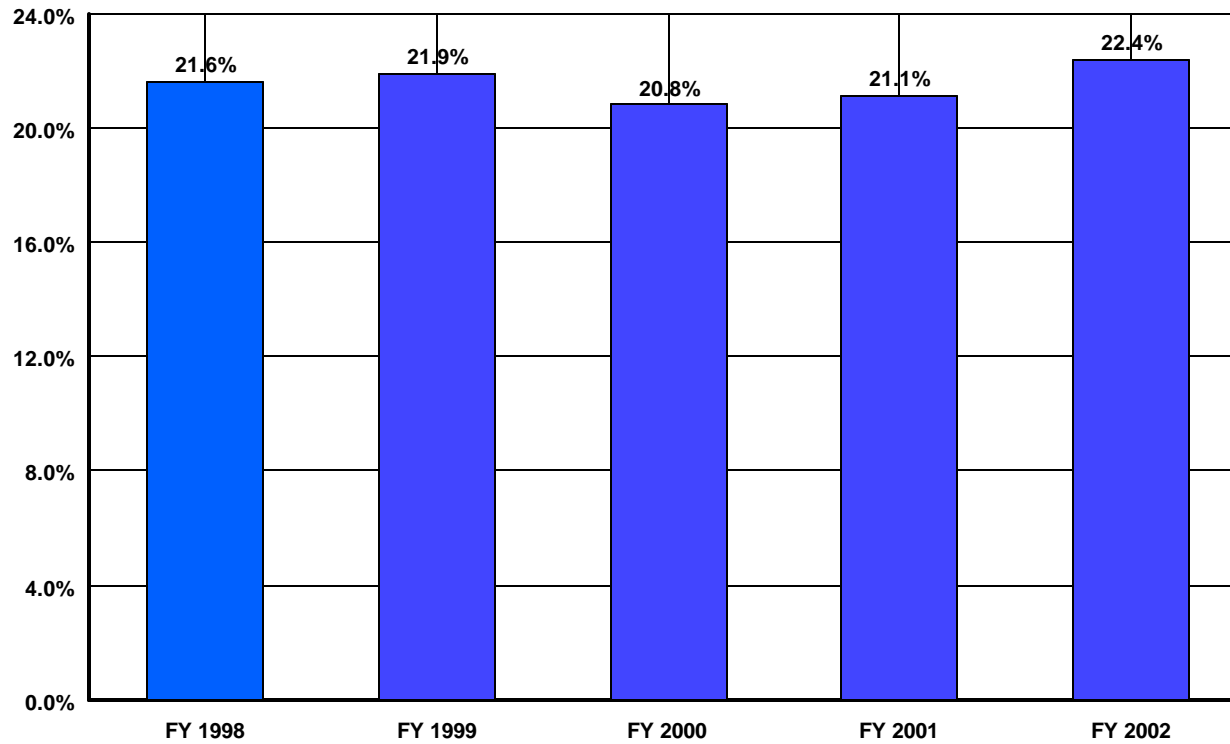
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	2,326	2,978	3,002	3,193	3,206	880	37.8%
HUMAN RESOURCES	2,466	3,643	3,998	3,640	3,825	1,359	55.1%
CFO	2,646	2,694	1,892	2,233	2,236	-410	-15.5%
PROCUREMENT	1,790	1,728	1,850	2,100	2,178	388	21.7%
LEGAL	63	73	89	122	137	74	117.5%
CENTRAL ADMIN SERVICES	1,376	1,616	1,331	1,229	1,427	51	3.7%
PROGRAM/PROJECT CONTROL	341	316	262	444	500	159	46.6%
INFORMATION OUTREACH	0	0	0	0	0	0	0.0%
INFORMATION SERVICES	9,200	10,023	10,070	9,675	11,245	2,045	22.2%
OTHER	0	0	0	0	0	0	0.0%
<b>TOTAL GENERAL SUPPORT</b>	<b>20,208</b>	<b>23,071</b>	<b>22,494</b>	<b>22,636</b>	<b>24,754</b>	<b>4,546</b>	<b>22.5%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	3,585	5,122	5,174	5,535	6,141	2,556	71.3%
SAFETY AND HEALTH	10,852	10,796	11,661	11,994	12,825	1,973	18.2%
FACILITIES MANAGEMENT	2,702	2,568	3,081	3,227	4,319	1,617	59.8%
MAINTENANCE	6,006	6,282	6,847	5,757	5,949	-57	-0.9%
UTILITIES	2,391	2,265	2,232	2,499	2,854	463	19.4%
SAFEGUARDS AND SECURITY	4,813	5,037	5,290	6,020	6,554	1,741	36.2%
LOGISTICS SUPPORT	2,451	2,017	2,134	2,459	2,950	499	20.4%
QUALITY ASSURANCE	4,234	4,144	4,374	4,411	4,965	731	17.3%
LABORATORY/TECHNICAL SUPPOR	0	0	0	0	0	0	0.0%
<b>TOTAL MISSION SUPPORT</b>	<b>37,034</b>	<b>38,231</b>	<b>40,793</b>	<b>41,902</b>	<b>46,557</b>	<b>9,523</b>	<b>25.7%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	8,458	4,988	4,504	5,069	4,577	-3,881	-45.9%
TAXES	391	526	245	264	390	-1	-0.3%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>8,849</b>	<b>5,514</b>	<b>4,749</b>	<b>5,333</b>	<b>4,967</b>	<b>-3,882</b>	<b>-43.9%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>66,091</b>	<b>66,816</b>	<b>68,036</b>	<b>69,871</b>	<b>76,278</b>	<b>10,187</b>	<b>15.4%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	219,680	213,733	234,986	240,518	245,301	25,621	11.7%
Capital Construction	20,173	24,605	24,057	20,663	19,401	-772	-3.8%
<b>TOTAL MISSION DIRECT</b>	<b>239,853</b>	<b>238,338</b>	<b>259,043</b>	<b>261,181</b>	<b>264,702</b>	<b>24,849</b>	<b>10.4%</b>
<b>Total Costs</b>	<b>305,944</b>	<b>305,154</b>	<b>327,079</b>	<b>331,052</b>	<b>340,980</b>	<b>35,036</b>	<b>11.5%</b>
<b>Total Costs w/o Construction</b>	<b>285,771</b>	<b>280,549</b>	<b>303,022</b>	<b>310,389</b>	<b>321,579</b>	<b>35,808</b>	<b>12.5%</b>
General Support % Total Costs	6.6%	7.6%	6.9%	6.8%	7.3%		
Mission Support % Total Costs	12.1%	12.5%	12.5%	12.7%	13.7%		
Site Specific % Total Costs	2.9%	1.8%	1.5%	1.6%	1.5%		
Total Support % Total Costs	21.6%	21.9%	20.8%	21.1%	22.4%		
Total Support % Total Costs w/o Co	23.1%	23.8%	22.5%	22.5%	23.7%		

## Total Support Costs (000's) Bettis Lab - Bechtel



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	66,091	66,816	68,036	69,871	76,278

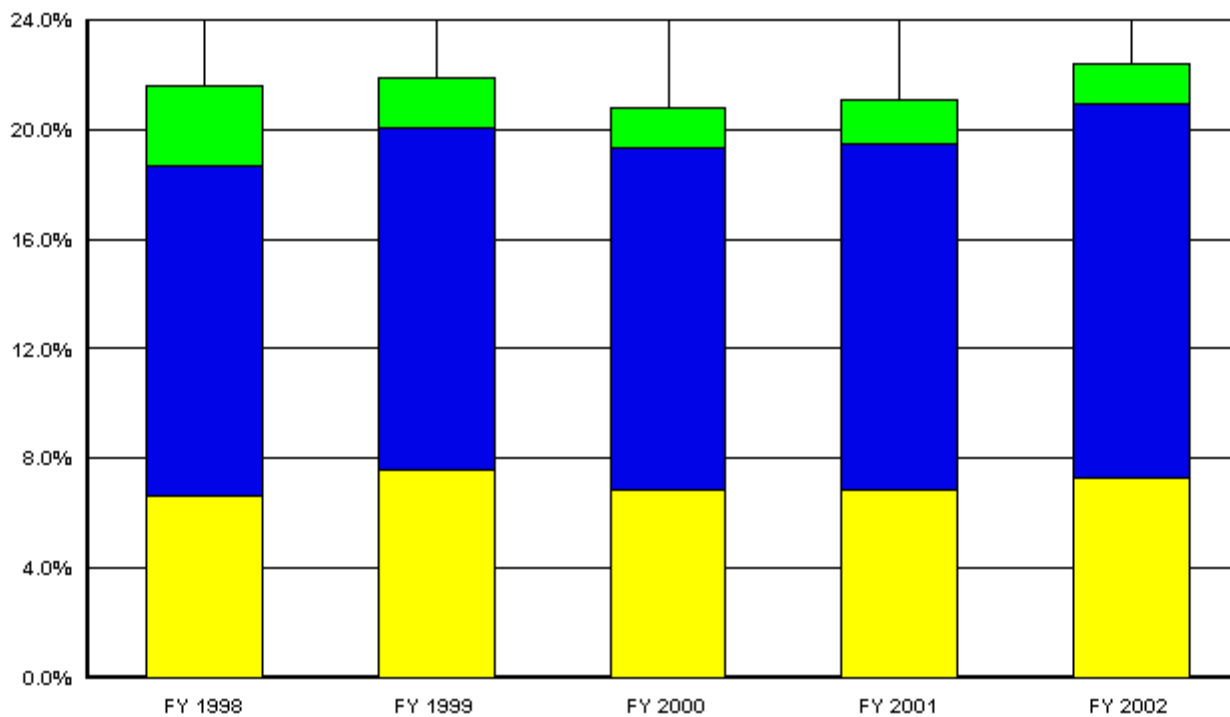
## Support Cost as a % of Total Cost Bettis Lab - Bechtel



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	21.6%	21.9%	20.8%	21.1%	22.4%



**US Department of Energy  
Percent of Support Category to Total  
Bettis Lab**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	6.6%	7.6%	6.9%	6.8%	7.3%
<b>Mis Sup</b>	12.1%	12.5%	12.5%	12.7%	13.7%
<b>Site Specific</b>	2.9%	1.8%	1.5%	1.6%	1.5%

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**SITE PROFILE**  
**BETTIS LABORATORY - BECHTEL**

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Bettis Laboratory is a research and development laboratory operated by Bechtel Bettis, Inc., a subsidiary of Bechtel National, Inc., for the Naval Nuclear Propulsion Program, a joint United States Navy-Department of Energy (DOE) organization. Bettis is primarily involved with the design, development, and operational follow of nuclear propulsion plants for naval vessels.

Bettis Laboratory is located in the Borough of West Mifflin, Pennsylvania, approximately 7.5 miles southeast of Pittsburgh, Pennsylvania. The Laboratory is situated on approximately 202 acres of land. All land and buildings on the site are the property of the Federal government.

The present site of the Bettis Laboratory was originally developed as Pittsburgh's first airfield. The Pittsburgh-McKeesport Airdrome opened there in August of 1925. A year later, the Airdrome was renamed Bettis Airfield in honor of Lieutenant Cyrus Bettis, a famous aviator who had died in a plane crash in central Pennsylvania. In 1940, most commercial traffic moved to the nearby Allegheny County Airport because the Bettis Airfield could not handle the increasingly larger, modern aircraft. Private aviators used the field until 1948.

The newly formed Westinghouse Atomic Power Division bought the Airfield tract early in 1949 and purchased adjacent properties in 1952. The land was acquired according to a contract between Westinghouse and the Atomic Energy Commission (AEC) whereby Westinghouse was assigned certain responsibilities for engineering, design, procurement, and construction work on the prototype of the first naval nuclear propulsion plant. Later, in 1957, the AEC (now DOE) exercised its contractual option to purchase the site and has held title since then. Bechtel National, Inc. replaced Westinghouse Electric Company as the operating contractor on February 1, 1999.

The site evolved into a large-scale development, engineering, and design facility. The initial efforts of Bettis led to the development of the power plant for USS NAUTILUS, the world's first nuclear-powered submarine.

Since USS NAUTILUS, Bettis has worked on many aspects of the development of the nuclear navy. Advanced technology for submarine and surface ship nuclear propulsion plants has constituted a major portion of the work program. Bettis' work on the prototype nuclear propulsion plant for a surface ship, and successful operation of the prototype at the Naval Reactors Facility in Idaho Falls, Idaho, led to the development of the first nuclear-powered surface ship, the cruiser USS LONG BEACH, and the first nuclear-powered aircraft carrier, USS ENTERPRISE. Bettis currently provides design and engineering support for many of the Navy's operating propulsion plants including the propulsion plants in the NIMITZ class aircraft carriers and in the new SEAWOLF class of attack submarines, and is developing new technologies and designs for the Navy's future ships including the VIRGINIA class of submarines and the CVNX class of aircraft carriers.

Bettis laboratory has also played a role in the development of land-based nuclear reactor plants. Under DOE's office of Naval Reactors, Bettis worked on the design and development of the first United States full-scale nuclear power plant for civilian use, the Shippingport Atomic Power Station. Shippingport was also the site of the first light Water Breeder Reactor (LWBR) which was placed into operation in 1977 and operated until October 1982. This advanced reactor system was developed to improve significantly the utilization of fuel in light water reactors. The technology developed for the Shippingport program has been made available to industry for commercial application.

The broad spectrum of Bettis' activities has included work on core and component technology and design, thermal and hydraulic systems, materials, nuclear physics design, and training of naval personnel. Bettis currently employs approximately 3,000 people at all of its sites.

**Brookhaven**

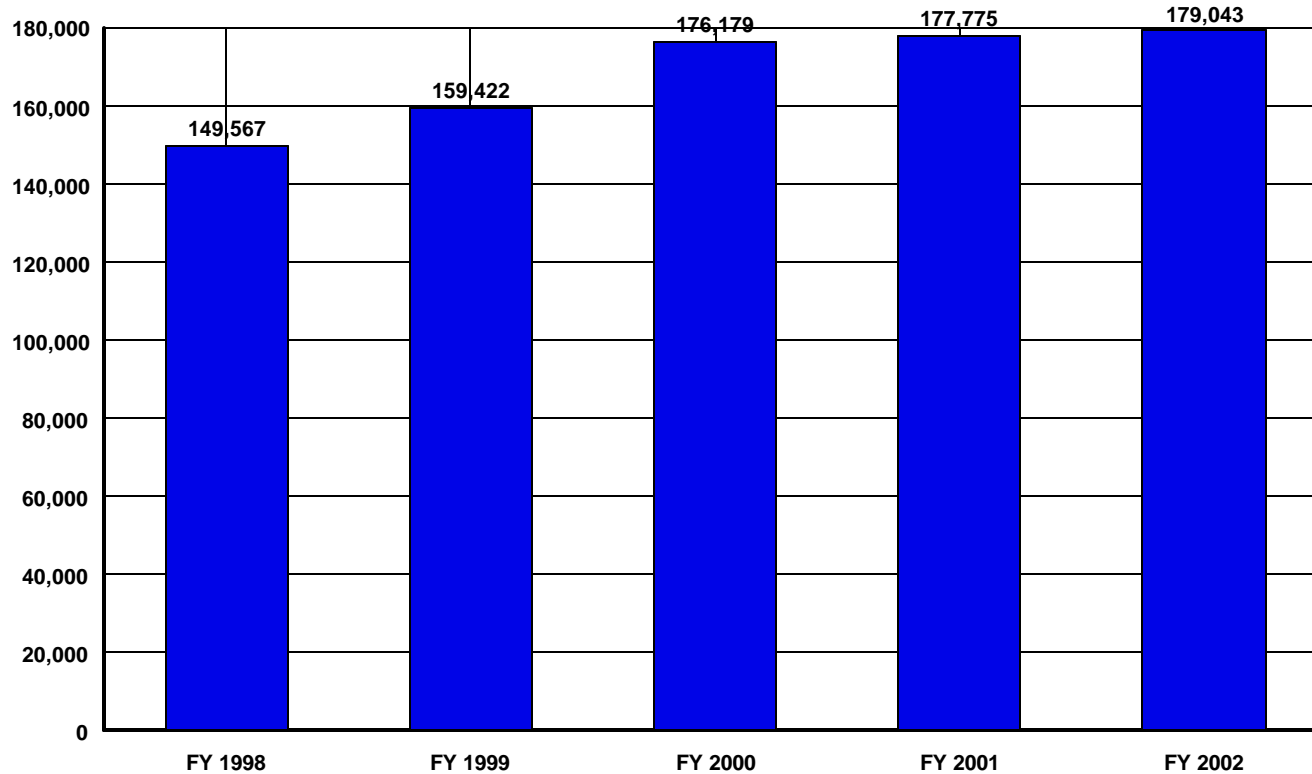
**Trends in Total Functional Support Cost Categories**

**FY 2002**

(\$ in 000's)

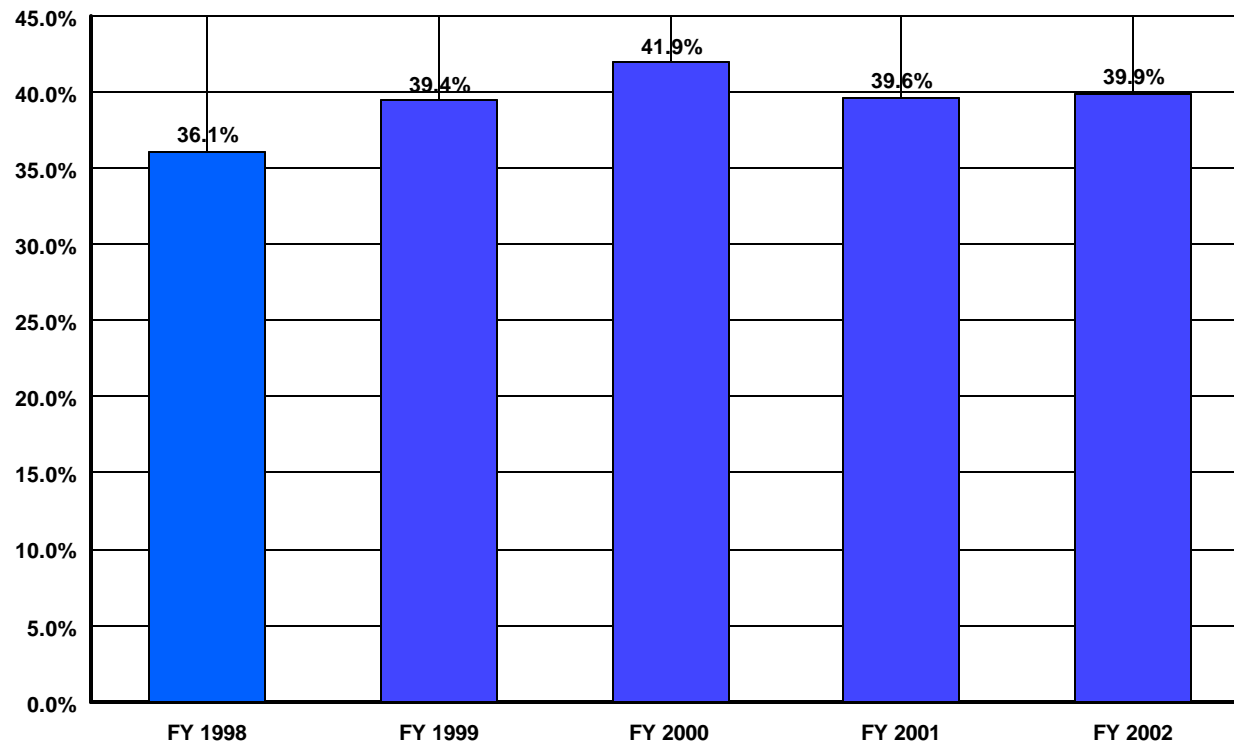
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	5,246	8,081	7,383	7,428	7,386	2,140	40.8%
HUMAN RESOURCES	3,836	3,662	3,706	3,974	3,827	-9	-0.2%
CFO	2,177	1,899	2,564	2,560	2,262	85	3.9%
PROCUREMENT	1,956	1,969	1,911	1,343	1,573	-383	-19.6%
LEGAL	512	655	535	912	1,354	842	164.5%
CENTRAL ADMIN SERVICES	3,403	3,112	4,969	5,367	5,647	2,244	65.9%
PROGRAM/PROJECT CONTROL	17,942	16,564	19,241	19,884	19,557	1,615	9.0%
INFORMATION OUTREACH	4,571	5,120	3,387	3,593	3,724	-847	-18.5%
INFORMATION SERVICES	10,477	15,215	17,657	16,052	17,030	6,553	62.5%
OTHER	73	-1,910	3,937	3,198	3,343	3,270	4,479.5%
<b>TOTAL GENERAL SUPPORT</b>	<b>50,193</b>	<b>54,367</b>	<b>65,290</b>	<b>64,311</b>	<b>65,703</b>	<b>15,510</b>	<b>30.9%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	1,460	2,184	2,968	2,852	2,746	1,286	88.1%
SAFETY AND HEALTH	14,491	15,427	17,924	18,040	18,616	4,125	28.5%
FACILITIES MANAGEMENT	4,051	3,520	3,796	3,965	5,491	1,440	35.5%
MAINTENANCE	25,540	27,084	29,136	30,261	29,626	4,086	16.0%
UTILITIES	24,503	23,854	23,472	24,458	20,479	-4,024	-16.4%
SAFEGUARDS AND SECURITY	5,798	5,630	5,952	6,339	7,173	1,375	23.7%
LOGISTICS SUPPORT	3,007	3,544	3,218	3,233	3,220	213	7.1%
QUALITY ASSURANCE	410	304	298	485	620	210	51.2%
LABORATORY/TECHNICAL SUPPOR	11,556	12,655	12,237	12,290	12,332	776	6.7%
<b>TOTAL MISSION SUPPORT</b>	<b>90,816</b>	<b>94,202</b>	<b>99,001</b>	<b>101,923</b>	<b>100,303</b>	<b>9,487</b>	<b>10.4%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	6,633	6,549	6,791	6,428	6,869	236	3.6%
TAXES	0	890	890	907	884	884	100.0%
LDRD / PDRD / SDRD	1,925	3,414	4,207	4,206	5,284	3,359	174.5%
<b>TOTAL SITE SPECIFIC</b>	<b>8,558</b>	<b>10,853</b>	<b>11,888</b>	<b>11,541</b>	<b>13,037</b>	<b>4,479</b>	<b>52.3%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>149,567</b>	<b>159,422</b>	<b>176,179</b>	<b>177,775</b>	<b>179,043</b>	<b>29,476</b>	<b>19.7%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	173,351	193,743	210,940	227,687	232,693	59,342	34.2%
Capital Construction	91,733	51,469	33,396	43,491	37,302	-54,431	-59.3%
<b>TOTAL MISSION DIRECT</b>	<b>265,084</b>	<b>245,212</b>	<b>244,336</b>	<b>271,178</b>	<b>269,995</b>	<b>4,911</b>	<b>1.9%</b>
<b>Total Costs</b>	<b>414,651</b>	<b>404,634</b>	<b>420,515</b>	<b>448,953</b>	<b>449,038</b>	<b>34,387</b>	<b>8.3%</b>
<b>Total Costs w/o Construction</b>	<b>322,918</b>	<b>353,165</b>	<b>387,119</b>	<b>405,462</b>	<b>411,736</b>	<b>88,818</b>	<b>27.5%</b>
General Support % Total Costs	12.1%	13.4%	15.5%	14.3%	14.6%		
Mission Support % Total Costs	21.9%	23.3%	23.5%	22.7%	22.3%		
Site Specific % Total Costs	2.1%	2.7%	2.8%	2.6%	2.9%		
Total Support % Total Costs	36.1%	39.4%	41.9%	39.6%	39.9%		
Total Support % Total Costs w/o Co	46.3%	45.1%	45.5%	43.8%	43.5%		

## Total Support Costs (000's) Brookhaven – Brookhaven Science Associates



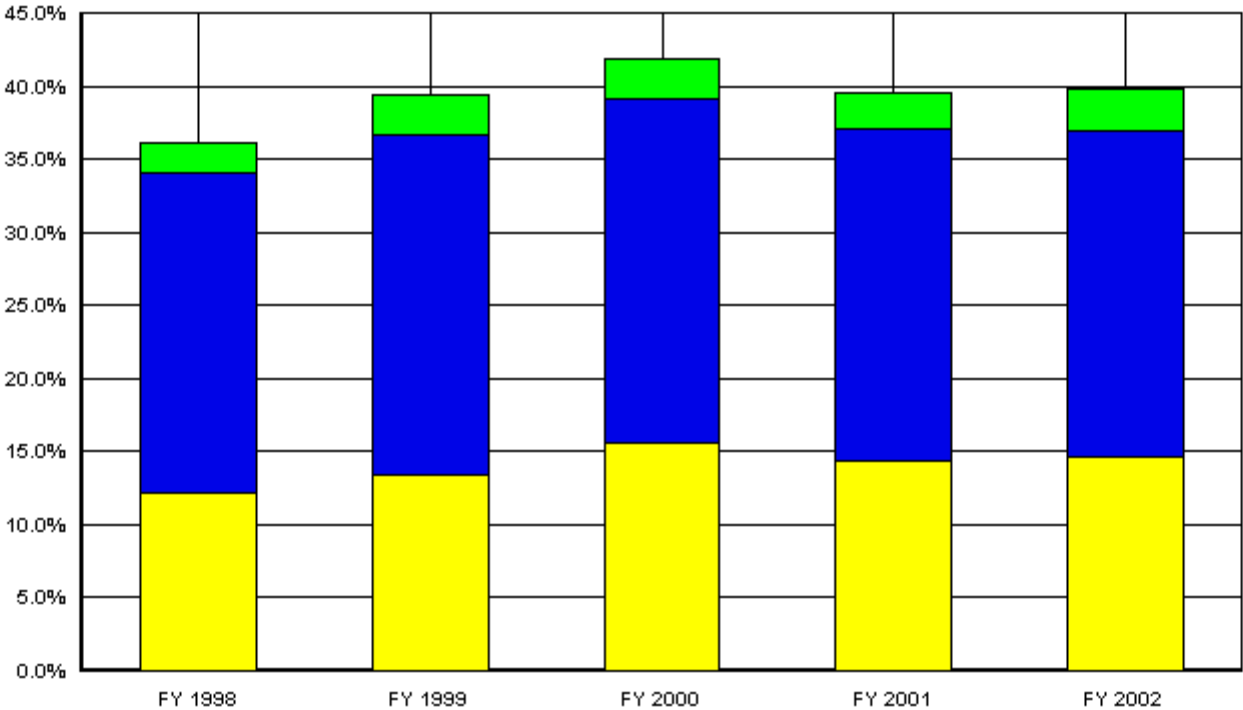
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	149,567	159,422	176,179	177,775	179,043

## Support Cost as a % of Total Cost Brookhaven – Brookhaven Science Associates



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	36.1%	39.4%	41.9%	39.6%	39.9%

**US Department of Energy  
Percent of Support Category to Total  
Brookhaven**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	12.1%	13.4%	15.5%	14.3%	14.6%
<b>Mis Sup</b>	21.9%	23.3%	23.5%	22.7%	22.3%
<b>Site Specific</b>	2.1%	2.7%	2.8%	2.6%	2.9%

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**SITE PROFILE**  
**BROOKHAVEN NATIONAL LAB – BROOKHAVEN SCIENCE ASSOCIATES**

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**I. SITE CHARACTERISTICS**

Brookhaven National Laboratory (BNL) is a multi-program National Laboratory founded in 1947 and currently operated by Brookhaven Science Associates for the U.S. Department of Energy.

The Laboratory's broad mission is to produce excellent science in a safe, environmentally benign manner with the cooperation, support and appropriate involvement of our many communities.

Specifically, the mission of BNL, which supports the U.S. Department of Energy's strategic missions, is to:

- Conceive, design, construct and operate complex, “leading edge”, user-oriented facilities in a safe and environmentally benign manner that is responsive not only to the DOE, but also to the needs of the users.
- Carry out basic and applied research in long-term programs at the frontier of science that supports DOE missions and the needs of the Laboratory's user community
- Develop advanced technologies that address national needs and initiate their transfer to other organizations and to the commercial sector.
- Disseminate technical knowledge to educate new generations of scientists and engineers.

**Large Research Facilities located at BNL:**

Alternating Gradient Synchrotron  
Relativistic Heavy Ion Collider (RHIC)  
National Synchrotron Light Source

**BioMedical Facilities located at BNL:**

Brookhaven Center for Imaging and Neuroscience  
Brookhaven Linear Isotope Production Facility  
Medical Radiation Facility  
Scanning Transmission Electron Microscope  
Transmission Electron Microscope

**Other Facilities and Centers located at BNL:**

Laser-Electron Accelerator Facility  
Tandem Van De Graaff Facility  
Accelerator Test Facility  
Center for Radiation Chemistry Research  
Booster Applications Facility (under development)  
Center for Accelerator Physics  
Center for Data Intensive Computing  
Center for Spectroscopy in Molecular Science  
Environmental and Waste Technology Center  
RIKEN BNL Research Center  
Free Air Carbon Enrichment Facilities

Brookhaven National Laboratory (BNL) is a U.S. Department of Energy (DOE) research facility located on Long Island, New York (which is east of New York City), on a 5,300-acre campus and about 30% of the total area is developed. BNL has approximately 3,000 employees. For financial purposes, the laboratory categorizes salary into Scientific, Professional, Technical, Management and Union categories. For FY 2002, the Laboratory reported 2,855 FTE's as follows: Scientific 571, Professional 643,



Technical 594, Management 567 and Union 480.

Brookhaven Science Associates operate BNL for DOE, a partnership of the State University of New York at Stony Brook and the Battelle Memorial Institute.

BNL specializes in building and operating large research facilities that are used by our own staff and visiting scientists from academia, government and industry.

BNL has more than 600 research programs going on in fields ranging from nuclear physics to drug addiction to weapons nonproliferation. BNL contributes significantly to programs at other DOE laboratories, federal agencies, institutions, and industry. The work done for other agencies derives from our unique facilities and our core competencies. In FY02, the Laboratory received \$83M from Work for Others (WFO), which includes \$35M from other DOE laboratories/operations offices.

More than 4,500 visiting scientists come from all over the world each year to do scientific research at our research facilities and work with our staff. To support these researchers, there are 422 on-site housing units. They are comprised of 66 family-style apartments, 46 efficiency apartments, 265 dormitory rooms, 30 seasonal houses, 2 all year round private houses and 13 guest-house rooms. An off-site housing coordinator assists visitors in finding accommodations in the local area. Residents may be housed for periods from one day to two years. Many of the apartment units are over 50 years old, and replacements are planned through third party financing. Scheduled morning on-site transportation is provided from living quarters to research buildings. Morning and evening scheduled transportation is provided to a local railroad station. On request, on-site transportation is provided during the workday. Subcontractors operate food service facilities and provide on-site food and snack services. A quality of life coordinator provides a link between visitors and support services.

Safeguards & Security supports the basic scientific mission of DOE and the Laboratory by protecting DOE's Special Nuclear Materials, Classified Matter and property against theft, diversion or destruction, preventing the loss of information or sabotage of programs that could have significant financial impact and preventing radiological or toxicological sabotage that would endanger employees, the public or the environment. Safeguards & Security staff establish guidelines, plans and strategies to protect sensitive or classified information, Cooperative Research and Development agreements, protocol visits, and Work for Others. Employee\Visitor badges are required to gain access to the site.

There are approximately 378 buildings in use with a total area of 4.2 million square feet. Approximately 75% of BNL's building space is over 30 years old, with one-third of that over 50 years old (World War II Army base structures).

Site-wide electrical, steam, sanitary sewer, storm sewer, and potable water utility systems serve the site. There are limited distribution chilled water and compressed air systems. The buildings served by these utilities are disbursed through out the campus site thereby requiring maintenance of an extensive distribution network.

Maintenance and energy costs for the older, wood frame buildings are higher than those for structures that are considered permanent. Retrofitting older facilities to comply with current Environment Safety & Health standards is extremely costly.

The energy cost to operate the Laboratory in the northeast sector of the U.S. is significantly higher than other portions of the country. In addition, the large research facilities consume extraordinary amounts of electricity for their operation. Since the intent of this report is to include the electric power for large research machines with the traditional general use electric power, BNL's utility costs represent a significant

percentage of the total costs. Many other labs do not have similar power costs for large research facilities and/or the high unit price of power that BNL experience. In addition, it is projected that the electric power related to run the large research machines would substantially increase as a result of the commissioning of the RHIC project.

The costs reported on the functional cost report reflect the direct charges to DOE programs (operating, capital equipment, AIP, GPP and line items), work for others (B&R 40xxxxxxx series), non-federal agencies (B&Rs in the 60xxxxxxx, 65xxxxxxx and WNxxxxxxx series), other DOE labs (B&R 82xxxxxxx) and indirect and other intermediate costs collected in B&R YN0100000 that are fully distributed.

In addition, BNL's total cost includes \$884k for Payment in lieu of Taxes (PILT) that the Chicago Operations Office handles on behalf of the Laboratory.

The Laboratory has approximately 500 employees who belong to local unions.

## **II. HIGHLIGHTS OF TRENDS FROM FY 1998 TO FY 2002**

The change in support costs incurred since FY 1998 reflects Laboratory management actions to move the Laboratory in a direction that provides excellent science along with excellent standards for safety, health, environment and infrastructure. The Laboratory created a Post Doc fund, implemented a Standards Based Management System, a Program Development and Peoplesoft Financial System and a Lab wide Integrated Safety Management System, and increased the effort and emphasis on Radiological Protection and Chemical Management Safety.

## **III. VARIANCE ANALYSIS**

### **1. Chief Financial Officer (FY01 - FY02 = 298k decrease)**

The Chief Financial Officer functional cost category decreased by \$298k. This decrease was caused when a new Organizational Burden project was created within the Fiscal Division to capture Fiscal Management salary and other related costs. This project was created to evenly allocate the Fiscal Management expenses between the Common Support and the Material Burden Pools. For FY 2002, the Fiscal Management expenses are being reported under the Program/ Project, Planning and Control Functional Cost Category.

### **2. Procurement (FY01 - FY02 = \$230k increase)**

The Procurement functional cost category increased by \$230k. The increase was caused by the addition of a new employee to address quality issues in the Procurement process, realignment of staffing within the Division, and purchase of new computers/training.

### **3. Legal Services (FY01 - FY02 = \$442k increase)**

The legal functional cost category increased by \$442k. Legal fees vary from year to year depending upon the number of cases being tried. In FY 2002, the laboratory had three major cases that were being litigated.

4. Central Administrative Services (FY01 - FY02 = \$280k increase)

The Central Administrative Services functional cost category increased by \$280k. This increase was caused primarily by the Laboratory's subscription to the Web of Science. The Web of Science is a standard information resource among libraries and other research institutes including other DOE contractors and Universities. The Web of Science provides cited references to the user's desktop, enables researchers to quickly gauge the importance of published articles and allows researchers to verify the accuracy of the references they are using.

5. Other (FY01-FY02 = \$145k increase)

The following FY02 costs are included in this category:

	<u>FY 2002</u>
Laboratory Housing (net)	\$(0.7)
Legal Settlements	0.3
Post Docs, Goldhaber Fellows	2.2
Program Development	1.5
<b>Total</b>	<b>3.3</b>

6. Facilities Management (FY01 - FY02 - \$1,526k increase)

The Facilities Management category increased by \$1,526k. The increase was caused primarily by the difference in funding priorities in the Special Maintenance program. The Special Maintenance program is based on the "Project, Planning, Programming and Maintenance Budgeting Process" (3PBP). The 3PBP is the method used to document, track and prioritize project needs and the risk of associated unfunded activities. A database contains the list of all project needs that provides output to the various planning review processes that occur during the fiscal year.

7. Utilities (FY01 - FY02 - \$3,979k decrease)

The Utilities functional cost category decreased by \$3,979k. This decrease was caused by a decrease in RHIC run time, electric rebates, and the prepaid electric power variance. In addition, the actual YTD cost of Utility personnel was used in this analysis vs. an estimated cost for utility personnel in FY01.

8. Safeguards and Security (FY01 - FY02 - \$834k increase)

The Safeguards and Security functional cost category increased by \$834k. This increase was partially caused by additional expenses incurred due to 9/11 and cyber security increases. Additional expenses include overtime for security officers at SECON 2 level, rental of main gate trailer, purchase of north gate shed, barricades and cones, wire fencing for North and South gate, badging, software upgrades, supplies, additional computers and staff to man main gate.

## 9. Quality Assurance (FY01 - FY02 - \$135k increase)

The Quality Assurance functional cost category increased by \$135k. This increase was caused by the transfer of responsibilities for the Occurrence Reporting System (ORPS),

## IV. COST SAVINGS INITIATIVES

In response to double-digit escalations in Health Care Costs, the laboratory implemented a number of changes to the medical plans. The most recent changes effective January 2003 will require employees to contribute a percentage of the plan cost based on the employee's full-time equivalent annual base salary. In some plans, there will higher deductibles for out-of network expenses, prescription drug deductibles and elimination of the use of out-of-network pharmacies. Changes in medical plans are expected to save the laboratory \$3.7M in FY2003.

A change in the severance plan now differentiates benefits paid for voluntary vs. involuntary reduction in force (RIF). Severance is calculated based upon the length of service. Previously all employees were paid based upon this formula only. Starting in calendar year 2003, only involuntary RIFs will be paid based upon formula only. Those employees who volunteer in order to save another employee from involuntary RIF will be paid only half the value of the standard formula calculation for their length of service. If the same mix of voluntary vs. involuntary RIFs exists in the future as did in the past two fiscal years, the potential savings is approximately \$800,000 per year.

Because Brookhaven National Laboratory is located in the Northeast portion of the country, it experiences higher than average energy costs. In order to minimize the costs of energy, the Laboratory's Plant Engineering organization has aggressively managed the procurement of energy resources.

The operation of the Central Steam Plant provides steam necessary for heating laboratory buildings and the operation of the centralized chilled water system. With the careful timing of oil purchases, along with select use of natural gas, the laboratory has been able to achieve annual savings of \$600,000 or above. The maximization of fuel oil on hand at the end of FY 2002 enabled Brookhaven to have an adequate amount of fuel oil on hand for the start of the 2002-2003 winter months. This allowed the Laboratory to postpone significant new procurements of fuel until the end of the winter season thereby minimizing the amount of fuel that must be purchased during the highest priced part of the year.

Plant Engineering also oversees negotiation for contracting with the New York Power Authority (NYPA) for procurement of electric power at favorable rates to be delivered to the lab over regional power lines. The alternative is to procure all electric power from the local Long Island Power authority at considerable higher costs. The laboratory operates several user facilities such as the RHIC and National Synchrotron Light Source (NSLS) that, along with other special and general power requirements, consume approximately 300 GWh of electricity a year at a cost in the \$15 to \$16 million dollar range since the startup of RHIC. Without the NYPA contract, the Laboratory's electrical cost would be in the range of \$11 million dollars more.

The merger of the Division of Contracts and Procurement (DCP) and the Supply and Material Group (SM) into the Procurement and Property Management Division (PPM) in FY 2001 resulted in a savings of \$569,000. Some of the savings were achieved by PPM personnel being assigned responsibilities for vacant key management positions within SM. The remaining portions of the savings are related to the consolidation of warehouse operations.

Brookhaven National Laboratory Cost Reduction Efforts	<b>FY 2002</b>	<b>FY 2003</b>	<b>FY 2004</b>
Realignment of Health Care benefits and employee contributions		3,700,000	4,144,000
Reduced severance benefit to volunteers for reduction in force		800,000	836,000
Aggressive management of procurement of energy resources:			
Advance purchase of fuel and selective use of natural gas	600,000	600,000	600,000
Procurement of electric power from New York Power Authority	11,000,000	11,000,000	11,000,000
Director's review of Indirect Program budgets	6,931,204	4,992,512	5,117,325
Reorganization and Consolidation of Warehouse Operations	583,225	597,806	612,751
<b>TOTAL</b>	<b>19,114,429</b>	<b>21,690,317</b>	<b>22,310,075</b>

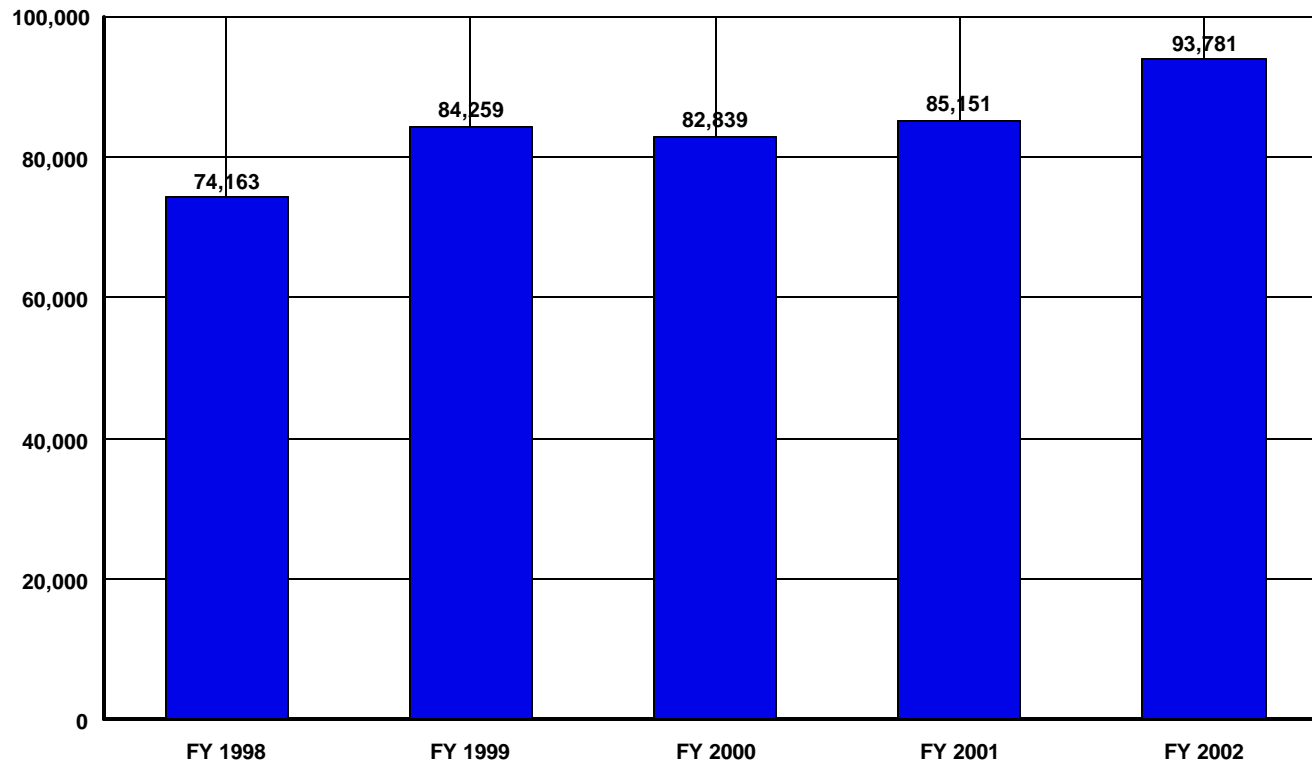
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**FY 2002**

**Trends in Total Functional Support Cost Categories**

(\$ in 000's)

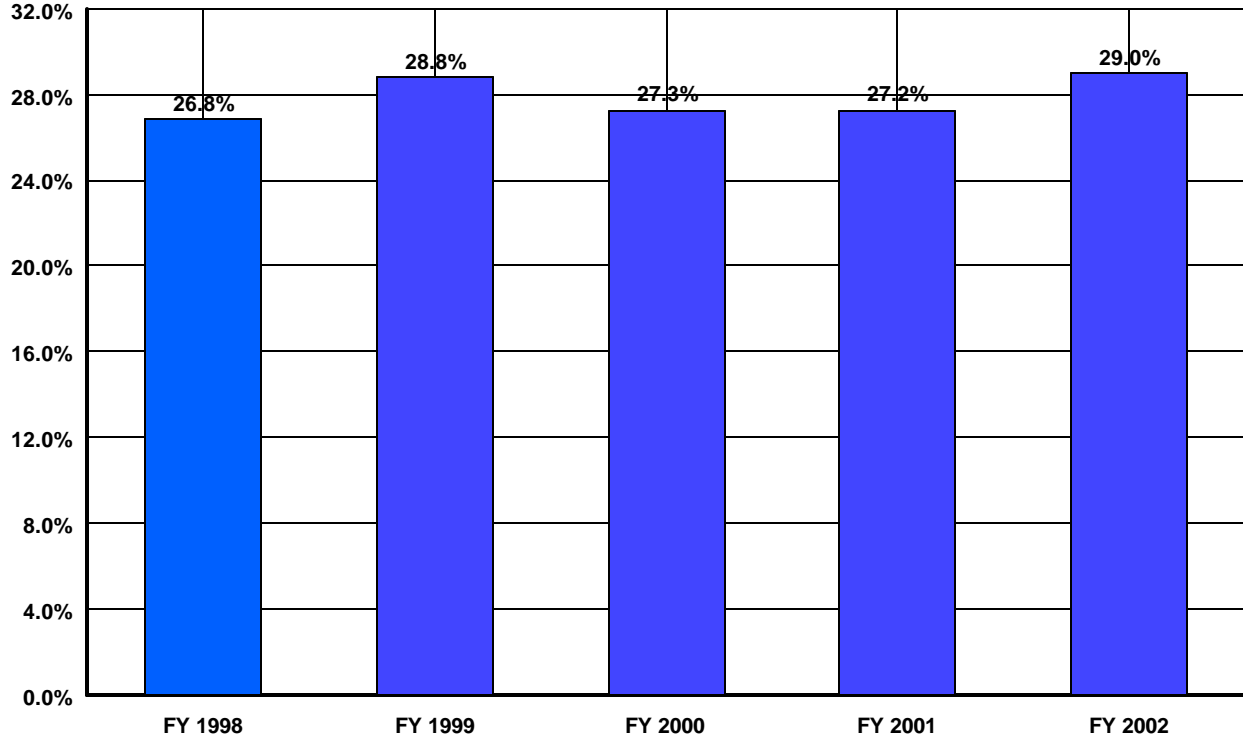
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	4,283	4,894	4,547	4,668	5,441	1,158	27.0%
HUMAN RESOURCES	2,405	2,426	2,589	2,880	3,202	797	33.1%
CFO	1,441	1,540	1,577	1,613	1,725	284	19.7%
PROCUREMENT	1,474	1,536	1,551	1,583	1,788	314	21.3%
LEGAL	463	374	418	451	1,080	617	133.3%
CENTRAL ADMIN SERVICES	1,661	1,774	1,938	2,090	2,455	794	47.8%
PROGRAM/PROJECT CONTROL	143	226	766	641	351	208	145.5%
INFORMATION OUTREACH	1,512	1,913	1,601	1,723	1,928	416	27.5%
INFORMATION SERVICES	7,902	8,819	11,164	10,991	12,023	4,121	52.2%
OTHER	63	18	-685	35	65	2	3.2%
<b>TOTAL GENERAL SUPPORT</b>	<b>21,347</b>	<b>23,520</b>	<b>25,466</b>	<b>26,675</b>	<b>30,058</b>	<b>8,711</b>	<b>40.8%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	2,160	2,181	2,464	2,137	1,869	-291	-13.5%
SAFETY AND HEALTH	9,155	9,835	8,532	8,726	8,951	-204	-2.2%
FACILITIES MANAGEMENT	1,182	1,504	1,735	1,466	2,247	1,065	90.1%
MAINTENANCE	15,757	16,307	16,825	17,063	18,246	2,489	15.8%
UTILITIES	9,819	14,791	15,673	15,915	17,517	7,698	78.4%
SAFEGUARDS AND SECURITY	1,840	1,815	1,750	2,420	2,712	872	47.4%
LOGISTICS SUPPORT	2,635	2,782	4,434	4,518	4,629	1,994	75.7%
QUALITY ASSURANCE	0	0	0	0	0	0	0.0%
LABORATORY/TECHNICAL SUPPOR	7,405	8,676	2,877	3,296	4,572	-2,833	-38.3%
<b>TOTAL MISSION SUPPORT</b>	<b>49,953</b>	<b>57,891</b>	<b>54,290</b>	<b>55,541</b>	<b>60,743</b>	<b>10,790</b>	<b>21.6%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	2,863	2,848	3,083	2,935	2,980	117	4.1%
TAXES	0	0	0	0	0	0	0.0%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>2,863</b>	<b>2,848</b>	<b>3,083</b>	<b>2,935</b>	<b>2,980</b>	<b>117</b>	<b>4.1%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>74,163</b>	<b>84,259</b>	<b>82,839</b>	<b>85,151</b>	<b>93,781</b>	<b>19,618</b>	<b>26.5%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	115,788	127,553	137,411	147,889	160,427	44,639	38.6%
Capital Construction	86,642	81,160	83,746	79,669	69,658	-16,984	-19.6%
<b>TOTAL MISSION DIRECT</b>	<b>202,430</b>	<b>208,713</b>	<b>221,157</b>	<b>227,558</b>	<b>230,085</b>	<b>27,655</b>	<b>13.7%</b>
<b>Total Costs</b>	<b>276,593</b>	<b>292,972</b>	<b>303,996</b>	<b>312,709</b>	<b>323,866</b>	<b>47,273</b>	<b>17.1%</b>
<b>Total Costs w/o Construction</b>	<b>189,951</b>	<b>211,812</b>	<b>220,250</b>	<b>233,040</b>	<b>254,208</b>	<b>64,257</b>	<b>33.8%</b>
General Support % Total Costs	7.7%	8.0%	8.4%	8.5%	9.3%		
Mission Support % Total Costs	18.1%	19.8%	17.9%	17.8%	18.8%		
Site Specific % Total Costs	1.0%	1.0%	1.0%	0.9%	0.9%		
Total Support % Total Costs	26.8%	28.8%	27.3%	27.2%	29.0%		
Total Support % Total Costs w/o Co	39.0%	39.8%	37.6%	36.5%	36.9%		

## Total Support Costs (000's) Fermi Lab – University Research Associates



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	74,163	84,259	82,839	85,151	93,781

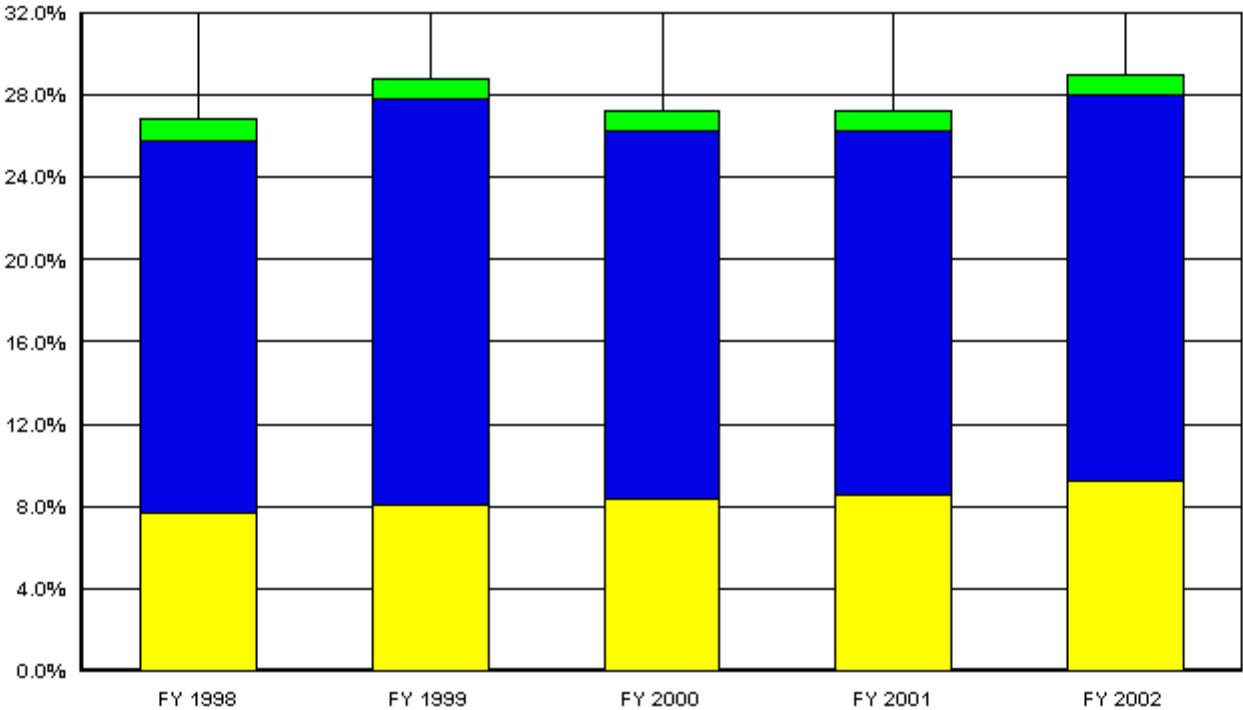
# Support Cost as a % of Total Cost Fermi Lab – University Research Associates



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	26.8%	28.8%	27.3%	27.2%	29.0%



**US Department of Energy  
Percent of Support Category to Total  
Fermi**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	7.7%	8.0%	8.4%	8.5%	9.3%
<b>Mis Sup</b>	18.1%	19.8%	17.9%	17.8%	18.8%
<b>Site Specific</b>	1.0%	1.0%	1.0%	0.9%	0.9%

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**SITE PROFILE**  
**FERMI NATIONAL ACCELERATOR LABORATORY**  
**UNIVERSITIES RESEARCH ASSOCIATION, INC.**

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**I. BACKGROUND:**

Fermilab operates the world's highest-energy particle accelerator, the Tevatron. More than 2,200 scientists from 36 states and 20 countries use Fermilab's facilities to carry out research at the frontiers of particle physics.

Fermilab is a single purpose Laboratory whose mission statement is as follows:

“Fermi National Accelerator Laboratory advances the understanding of the fundamental nature of matter and energy by providing leadership and resources for qualified researchers to conduct basic research at the frontiers of high energy physics and related disciplines.”

Groundbreaking for the original linear accelerator was December 1968. The site is 6,800 acres, or a little more than 10 square miles. Approximately 2,100 people are employed at the Lab. Fermilab has an on-site housing operation to accommodate users and their families, and an on-site cafeteria for employees, users and visitors.

Fermilab is operated by Universities Research Association, Inc. (URA), a consortium of 90 research universities. The level of non-DOE work at Fermilab is insignificant to the operation of the Laboratory.

**II. TRENDS:**

Trend in Functional Support Costs from fiscal year 1998 to fiscal year 2002:

General Support costs have shown a slight upward trend into fiscal year 2002. Costs increased in fiscal year 1999 mainly in Information Services due to increased salaries and consultant costs. Mission Support costs historically have fluctuated between 17.8% and 19.8% of total site costs. See “Major Anomalies” below for information on specific years’ fluctuations.

Trend in Functional Support Costs as a percentage of Total Costs from fiscal year 1998 to fiscal year 2002:

Overall support costs in fiscal year 2002 were 29% of total site costs, well within the historical range for the Lab of 26.8% to 29.0% since 1998. The lower rate for 1998 is due to power usage (see Utilities below). The lower rate for fiscal year 2000 is due to cost containment efforts in areas categorized as functional support, and due to diminishing of operating projects in

anticipation of the RUN II collider. The higher rate in 2002 is due to increased power costs from increased “up-time” of the accelerator, and increases in legal, facilities management, and laboratory/technical support costs as described in “Major Anomalies” below.

Major Anomalies in year-to-year data:

#### Legal

The increase in legal costs from FY2001 to FY2002 is due to legal claims management costs associated with the NuMI tunneling subcontract.

#### Facilities Management/Engineering

The increase from FY2001 to FY2002 is due to spending on a global positioning system and other general increases in facilities management costs that are not individually significant.

#### Utilities

Power expense fluctuates directly with the "up-time" of the accelerator. In FY1998 the Laboratory was in the final stages of integrating the new Main Injector into the accelerator complex which significantly lowered the operations of the accelerator. This resulted in lowering the utility costs in FY 1998 approximately \$7 million.

#### Safeguards/Security

The increase of approximately \$600,000 in FY2001 was due to additional spending on Cyber-Security.

#### Laboratory/Technical Support

The decrease of over \$2 million from FY1999 to FY2000 is due to the completion of specially funded tooling and other technical support projects. The increase from FY2001 to FY2002 is a result of FY2002 effort diverted to laboratory technical support projects, from Large Hadron Collider magnet testing that was delayed until late in FY2002.

#### Major Cost Drivers:

As discussed above, major cost drivers at Fermilab are power usage for the Accelerator (category Utilities), and current projects categorized as Mission Direct.

### **III. COST SAVINGS INITIATIVES:**

Work on the Fermilab Central Cooling Retrofit project under the DOE Utility Improvement Program was completed. The project began in May of 1998 and avoided \$5M in capital expenditures and will save a discounted amount of \$12.3M over the 25-year life of the new energy efficient equipment. The Laboratory has also increased the employee share of medical premiums in an effort to control increasing health care costs.

OTHER:

General Support-Other category:

This entire cost category is made up of costs associated with general liability insurance. The costs fluctuate based on the level of claims in a given year.

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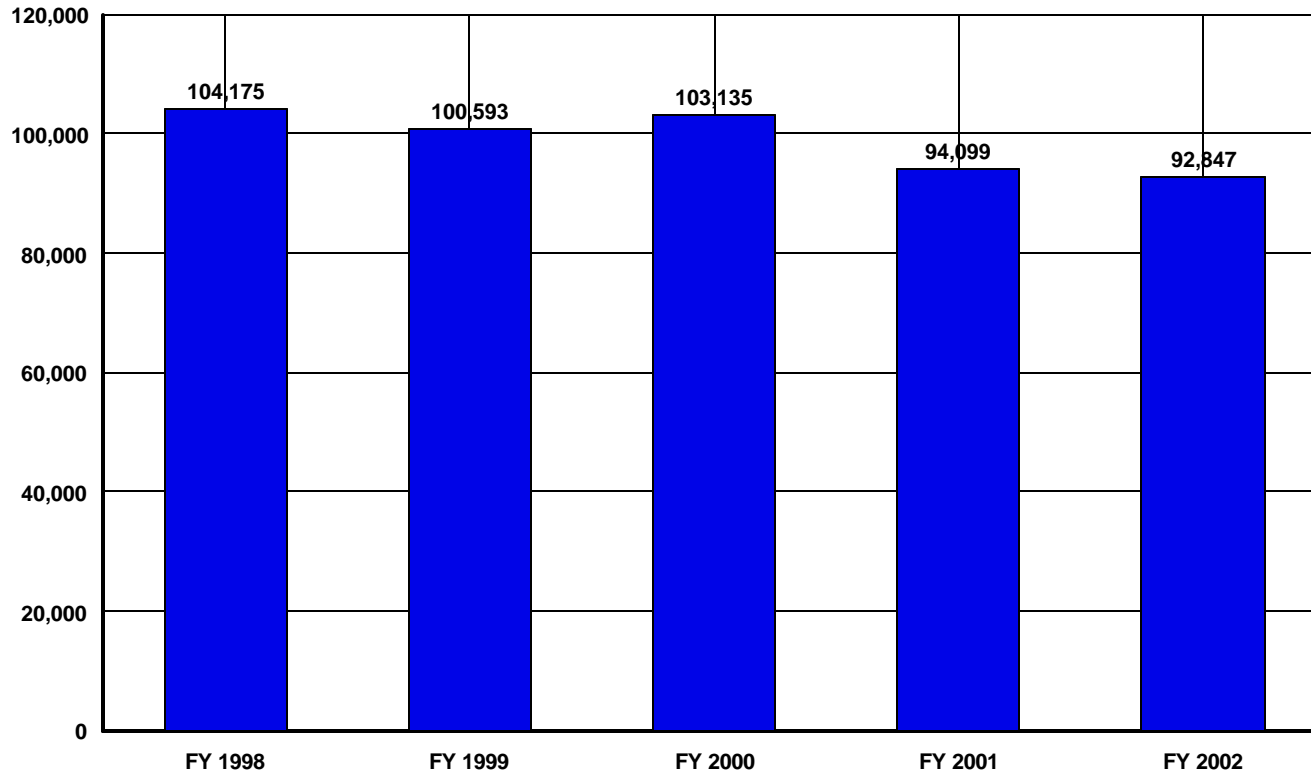
FY 2002

**Trends in Total Functional Support Cost Categories**

(\$ in 000's)

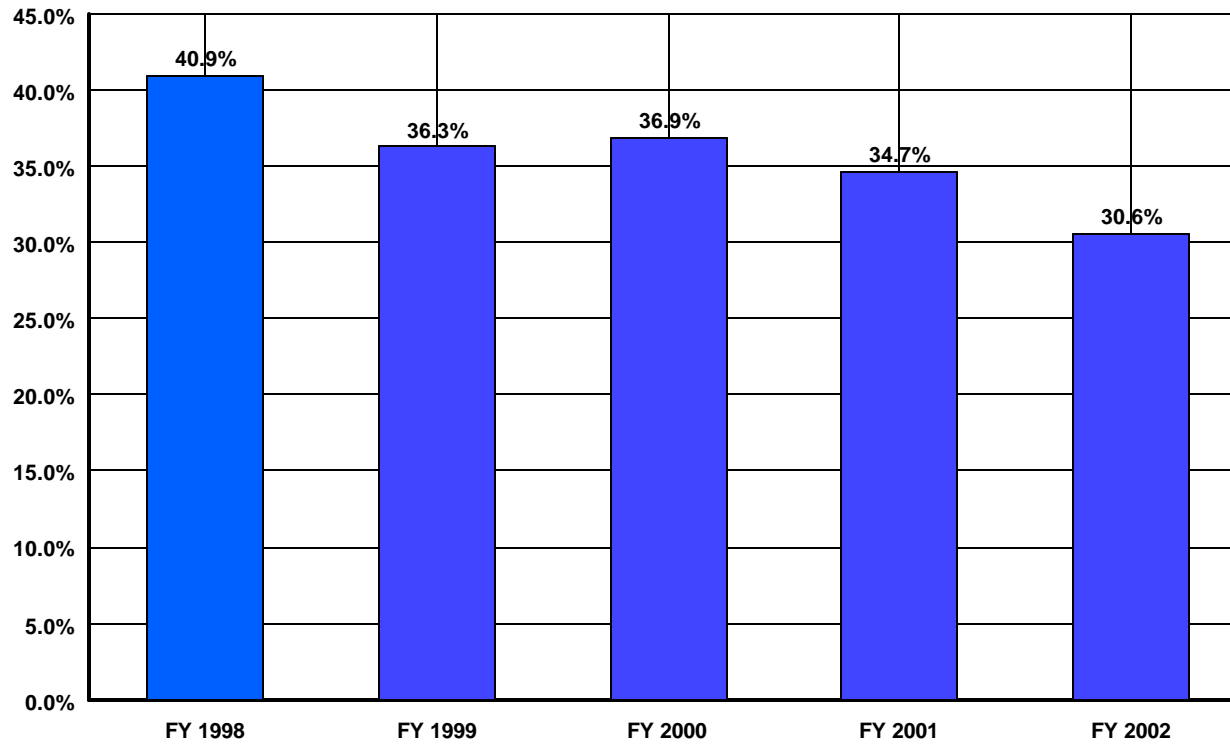
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	802	885	865	613	512	-290	-36.2%
HUMAN RESOURCES	5,089	5,691	5,397	4,962	4,584	-505	-9.9%
CFO	1,877	2,050	2,075	2,137	2,033	156	8.3%
PROCUREMENT	3,441	3,028	2,885	2,732	2,936	-505	-14.7%
LEGAL	2,243	1,389	928	-1,008	1,758	-485	-21.6%
CENTRAL ADMIN SERVICES	5,069	4,903	5,335	5,002	3,018	-2,051	-40.5%
PROGRAM/PROJECT CONTROL	6,105	5,914	5,572	5,164	5,392	-713	-11.7%
INFORMATION OUTREACH	3,147	2,484	3,399	2,491	2,173	-974	-31.0%
INFORMATION SERVICES	6,199	6,410	6,760	6,469	6,361	162	2.6%
OTHER	0	147	683	697	3,594	3,594	100.0%
<b>TOTAL GENERAL SUPPORT</b>	<b>33,972</b>	<b>32,901</b>	<b>33,899</b>	<b>29,259</b>	<b>32,361</b>	<b>-1,611</b>	<b>-4.7%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	605	587	634	522	1,794	1,189	196.5%
SAFETY AND HEALTH	15,845	15,152	15,158	15,496	7,629	-8,216	-51.9%
FACILITIES MANAGEMENT	3,530	2,811	2,577	2,598	2,087	-1,443	-40.9%
MAINTENANCE	13,733	14,767	13,104	12,097	18,492	4,759	34.7%
UTILITIES	4,650	4,286	5,162	6,023	10,167	5,517	118.6%
SAFEGUARDS AND SECURITY	2,807	2,795	3,121	4,075	4,674	1,867	66.5%
LOGISTICS SUPPORT	2,221	2,450	2,068	1,458	-85	-2,306	-103.8%
QUALITY ASSURANCE	4,796	4,965	5,220	5,135	5,235	439	9.2%
LABORATORY/TECHNICAL SUPPOR	5,277	4,310	4,167	4,371	3,127	-2,150	-40.7%
<b>TOTAL MISSION SUPPORT</b>	<b>53,464</b>	<b>52,123</b>	<b>51,211</b>	<b>51,775</b>	<b>53,120</b>	<b>-344</b>	<b>-0.6%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	15,490	14,500	17,636	11,830	6,554	-8,936	-57.7%
TAXES	1,249	1,069	389	1,235	812	-437	-35.0%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>16,739</b>	<b>15,569</b>	<b>18,025</b>	<b>13,065</b>	<b>7,366</b>	<b>-9,373</b>	<b>-56.0%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>104,175</b>	<b>100,593</b>	<b>103,135</b>	<b>94,099</b>	<b>92,847</b>	<b>-11,328</b>	<b>-10.9%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	150,349	176,681	176,485	177,383	210,824	60,475	40.2%
Capital Construction	0	199	0	0	0	0	0.0%
<b>TOTAL MISSION DIRECT</b>	<b>150,349</b>	<b>176,880</b>	<b>176,485</b>	<b>177,383</b>	<b>210,824</b>	<b>60,475</b>	<b>40.2%</b>
<b>Total Costs</b>	254,524	277,473	279,620	271,482	303,671	49,147	19.3%
<b>Total Costs w/o Construction</b>	254,524	277,274	279,620	271,482	303,671	49,147	19.3%
General Support % Total Costs	13.3%	11.9%	12.1%	10.8%	10.7%		
Mission Support % Total Costs	21.0%	18.8%	18.3%	19.1%	17.5%		
Site Specific % Total Costs	6.6%	5.6%	6.4%	4.8%	2.4%		
Total Support % Total Costs	40.9%	36.3%	36.9%	34.7%	30.6%		
Total Support % Total Costs w/o Co	40.9%	36.3%	36.9%	34.7%	30.6%		

## Total Support Costs (000's) Fernald – Fluor Fernald



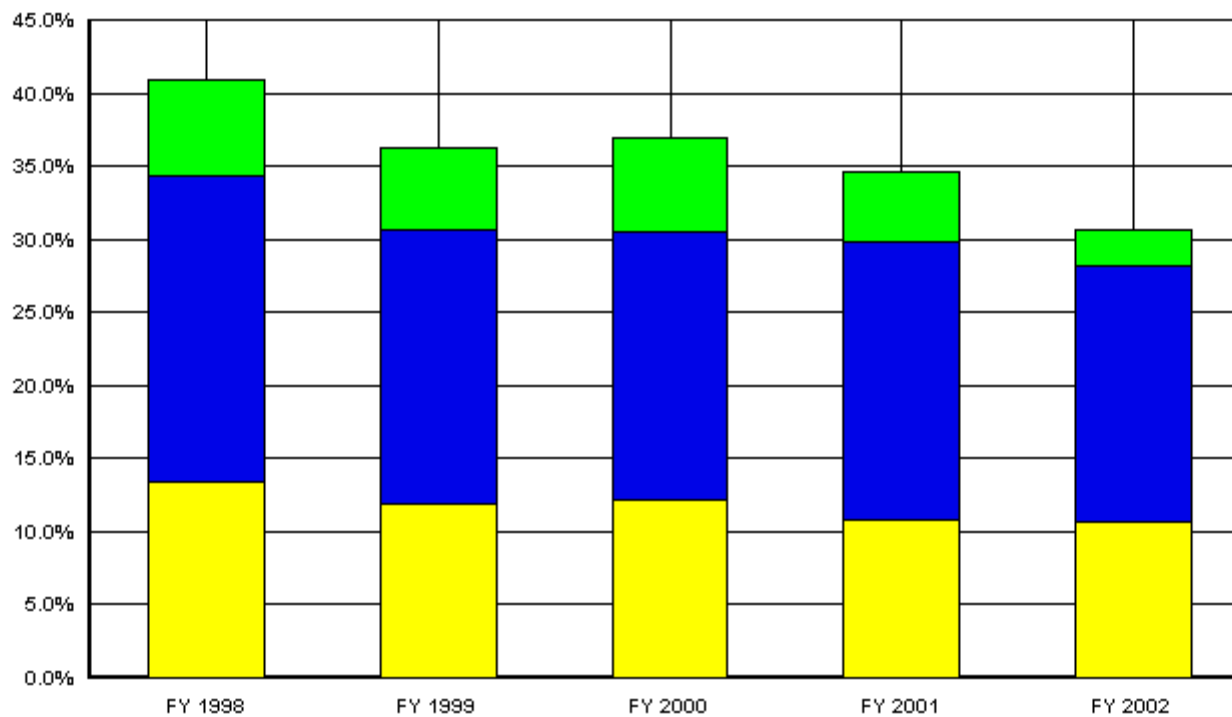
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	<b>104,175</b>	<b>100,593</b>	<b>103,135</b>	<b>94,099</b>	<b>92,847</b>

## Support Cost as a % of Total Cost Fernald – Fluor Fernald



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	40.9%	36.3%	36.9%	34.7%	30.6%

**US Department of Energy  
Percent of Support Category to Total  
Fernald**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	13.3%	11.9%	12.1%	10.8%	10.7%
<b>Mis Sup</b>	21.0%	18.8%	18.3%	19.1%	17.5%
<b>Site Specific</b>	6.6%	5.6%	6.4%	4.8%	2.4%



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**SITE PROFILE**  
**FERNALD ENVIRONMENTAL MANAGEMENT PROJECT – FLUOR FERNALD**

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## **I. SITE CHARACTERISTICS**

In 1952, Fernald Environmental Management Project (FEMP) began its uranium production mission as the Feed Materials Production Center in support of the nation's weapons program. During 37 years of operation, 462 million pounds of pure uranium metal products were produced for use in the production reactors at the Department of Energy's Hanford and Savannah River facilities. Production operations were suspended in 1989, and the facility was formally shut down in 1991.

The FEMP, near Cincinnati, Ohio, encompasses 1,050 acres and employs approximately 2,000 people. The FEMP site mission is now closure and focuses on environmental remediation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The final remedial actions include:

- Facility decontamination and dismantlement;
- Onsite disposal of the majority of contaminated soil and decontamination & dismantlement debris;
- Offsite disposal of the contents of the K-65 Silos 1 & 2;
- Offsite disposal of the contents of Silo 3;
- Offsite disposal of the contents of the waste pit material;
- Disposition of the nuclear product inventory, low-level, mixed low-level, and limited quantities of soil and D&D debris not meeting onsite waste acceptance criteria; and
- Treatment of contaminated groundwater to restore the Great Miami Aquifer.

Significant progress has already been made in remediating the Fernald site. For example, to date, the site has decontaminated and dismantled 16 of the 30 complexes. The seven-cell engineered On Site Disposal Facility has received 943,000 cubic yards of soil and debris in the five constructed cells. In addition, the cap has been placed on Cell 1. Fifty-two percent of the site area has been certified as meeting radiological and chemical cleanup levels. The waste pit remediation is approximately 65% complete, and 525,000 tons of material have been excavated, treated, and shipped offsite to Envirocare in Utah via rail. Disposition of Fernald's inventory of nuclear material product is 100% complete.

Approximately 975 acres of the 1,050-acre property will be restored to beneficial use as an undeveloped park, and approximately 75 acres will be dedicated to the footprint of the On Site Disposal Facility. Contaminated portions of the aquifer will be restored to beneficial use as a drinking water supply, and long-term stewardship actions will be put in place consistent with the final land use.

## **II. HIGHLIGHTS OF TRENDS**

From FY1997 to FY2001, the “General Support” cost category consistently averaged 32% of the total functional support costs. However, the General Support cost category did increase from 31% of the total functional support cost to 35% from FY2001 to FY2002. This is largely due to the two cost categories titled Legal and Other (includes severance pay). Increases in these two cost categories are a result of increasing litigation costs and severance pay over the last year resulting from the “Reduction in Force” and additional litigation costs related to subcontractor issues. This trend is expected to continue as the site approaches closure, and the number of employees continues to decrease. The “Mission Support” cost category increased from 50% of the total functional support costs to 57% since FY1997. Increases in the Maintenance and Utilities costs categories are mostly due to increased remediation activities in the Waste Pit Remedial Action Project. For example, the increased operations of the two dryers that prepare the excavated WPRAP waste to be loaded into railcars for offsite shipment have increased the gas purchases necessary for the site.

The percentage of total functional support costs (General Support Costs and Mission Support Costs) to total costs has steadily declined from 45% in FY1997 to 31% in FY2002. The overall support cost percentage decreased from 35% in FY2001 to 31% in FY 2002. More costs are being spent on “mission direct operations” directly supporting accelerated activities and support costs are being reduced.

## **III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR**

The “General Support” cost category includes Executive Direction, Human Resources, CFO, Procurement, Legal, Central Administrative Services, Program/Project Control, Information Outreach, Information Services, and Other (severance pay is the only cost category included in “Other”). Overall, the “General Support” cost category increased from \$29,259,000 in FY2001 to \$32,360,000 in FY2002. The FY2002 total “General Support” cost for FY2002 averages in between the low of \$29,259,000 in FY2001 and the high of \$34,382,000 in FY1997.

Within the total “General Support,” “Legal” and “Other” are the two major cost categories that demonstrated a significant increase from FY2001 to FY2002. Legal increased almost \$2M from FY2001 to FY2002. The Other cost category (severance pay) increased from \$697,000 in FY2001 to \$3,594,000 in FY2002. This is due to litigation costs and severance costs from the Involuntary Separation Program (Reduction in Force), plus other litigation costs resulting from subcontractor issues. This increasing trend will more than likely continue into FY2003. There was a slight increase of \$204,000 in Procurement from FY2001 to FY2002 due to initiating contracts for the Silos Project and the Waste Management Project. Central Administrative Services decreased almost \$2M from \$5,002,000 in FY2001 to \$3,018,000 in FY2002 due to the “reductions in force.”

The “Mission Support” cost category includes Environmental, Safety and Health, Facilities Management, Maintenance, Utilities, Safeguards & Security, Logistics Support, Quality Assurance, and Laboratory/Technical Support. Overall, the “Mission Support” cost category increased from \$51,776,000 in FY2001 to \$53,120,000 in FY2002. The total cost for “Mission

Support” in FY2002 is more aligned with FY1997, FY1998, and FY1999. FY2000 and FY2001 were approximately \$1,000,000 lower.

Within the total “Mission Support,” “Maintenance” and “Utilities” increased from FY2001 to FY2002 due to the increased activity in the Waste Pits Remedial Action Project and the Silos Project. Safeguards and Security increased from \$4,075,000 in FY2001 to \$4,674,000 in FY2002 as a result of increased security levels from SECON 5 to SECON 3 modified due to the tragic event of September 11, 2001. Laboratory/Technical Support decreased from \$4,371,000 in FY2001 to \$3,127,000 in FY2002 due to the work being subcontracted.

The “Site Specific” cost category includes Management/Incentive Fee and Taxes. Taxes in FY2002 were approximately \$25,000 lower than FY2001.

The only item included in the “General Support – Other” cost category is Severance Pay of \$697,000 in FY2001 and \$3,594,000 in FY2002.

#### **IV. COST SAVINGS INITIATIVE**

Savings will be recognized in the “General Support” cost category since the contractor re-evaluated space management requirements to reduce offsite lease requirements. More detail on the cost savings from this effort will be available in the future.

Savings will also be recognized in the “Mission Support” cost category. The Fernald site was able to reduce laboratory costs and demonstrate cost savings by subcontracting these activities outside the site. This initiative should continue to demonstrate cost savings on the same level in FY2003 also. Also, the On Site Disposal Facility Project reduced its intervening cover from four feet to two feet, and the cost savings from this initiative could potentially be \$20M. The cleanup of water levels and discharge levels to the Great Miami River were changed to 30 parts per billion from 20 parts per billion. This could result in potential savings of \$15M to the Department of Energy over three years.

Hanford

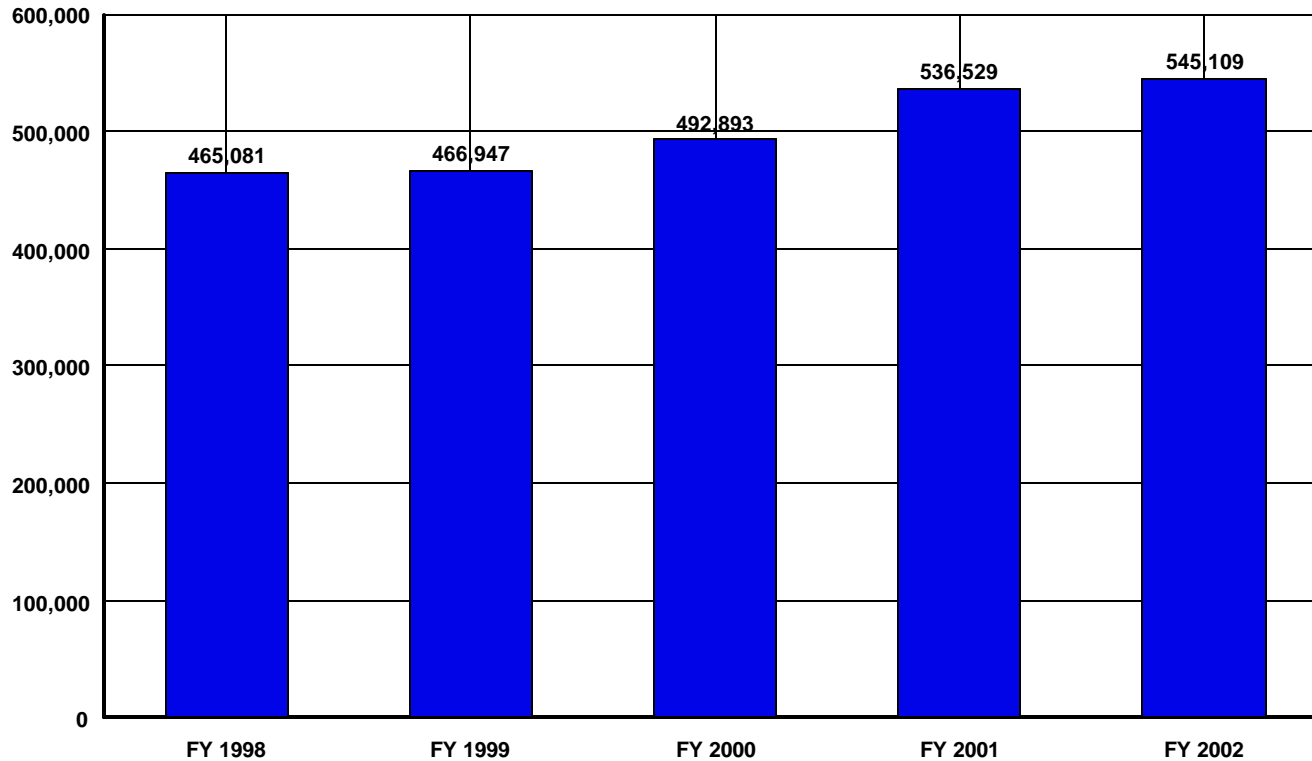
FY 2002

Trends in Total Functional Support Cost Categories

(\$ in 000's)

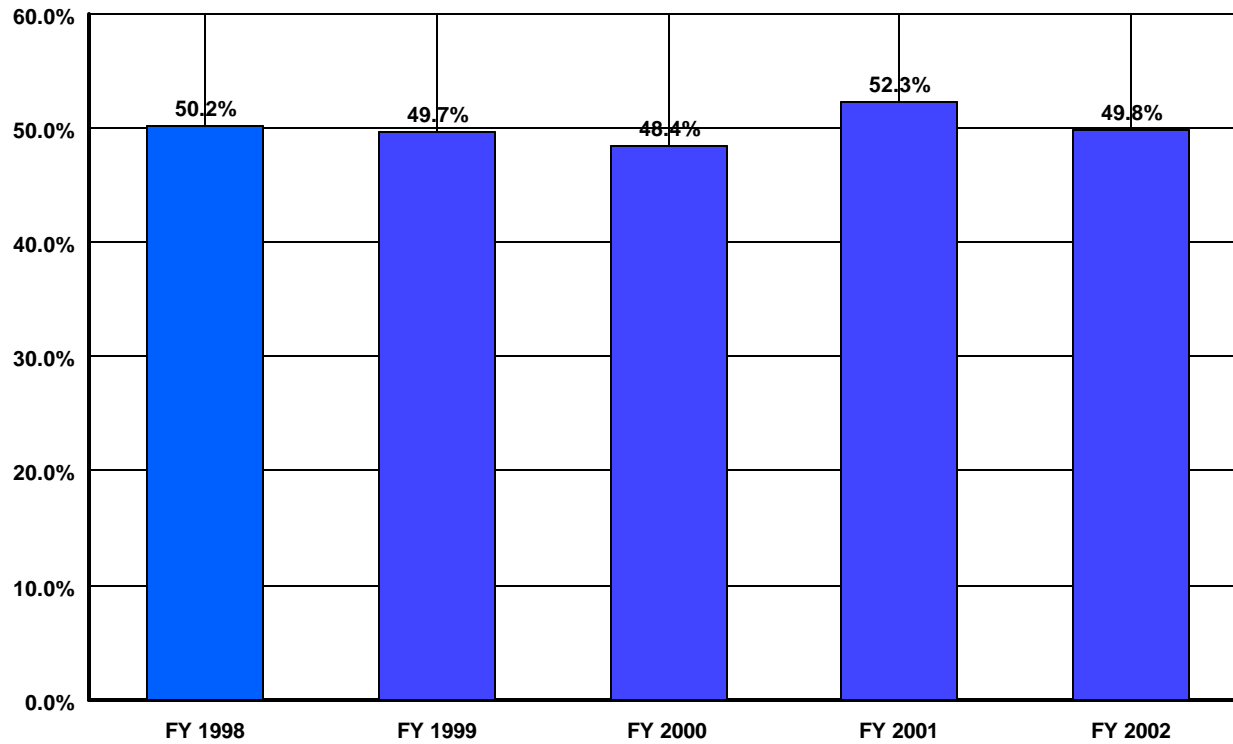
GENERAL SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
EXECUTIVE DIRECTION	6,237	4,897	8,928	9,270	8,855	2,618	42.0%
HUMAN RESOURCES	15,013	17,111	16,020	15,790	14,574	-439	-2.9%
CFO	8,838	9,631	6,535	10,462	9,260	422	4.8%
PROCUREMENT	6,998	10,681	10,350	11,112	9,967	2,969	42.4%
LEGAL	968	2,316	3,992	3,647	4,866	3,898	402.7%
CENTRAL ADMIN SERVICES	20,495	13,284	10,327	10,407	10,689	-9,806	-47.8%
PROGRAM/PROJECT CONTROL	23,863	24,532	30,329	26,434	27,840	3,977	16.7%
INFORMATION OUTREACH	3,957	4,595	6,255	4,825	4,904	947	23.9%
INFORMATION SERVICES	61,091	47,551	43,016	43,614	40,563	-20,528	-33.6%
OTHER	3,565	1,719	58	1,955	3,930	365	10.2%
<b>TOTAL GENERAL SUPPORT</b>	<b>151,025</b>	<b>136,317</b>	<b>135,810</b>	<b>137,516</b>	<b>135,448</b>	<b>-15,577</b>	<b>-10.3%</b>
MISSION SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
ENVIRONMENTAL	26,705	24,313	26,194	31,417	23,906	-2,799	-10.5%
SAFETY AND HEALTH	62,694	65,033	70,070	70,632	75,905	13,211	21.1%
FACILITIES MANAGEMENT	33,538	37,690	43,702	44,127	42,673	9,135	27.2%
MAINTENANCE	48,337	56,917	67,260	83,920	90,036	41,699	86.3%
UTILITIES	12,820	9,085	9,632	10,488	10,133	-2,687	-21.0%
SAFEGUARDS AND SECURITY	26,540	26,605	26,941	28,311	31,750	5,210	19.6%
LOGISTICS SUPPORT	15,583	16,732	19,041	20,513	19,117	3,534	22.7%
QUALITY ASSURANCE	6,094	11,054	7,473	7,772	9,279	3,185	52.3%
LABORATORY/TECHNICAL SUPPOR	24,323	26,398	23,358	30,935	30,929	6,606	27.2%
<b>TOTAL MISSION SUPPORT</b>	<b>256,634</b>	<b>273,827</b>	<b>293,671</b>	<b>328,115</b>	<b>333,728</b>	<b>77,094</b>	<b>30.0%</b>
SITE SPECIFIC	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
MANAGEMENT/INCENTIVE FEE	51,283	49,151	61,683	59,262	63,746	12,463	24.3%
TAXES	6,139	7,652	1,729	11,636	12,187	6,048	98.5%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>57,422</b>	<b>56,803</b>	<b>63,412</b>	<b>70,898</b>	<b>75,933</b>	<b>18,511</b>	<b>32.2%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>465,081</b>	<b>466,947</b>	<b>492,893</b>	<b>536,529</b>	<b>545,109</b>	<b>80,028</b>	<b>17.2%</b>
MISSION DIRECT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
Mission Direct Operation	369,673	390,438	452,715	416,160	490,510	120,837	32.7%
Capital Construction	91,810	82,834	73,000	73,694	58,732	-33,078	-36.0%
<b>TOTAL MISSION DIRECT</b>	<b>461,483</b>	<b>473,272</b>	<b>525,715</b>	<b>489,854</b>	<b>549,242</b>	<b>87,759</b>	<b>19.0%</b>
<b>Total Costs</b>	<b>926,564</b>	<b>940,219</b>	<b>1,018,608</b>	<b>1,026,383</b>	<b>1,094,351</b>	<b>167,787</b>	<b>18.1%</b>
<b>Total Costs w/o Construction</b>	<b>834,754</b>	<b>857,385</b>	<b>945,608</b>	<b>952,689</b>	<b>1,035,619</b>	<b>200,865</b>	<b>24.1%</b>
General Support % Total Costs	16.3%	14.5%	13.3%	13.4%	12.4%		
Mission Support % Total Costs	27.7%	29.1%	28.8%	32.0%	30.5%		
Site Specific % Total Costs	6.2%	6.0%	6.2%	6.9%	6.9%		
Total Support % Total Costs	50.2%	49.7%	48.4%	52.3%	49.8%		
Total Support % Total Costs w/o Co	55.7%	54.5%	52.1%	56.3%	52.6%		

## Total Support Costs (000's) Hanford – Fluor Daniel, Bechtel & CH2M Hill



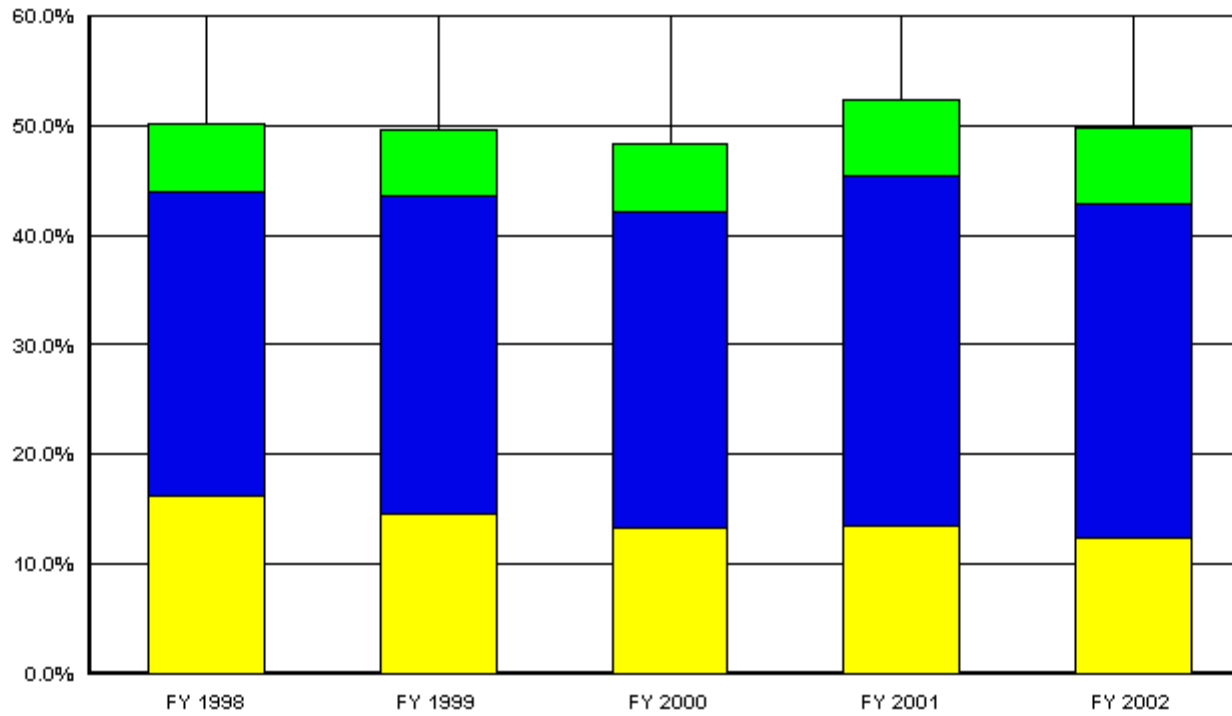
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	465,081	466,947	492,893	536,529	545,109

## Support Cost as a % of Total Cost Hanford - Fluor Daniel, Bechtel & CH2M Hill



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	50.2%	49.7%	48.4%	52.3%	49.8%

**US Department of Energy  
Percent of Support Category to Total  
Hanford**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	16.3%	14.5%	13.3%	13.4%	12.4%
<b>Mis Sup</b>	27.7%	29.1%	28.8%	32.0%	30.5%
<b>Site Specific</b>	6.2%	6.0%	6.2%	6.9%	6.9%

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**SITE PROFILE**  
**HANFORD – FLUOR DANIEL, BECHTEL & CH2M HILL**

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**I. SITE CHARACTERISTICS**

The Hanford Site, a 586-square mile tract of land near Richland, Washington, was established during World War II to produce plutonium for America's nuclear weapons arsenal. The site reached peak production in the 1960s when nine reactors were in operation at the Hanford Site. DOE halted weapons material production in the late 1980s and is now engaged in environmental cleanup efforts to deal with the legacy of radioactive and hazardous wastes that resulted from the plutonium production era.

The Hanford Site has two separate DOE offices. The DOE Office of River Protection (ORP) manages the program to remove the waste from the tanks, vitrify the waste for long-term storage or disposal, and close Hanford's tank farms. The prime DOE contract for these activities is held by CH2M Hill Hanford Group, Inc.

The DOE Richland Operations Office (RL) oversees the bulk of cleanup, including plutonium stabilization, cleanup of contaminated soil and buildings, stabilization and storage of spent nuclear fuel, and waste treatment and disposal. Fluor Hanford Inc. and Bechtel Hanford Inc. complete cleanup activities for RL. RL also oversees science and technology programs at the Pacific Northwest National Laboratory (PNNL). As requested beginning with the FY 2001 Functional Support Cost Report, the PNNL submittal is shown separately under "Pacific Northwest National Laboratory".

Hanford receives its funding primarily from Environmental Restoration and Waste Management (EM). The annual operating budget is approximately \$1.1B. In FY 2002, Hanford contractors employed approximately 6,500 employees.

The contractors manage and maintain over 2,000 facilities, many of which are 30 to 50 years old. The facilities include inactive nuclear reactors, administrative facilities, analytical laboratories, storage facilities, mobile offices, and trailers. The Hanford site struggles to maintain the older facilities with current standards and actively seeks ways to minimize its facility maintenance and repair costs.

Because of the large size of the Hanford site, DOE has been attempting to "reduce the government footprint" by accelerating cleanup efforts and transferring land to the Department of Interior. Three counties border the site: Benton, Franklin, and Grant. All three counties are paid an annual total of over \$3 million in Payments in Lieu of Taxes (PILT). These PILT payments allow counties to recoup some of the funds lost due to the property being owned by the government rather than tax-paying landowners.



The site continues to focus on its three primary objectives:

- Restore the River Corridor
- Transition the Plateau
- Prepare for the Future

The River Corridor encompasses approximately 210 square miles adjacent to the Columbia River. It is divided into three areas: the 100 Area, comprising nine shut-down plutonium production reactors and support facilities; the 300 Area, comprising manufacturing and research facilities; and the 600 Area, encompassing the mostly vacant land between the 100 and 300 Areas. Multiyear efforts are underway to remove sodium systems from Hanford production legacy.

The transition of the Plateau refers to an area in the center of the Hanford site, which includes the 200 Area and 400 Areas and is the location of Hanford's longer-term missions of waste treatment, storage and disposal operations. This is the location of the Fast Flux Test Facility, which DOE decided to shut down, but is now in a stand-by mode for shut down due to stakeholder intervention.

Hanford is focusing on the future, with efforts in Asset Transition and HAMMER training. DOE contractors have established a program that puts DOE assets to work for the future. The Asset Reinvestment Program transfers usable, but excess government assets to the private sector. The Hazardous Materials Management and Emergency Response (HAMMER) training and education center is a one-of-a-kind worker-safety-training facility that uses hand-on realistic props and settings to save lives, reduce injuries, protect the environment and increase worker productivity. HAMMER comprises an 80-acre main campus and a 10,000-acre law enforcement campus. HAMMER achieved an approximate 13% increase of student training days in 2002. This growth is partially attributable to the increased training needs for the construction workers of the Waste Treatment Plant, but is also expanding its role in the training related to Homeland Security.

## II. HIGHLIGHTS OF TRENDS

The Hanford site has had the following trends for Functional Support Costs:

<b>Year</b>	<b>Total Functional Support Costs</b>	<b>Total Functional Support Costs as a % of Total Costs</b>
1998	\$465,081	50.2%
1999	\$466,947	49.7%
2000	\$492,894	48.4%
2001	\$536,529	52.3%
2002	\$545,109	49.8%

As major capital projects are completed at Hanford (Spent Nuclear Fuel Project, Plutonium Finishing Plant, and others), operations have begun and can be seen as “Capital/Construction” costs have been significantly reduced on the Functional Support Cost Report.

One prime Hanford contractor cancelled their Site Services subcontract and absorbed the scope within its own contract. This eliminated the tiered effect of several organizations. For example, a significant FY 2002 cost reduction was shown in the Procurement area. The procurement scope for all site services was absorbed into the existing prime contractor's organization.

One prime Hanford contractor has been authorized for an additional \$50M in funding for FY 2003 to further accelerate retrieval and closure activities. It is anticipated that this trend will continue for this contractor. The majority of this additional funding is expected to be reported in FY 2003 as Environmental Management (EM) mission direct cost.

### Major Cost Drivers that may Cause a Site's Costs to Appear Out of Line with Similar Sites

The FMSIC functional cost guidance states that the contractor that originates the costs should report functional costs. With several major contractors at Hanford (and another laboratory contractor reflected separately in the Functional Support Cost Report), the costs could appear "out of line" with similar sites in certain categories, due to the fact that some functions have been centralized from a site perspective and reflected under the Hanford totals. Additionally, the geographic location and size of the site requires the performance of many fundamental infrastructure support activities that may not be required at smaller sites.

## **III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR**

Updated Functional Support Cost guidance requested a summary of what types of cost are included in each cost category, as well as an explanation of significant changes. The Hanford site had major variances in six categories. Those significant variances are explained in detail.

### **Executive Direction**

This category includes costs associated with the offices of the President, along with Systems Engineering, support to the Technical Advisory Panel, and Strategic Planning and Integration activities. There was a -4%, or (\$415K), variance in this section and no significant changes are expected in the future.

### **Human Resources**

This category includes costs associated with the Human Resource department, operation of the company employee concerns program, operation of the central training services organization for the Hanford site, and labor relations. There was an -8%, or (\$1,216K) change, resulting primarily from \$850K of reductions to central training costs through the renegotiation of the training delivery contract and contractors procuring directly with the primary training provider. Moderate growth is expected in this category, as four additional FTEs should be hired in FY 2003 to deal with expanding employee issues.

## **Chief Financial Officer**

Category represents costs associated with the Payroll, Accounts Payable, Travel and Treasury, General Accounting, Financial Compliance, Benefits Accounting, Indirect Planning and rate development, Funds Control, Internal Audit, system management and integration support of the Business Management System. There was a -7%, or (\$702K) in this category and current levels are anticipated to continue.

## **Procurement**

This category represents costs associated with the administration of the prime contract, purchasing, sub-contracting, price reasonableness determinations, negotiations, and acquisition support to the projects. There was a -10%, or (\$1,145K) in this category. This reduction is the result one contractor eliminating an entire Procurement and Contract Administration organization from one of its subcontracts and absorbing the workload into the existing Procurement organization. No significant change to current levels anticipated in the future.

## **Legal**

This category represents costs associated with centralized legal services and the associated legal fees paid to outside legal firms for support and expertise in legal matters. This category increased 33%, or \$1,219K. Approximately \$1M of the change is the result of an increasing number of litigations that required the use of outside counsel. Another \$160K is the result of increased subcontractor costs related to performance of environmental legal studies. Future estimates for this category are dependent upon the amount of legal activity.

## **Central Administrative Services**

This category represents costs associated with Records Management and Document Control, Record Storage, and Reproduction/Duplicating Services, and management and integration support costs to the Document Management Systems. This category changed 3%, or \$282K. Future cost reductions may be possible due to one contractor's implementation of an integrated document management system and virtual knowledge center.

## **Program/Project Planning & Control**

This category represents costs associated with centralized and project specific planning, scheduling, budgeting, and performance reporting. It also includes costs of matrixed resource and technical support to projects, operations and services in the areas of project controls, estimating, project management, and construction management. This category changed 5%, or \$1,406K. No significant changes to current levels are anticipated.

## **Information/Outreach Activities**

This category represents costs of the Communication and Public Relations organizations, including stakeholder relations, support to community programs, production of the Hanford Reach site newspaper, and economic transition and technology development activities. This category changed 2%, or \$79K, and no significant changes to current levels are anticipated.

## **Information Services**

This category represents costs associated telephone network operations, telecommunications maintenance, telecommunication infrastructure, workstation maintenance, and end user support, radio and pager services, delivery of interplant and U.S. Postal mail to all Hanford customers, and for system analyst/programmer support for the operation, maintenance, and enhancements to many site and program specific systems and databases. This category changed -7%, or (\$3,051K.) No significant changes to current levels are anticipated.

## **Other**

This category increased 101%, or \$1,975K. At present, this category includes \$3.6M incurred for the distribution of retiree medical costs from the site-wide plan to the various participating contractors. This is offset by a decrease of \$1.5M from last year's Workforce Restructuring and Reduction of Force costs.

## **Environmental**

This category represents costs associated with the Environmental Compliance program that provides management and leadership for resolution of site-wide regulatory issues; technical support to management and facilities on overall FH National Environmental Policy Act/State Environmental Policy Act (NEPA/SEPA) activities; coordination of environmental inspections, release reporting, and permitting; review environmental documentation and coordinate compliance issue resolution; performance of air and water permitting coordination and documentation consolidation for the Hanford Site; preparation of documentation required for monitoring and reporting hazardous waste and chemical information; performance of Resource Conservation and Recovery Act (RCRA) permitting coordination and documentation consolidation for the Hanford Site; monitoring liquid and gaseous effluents, and monitoring the environment immediately around the facilities and waste sites. This category decreased 24%, or (\$7,511K), and no significant change to current levels are anticipated. FY 2002 changes included:

- Reductions from FY 2001 costs of \$3.6M are related to reductions in subcontracts, as directed by DOE-RL.
- Approximately \$1.1M was reduced by the elimination of an Environmental Compliance organization at one subcontractor. The existing prime contractor staff absorbed the Environmental Compliance activities.
- In FY 2002, costs were reduced \$1.0M related to revegetation of the site following the FY 2001 Hanford Range Fire.

- Offsite Hazardous Waste was moved from the Environmental functional support cost account to Mission Direct in FY02. It was in environmental in FY 2001 for \$850K. Same account in FY02 was \$800K.

## **Safety and Health**

This category represents costs associated with safety and health operations that provide support to effectively avoid injuries and occupational illnesses and incidents while maintaining compliance with applicable requirements. S&H activities include Radiation Protection; Occupational Safety and Health; Nuclear/Criticality Safety programs; and Regulatory Compliance. It also includes Hanford Fire Department Services including fire suppression, emergency medical services, ambulance support, technical rescue, hazardous materials identification, containment, and stabilization, fire prevention and code compliance, ignitable and reactive waste site inspections, fire investigation and inspection, employee fire safety education, functional testing, and corrective and preventive maintenance of life safety fire protection systems and operability assurance and factory repair/maintenance of Site-wide respiratory protection equipment. This category also includes the Emergency Operations Center, Joint Information Center and Occurrence Notification Center, site exercises, site siren system maintenance, and site EP plans/procedures and off site interface support with local and regional emergency preparedness organizations. This category also includes various project specific safety and health activities. This category changed 7%, or \$5,273K. No significant changes to current levels are anticipated in the future.

## **Facilities Management**

This category represents costs associated with providing building management, space planning and support services to approximately 3000 employees located in government owned and leased facilities. It includes coordination, integration and optimization of the use of general-purpose facilities among the various site contractors' and operating projects' plant engineering, support and facility costs. This category changed -3%, or (\$1,454K) and no significant changes to current levels are anticipated in the future.

## **Maintenance**

This category represents costs associated with surveillance and maintenance of structures, systems, components, and processes to ensure operation within the approved safety and compliance requirements, including preventive maintenance and calibrations, repair of failed and malfunctioning equipment, walk down of safety systems, equipment and facility grounds, routine radiological surveys and procedure maintenance as required to maintain a safe and compliant facility. This category includes preventative and corrective maintenance activities for double shell tanks, single shell tanks, and deactivated facilities, including field/shop equipment calibrations and testing. Also included is preventative maintenance and repair of Hanford site Vehicle/Equipment Fleets and all other identified program maintenance activities within the facilities/plants/programs. This category changed 7%, or \$6,116K, and no significant changes to current levels are anticipated in the future.

## **Utilities**

This category represents costs associated with providing a safe and reliable source of raw and potable water for customers on the Hanford Site including the maintaining the source water acquisition facilities, transmission mains, Washington State Department of Health licensed Group A water treatment plants, and potable and non-potable water distribution systems. It also includes compliant operations of Hanford sanitary sewer systems as mandated by the Washington Dept. of Health and the Washington State Dept. of Ecology. Other activities include flow data tracking, drain field rotations, filter inspection/cleaning, drain field monitor port inspections, tank pumping, electrical component inspection, lagoon surveillance and manipulation, and alarm response; electricity for customers on the Hanford Site, including operation, maintenance, engineering, and configuration management of the Hanford site. The cost of electricity is not included in this category. This category changed -3%, or (\$355K), and no significant changes to current levels are anticipated in the future.

## **Safeguards and Security**

This category represents costs associated with ensuring appropriate levels of protection for Project Hanford facilities against unauthorized access; theft or diversion of special nuclear materials (SNM); acts of sabotage; espionage; theft or loss of classified matter; theft or loss of government property; and other hostile acts that may cause unacceptable impacts on national security, or on the health and safety of employees, the public, or the environment. The Hanford Patrol (Patrol) armed protective force protects against the loss of special nuclear material (SNM), classified matter, and other adversarial acts. Protective force coverage is provided on a 24-hour basis. The Physical Security Protection System Program ensures compliance with requirements established in DOE M 5632.1C-1, Manual for Protection and Control of Safeguards and Security Interests and RLID 473.1, Protection of Safeguards and Security Interests. The Information Protection Program implements specific procedures to protect both classified and unclassified information products. The Project Hanford Operations Security (OPSEC) program implements and maintains procedures to assess business practices, and verifies how well those practices protect sensitive unclassified information. The Classified Computer Security Program ensures protection of classified information processed on classified information systems against unauthorized disclosure or compromise. The Personnel Security organization ensures compliance with requirements in CRD 472.1B, 'Personnel Security Activities' and 10 CFR 710, Subpart B, "Criteria and Procedures for Establishment of the Personnel Security Assurance Program and Determinations of an Individual's Eligibility for Access to a Personnel Security Assurance Program Position." The Material Control and Accountability (MC&A) organization ensures compliance with requirements in CRD 474.1, 'Control and Accounting of Nuclear Materials' and DOE M 474.1-2, 'Nuclear Materials Management and Safeguards System Reporting and Data Submission.' This category increased 12%, or \$3,439K, related to enhanced security at the Hanford site.

## **Logistics**

This category represents costs associated with providing technical support on the Hanford Site for the transportation and packaging of hazardous materials and hazardous wastes, including

those that are classified as radioactive. This also includes centralized shipping, receiving, storage, issuance, and distribution of materials, parts, and components required to support the Hanford Site, Warehouse Operations, and transportation needs for the Hanford Site which consists of heavy equipment operators (road graders, excavators, dump tankers, tractor/trailers, etc;), stores delivery (1,000,000 packages monthly to over 1,200 customers on Site, approximately 3,600 office relocations annually, approximately 50 to 60 courier stops per day, and taxi service for approximately 4,000 passengers per month). Also included are site-wide services for the management of recyclable materials, property management in accordance with DOE regulations, maintaining appropriate levels of general supplies, critical spare parts, capital spare parts and project related materials to ensure the timely availability of items to support the Site mission, and provides processes, programs, and administrative controls for the identification, re-utilization, and disposal of personal property assets no longer required in support of the Hanford missions. This category changed -7%, or (\$1,396K) and no significant changes to current levels are anticipated in the future.

### **Quality Assurance**

This category represents costs associated with providing a centralized program to ensure that requirements are established to facilitate compliance to 10 CFR 830.120 and DOE Order 414.1 throughout Fluor Hanford. Includes development and maintenance of the documentation system that flows QA requirements from the QA office to the projects. Also includes acquisition verification service that maintains and updates the evaluated suppliers qualifications, ensures procured items meet established requirements and conducts inspections on procured items. Also includes independent assessments of Hanford projects to management, as required by regulation and contract, to identify strengths and correct weaknesses affecting performance. Category also includes project specific quality assurance activities. This category increased 19%, or \$1,507K. This increase is the result of \$400K additional Independent Assessment work scope. Additionally, \$1.2M that was shown as mission direct in FY 2001 has been moved to the Quality Assurance functional support cost category. No significant changes are anticipated in the future.

### **Laboratory/Technical Support**

This category includes field acquisition of high-level tank waste core, grab and vapor samples in support of tank waste capacity. Also included are operation of the laboratories for waste and environmental sample analysis, field and sampling services, and expertise in chemistry and data quality. The Engineering Laboratory includes mechanical, electrical, chemical, and instrumentation prototype development and engineering analysis capabilities for all major programs at Hanford and to other programs in the DOE complex. It includes monitoring equipment and supplies necessary for the Hanford Fire Department, industrial hygienists, and other qualified personnel to adequately assess chemical, physical, and biological hazards (excluding ionizing radiation). Crane and Rigging Services are included, such as management of mobile crane fleet, technical expertise for critical rigging operations on site, heavy hauling services site-wide, primary structural ironwork fabrications, construct, erect, and maintain scaffold framework site-wide, planned maintenance and test of cranes. Fabrication activities include the management to direct the program, gather and disseminate information, assist with the development of strategic plans, mentor staff, prepare and monitor budgets, advise and assist

management staff meeting and training for workforce personnel along with shop clean up and support from others. This category changed 0% and no significant change to current levels anticipated in the future.

### **Management/Award/Incentive Fee**

The amount reported includes contractor fee and corporate G&A. This category has changed 7%, or \$3,984K. Changes may occur in this area related to negotiation of new Hanford contract in FY 2003 and other contract changes.

### **Taxes**

In prior years, the functional category "Taxes" represented only the Business & Occupation tax payments made. Washington state Sales and Use Taxes were spread throughout all cost categories. Effective with FY01 reporting, the Sales and Use Taxes have now been pulled into the Taxes category. This category increased 5%, or \$551K.

### **LDRD**

There is no LDRD reported on the Hanford report.

## **IV. COST SAVINGS INITIATIVES**

The 2002 Hanford Performance Management Plan outlines how "cleanup of the Hanford Site... accelerate[s] from 2070 to 2035, and possibly as soon as 2025". The Richland Operations Office and the Office of River Protection have outlined significant changes in the way business is to be completed -- driving the focus from annual cost reduction exercises to multi-year contractual performance incentives for work acceleration. The results from this strategy are significant -- annual, piecemealed cost savings are replaced with accelerated site closure and long-term, strategic cost reductions.

Contractually mandated performance incentives are included in all major prime Hanford contracts. Aggressive funding and schedule objectives have been required to meet accelerated mission objectives. Some contractor baselines represent a significant acceleration of activities with fewer resources than the currently approved baseline. Hanford contractors have worked individually to achieve savings, as well as coordinating and consolidating efforts when all parties can achieve savings.

According to the 2002 Hanford Performance Management Plan, RL and ORP have implemented improvements to the overall acquisition strategy and the approaches used to manage contracts, by improving the use of objective performance incentives, decreasing subjectivity, minimizing barriers to get work done, and eliminating non-value-added requirements. The following improvements, which are taken directly from the 2002 Hanford Performance Management Plan, are key to this new strategy:

- Improve the quality of our contract solicitation process.



- Achieve contract clarity in the areas of work scope, applicable regulatory requirements, and to the extent possible, quantitatively define end points. We will incorporate risk-based approaches when we cannot provide quantitatively defined end points.
- Clearly identify the nature and extent of uncertainty and risks and align those with the acquisition strategy and contract structure. We will require contractors to identify and manage risk, evaluate their risk management control processes as part of the selection process, and monitor their implementation of those processes during the performance period.
- Increase our emphasis on real risk reduction by focusing contractor fees on key end points and essential interim milestones and by minimizing the use of subjective performance measures.
- Translate DOE orders and requirements into clear statements more easily understood by the private sector.
- Further implement clear and disciplined processes for DOE contract administration and work oversight, and incorporate any additional requirements into the contract as appropriate.
- Improve our contractor oversight, including work-monitoring practices, and ensure technical capability of government monitors to carry out contractor oversight responsibilities.
- Effectively integrate our contract management processes with corresponding processes for project management, safety oversight management, and financial management.
- Increase use of information from contractor-integrated assessment to detect, measure, and analyze performance and provide constructive feedback.

An example of this improved contracting strategy is outlined below. A Hanford contract has been modified to include the following work scope accelerations, which equate to an overall reduced contract cost profile of \$1.3 Billion:

	<b>As negotiated at various times prior to 12/01</b>	<b>As Negotiated in 12/01</b>	<b>As Negotiated in 11/02</b>
Deactivation of K Basins and transfer to River Corridor Contractor	July 2007	September 2006	October 2005
Complete de-inventory and associated safeguards & protected area reduction of PFP	May 2004	May 2004	February 2004
Complete deactivation of all PFP facilities	September 2016	September 2007	September 2006
Place all Cesium/Strontium capsule packages into dry storage	September 2018	September 2008	September 2006
Total Contract Cost Profile (includes EM and non-EM)	\$4.2B	\$3.8 B	\$2.9 B

The following are some examples of recent savings initiatives at Hanford contractors:

- **\$0.2M savings from waste Minimization activities by redeployment of material/equipment and recycling.**
  1. Concrete blocks from demolition of DR Reactor were used as clean backfill at the 100-H Clearwell remediation site.
  2. 832 sensor tubes were sent to the DOE Homeland Defense Equipment Reuse Program.
  3. 400 feet of chain link fence from a waste site was used at ERDF.
  4. Electronic scrap was recycled.
  5. Transferred Aquaset<sup>R</sup> absorbent not needed to another contractor.
  
- **\$1.5M savings in 200 Area groundwater work plan development, site investigation, and soil sampling. These savings were obtained by utilizing technology development applications (such as geo probe which saved drilling costs), preparing documentation with fewer personnel, and sending samples offsite for lab analysis (results of competitive/commercial procurement).**
  1. A geo-probe was used at the CW-5 waste site. Savings at the site included CW-5 drive casing installation and de-mob, CW-5 sample management, and borehole work.
  2. On HR-3 groundwater treatment work, savings resulted from combining samples, utilizing less labor, and using less material and equipment than planned.
  3. Labor and sampling reductions at the 200 Area ZP-1 and ZP-2 pump and treat systems operation resulted in savings.
  4. Groundwater long-term monitoring and maintenance had less sampling and waste handling than anticipated.
  5. Costs for preparing the System Assessment Capability computer software were reduced by applying the design and hardware requirements from a similar system.
  6. Reductions in the number of sampling points, surveys, and site mobilization at the PW-1 investigative site.
  7. Labor reductions in preparing documentation/work plans related to remediation roadmap, software users guide, IS-1 Operable Unit RI/FS work plan, and TW-1 risk assessment.
  
- **\$1.0M savings from soil remediation performed with fewer resources by consolidating waste sites, reducing need for planned overtime, and reduced soil sampling lab costs.**
  1. Fewer resources were needed during B/C Pipeline excavation, retention basin excavation, and outfall remediation due to mild winter weather and various excavation difficulties that were expected but did not develop. This resulted in reduced Task Lead support, reduced shipper support from fewer material purchases, and reduced administrative support.
  2. Reduced project management planned overtime at FR-1 Near-River Liquid Waste Sites remediation due to favorable weather and site conditions; less overburden removed at two F Area sites than anticipated.
  3. Reduced in-process and closeout sampling and analysis costs due to consolidating several FR-1 waste sites (separate sampling campaigns were not required).
  4. Contractor demobilization costs at the FR-1 remediation were re-negotiated, resulting in savings.

5. Reductions at N Area remediation sites in Fiber Bond Matrix application, overtime not required for Que water application, and reduced sampling costs. Mild winter weather contributed additional savings.
- **\$0.4M savings in site-wide herbicide applications from reducing the number of radiation surveys required and efforts performed with fewer personnel than planned.**
    1. RARA Interim Stabilization work was completed with fewer resources due to favorable site conditions and fewer radiation surveys performed than planned.
    2. Surveillance and maintenance savings from Regulator approval of reduced surveillance frequency at four large canyon facilities.
    3. Consolidation of two regulatory documents into one relating to B Reactor hazards mitigation.
    4. Reduced tractor and equipment problems during herbicide application due to increased preventative maintenance activities.
    5. Savings resulted from less repair cost for Samcons unit at the PUREX facility.
    6. Upfront planning and training fostered labor and material reductions during B Plant filter changeout.

Idaho

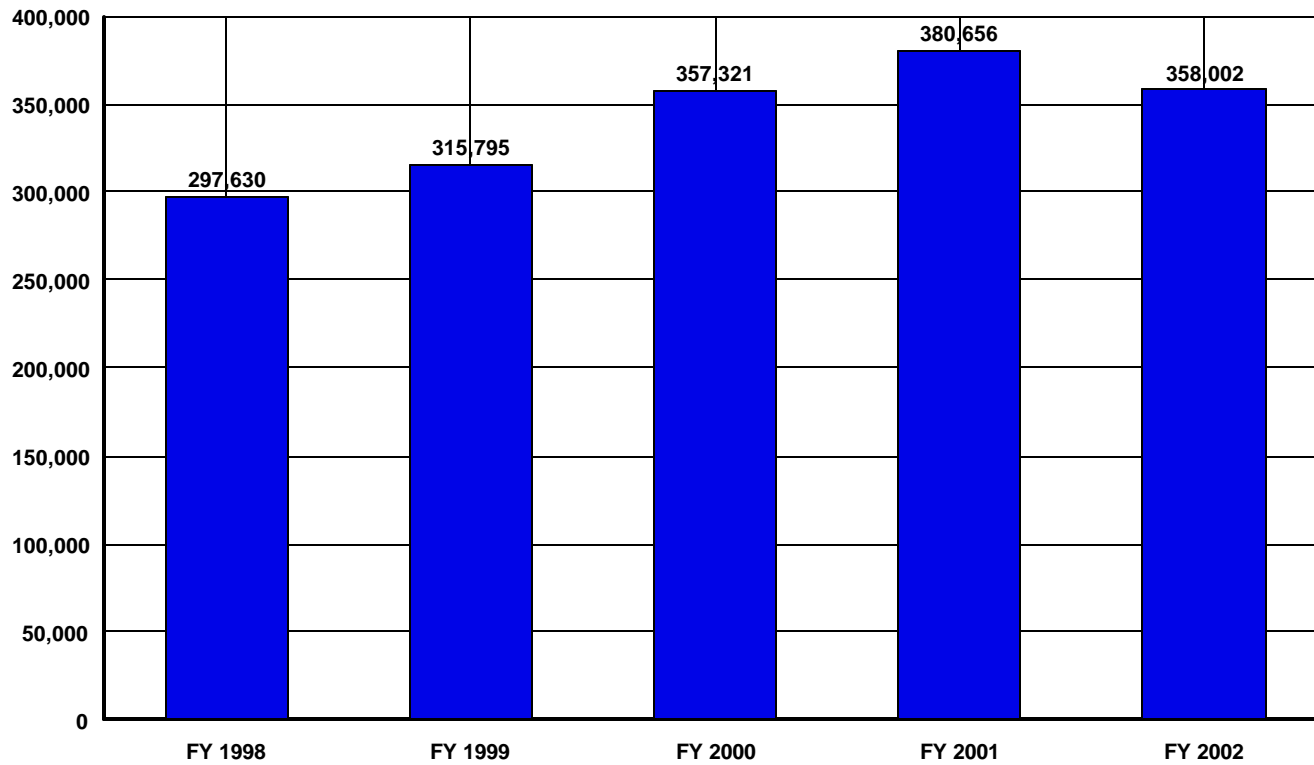
FY 2002

Trends in Total Functional Support Cost Categories

(\$ in 000's)

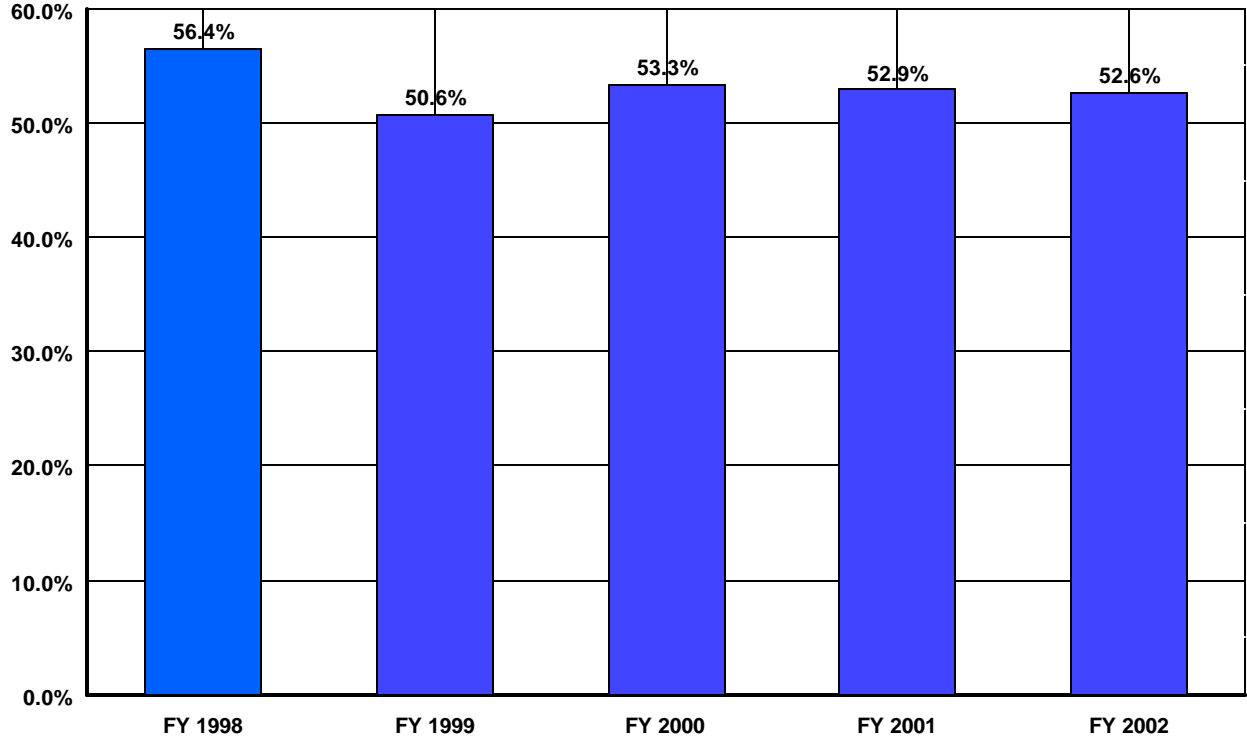
GENERAL SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
EXECUTIVE DIRECTION	12,838	19,565	9,166	10,924	12,715	-123	-1.0%
HUMAN RESOURCES	7,460	6,393	10,936	10,127	9,510	2,050	27.5%
CFO	6,122	5,143	5,046	9,438	5,918	-204	-3.3%
PROCUREMENT	4,883	4,415	7,533	5,975	5,867	984	20.2%
LEGAL	2,857	4,280	7,681	9,479	9,341	6,484	227.0%
CENTRAL ADMIN SERVICES	11,376	12,829	17,846	17,145	15,147	3,771	33.1%
PROGRAM/PROJECT CONTROL	6,174	6,177	13,791	13,650	12,033	5,859	94.9%
INFORMATION OUTREACH	18,046	18,342	17,800	11,922	9,591	-8,455	-46.9%
INFORMATION SERVICES	28,887	28,096	31,932	34,431	27,168	-1,719	-6.0%
OTHER	301	10,598	162	-764	2,026	1,725	573.1%
<b>TOTAL GENERAL SUPPORT</b>	<b>98,944</b>	<b>115,838</b>	<b>121,893</b>	<b>122,327</b>	<b>109,316</b>	<b>10,372</b>	<b>10.5%</b>
MISSION SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
ENVIRONMENTAL	12,419	10,336	10,383	10,107	8,740	-3,679	-29.6%
SAFETY AND HEALTH	37,976	44,803	50,497	46,354	47,705	9,729	25.6%
FACILITIES MANAGEMENT	12,942	13,617	19,217	18,927	18,516	5,574	43.1%
MAINTENANCE	45,468	49,015	61,416	63,443	53,315	7,847	17.3%
UTILITIES	12,700	12,000	8,911	8,413	10,964	-1,736	-13.7%
SAFEGUARDS AND SECURITY	19,733	20,280	22,364	21,693	21,514	1,781	9.0%
LOGISTICS SUPPORT	12,764	11,896	10,836	11,517	10,104	-2,660	-20.8%
QUALITY ASSURANCE	8,261	6,979	15,739	15,178	12,252	3,991	48.3%
LABORATORY/TECHNICAL SUPPOR	5,941	6,459	6,844	7,812	9,264	3,323	55.9%
<b>TOTAL MISSION SUPPORT</b>	<b>168,204</b>	<b>175,385</b>	<b>206,207</b>	<b>203,444</b>	<b>192,374</b>	<b>24,170</b>	<b>14.4%</b>
SITE SPECIFIC	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
MANAGEMENT/INCENTIVE FEE	23,613	12,578	22,342	30,891	33,778	10,165	43.0%
TAXES	-1,562	1,260	2,640	3,375	3,237	4,799	307.2%
LDRD / PDRD / SDRD	8,431	10,734	4,239	20,619	19,297	10,866	128.9%
<b>TOTAL SITE SPECIFIC</b>	<b>30,482</b>	<b>24,572</b>	<b>29,221</b>	<b>54,885</b>	<b>56,312</b>	<b>25,830</b>	<b>84.7%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>297,630</b>	<b>315,795</b>	<b>357,321</b>	<b>380,656</b>	<b>358,002</b>	<b>60,372</b>	<b>20.3%</b>
MISSION DIRECT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
Mission Direct Operation	196,074	260,589	281,047	308,202	296,072	99,998	51.0%
Capital Construction	33,730	47,107	31,823	30,673	26,100	-7,630	-22.6%
<b>TOTAL MISSION DIRECT</b>	<b>229,804</b>	<b>307,696</b>	<b>312,870</b>	<b>338,875</b>	<b>322,172</b>	<b>92,368</b>	<b>40.2%</b>
<b>Total Costs</b>	<b>527,434</b>	<b>623,491</b>	<b>670,191</b>	<b>719,531</b>	<b>680,174</b>	<b>152,740</b>	<b>29.0%</b>
<b>Total Costs w/o Construction</b>	<b>493,704</b>	<b>576,384</b>	<b>638,368</b>	<b>688,858</b>	<b>654,074</b>	<b>160,370</b>	<b>32.5%</b>
General Support % Total Costs	18.8%	18.6%	18.2%	17.0%	16.1%		
Mission Support % Total Costs	31.9%	28.1%	30.8%	28.3%	28.3%		
Site Specific % Total Costs	5.8%	3.9%	4.4%	7.6%	8.3%		
Total Support % Total Costs	56.4%	50.6%	53.3%	52.9%	52.6%		
Total Support % Total Costs w/o Co	60.3%	54.8%	56.0%	55.3%	54.7%		

## Total Support Costs (000's) Idaho – Bechtel BWXT



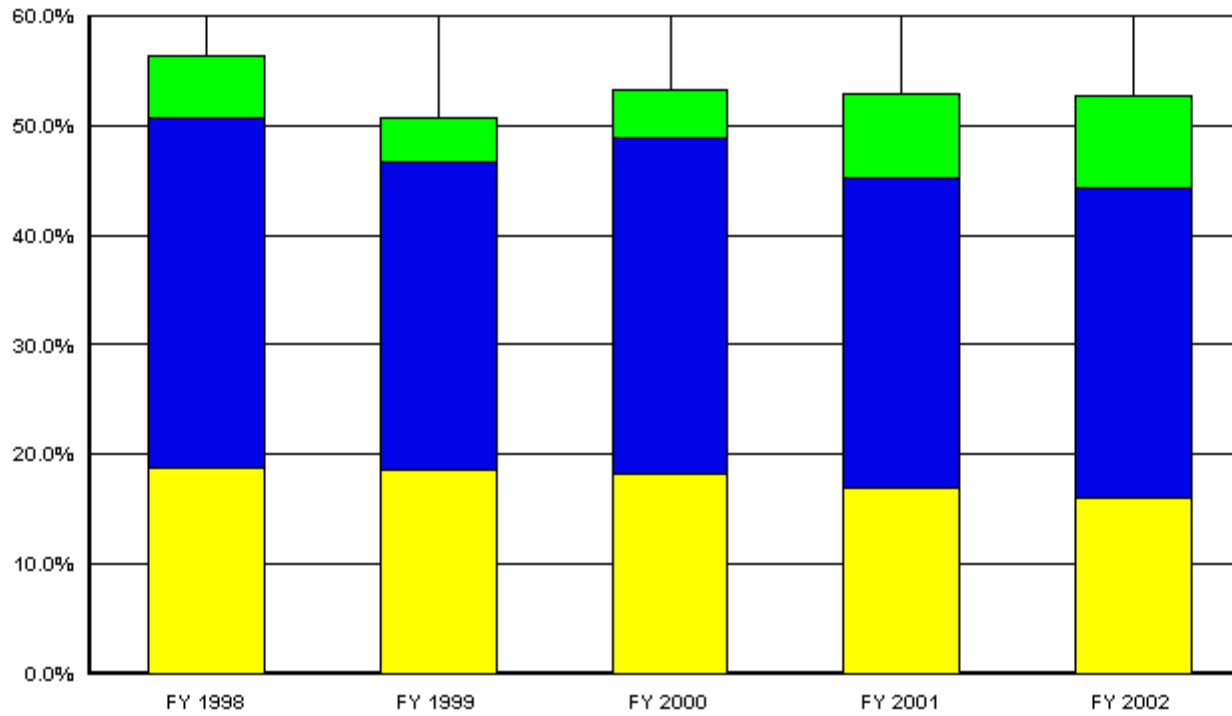
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	297,630	315,795	357,321	380,656	358,002

# Support Cost as a % of Total Cost Idaho – Bechtel BWXT



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	56.4%	50.6%	53.3%	52.9%	52.6%

**US Department of Energy  
Percent of Support Category to Total  
Idaho**



Gen Sup
  Mis Sup
  Site Specific

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
Gen Sup	18.8%	18.6%	18.2%	17.0%	16.1%
Mis Sup	31.9%	28.1%	30.8%	28.3%	28.3%
Site Specific	5.8%	3.9%	4.4%	7.6%	8.3%

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**SITE PROFILE**  
**IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LAB – BECHTEL**

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## **I. SITE CHARACTERISTICS**

The mission of the Idaho National Engineering and Environmental Laboratory (INEEL) is to: 1) Deliver science-based, engineered solutions to the challenges of DOE’s mission areas, other federal agencies, and industrial clients. 2) Complete environmental cleanup responsibly, using innovative science and engineering capabilities. 3) Provide leadership and support to optimize the value of environmental management investments and strategic partnerships throughout the DOE complex. 4) Enhance scientific and technical talent, facilities, and equipment to best serve national and regional interests.

The INEEL functional cost profile is a result of the many factors and characteristics associated with our operational missions. A comprehensive knowledge of site-specific characteristics (mission, diversity and complexity of work, duration of effort, regulatory drivers, geography, etc.) is required to fully understand and draw meaningful conclusions from this data. Some of the factors affecting the INEEL’s functional cost profile include:

- INEEL is a multi-program Federally Funded Research and Development Center (FFRDC) laboratory with a diverse customer base.
- The INEEL occupies 889 square miles with the associated logistics/infrastructure.
- There are 10 major “site” operating complexes and 5 facilities in the City of Idaho Falls, which is 40 to 60 miles from the site. Approximately 2,400 employees work in town locations while 3,000 employees work in site locations.
- INEEL provides support services of \$20M to other “on-site” government entities.
- Examples of operational missions include:
  - Environmental – Clean up of legacy environmental problems. Life cycle (estimated at 30 to 50) waste cleanup activities include the following items:

Transuranic Waste	High-Level Waste
Low-Level Waste	Mixed Low-Level Waste
Environmental Media Contamination	Spent Nuclear Fuel
  - Research and Development – The INEEL is involved in scientific research and development. Examples include bioprocessing, chemical separations, materials science, sensors, etc.
  - Nuclear Operations – Operation of the Advanced Test Reactor which provides material and fuel test results for the U.S. Navy and produces various isotopes.
  - Manufacturing – Production of tank armor for the U.S. Army.
- INEEL environmental operations are guided by the Idaho Settlement Agreement between the Department, the Navy, and the State of Idaho.
- The INEEL is one of the largest employers in the state of Idaho.



## II. HIGHLIGHTS OF TRENDS (\$ in Millions)

	FY02	FY01	FY00	FY99	FY98
Total All	\$680.2	\$719.5	\$670.2	\$623.5	\$527.4
Total Functional Support	\$358.0	\$380.7	\$357.3	\$315.8	\$297.6
Functional Support Percentage	52.6%	52.9%	53.3%	50.6%	56.4%

- FY 1998 Total All reduced \$45.0M due to an accrual reversal in the PIT 9 contracted clean up.
- FY 1999 Total Functional Support increased \$18.2M due mainly to transition costs, a fatal accident at the Test Reactor Area, and increased LDRD expenditures.
- FY 2000 Total Functional Support increased \$41.5M due mainly to legal subcontracts and lawsuits, increased FTEs, for transition of the new M&O contractor, fee, and a change to a 24 hour/7day a week work schedule for certain areas.
- FY 2001 Total Functional Support increased \$23.4M due mainly to LDRD, fee, Strategic Investment Funding, a Business Systems Improvement Project, PIT 9 litigation, and additional activities at Test Area North.
- FY 2002 Total Functional Support decreased \$22.7M due mainly to work force restructuring and mandatory cost reductions, decreased spending in the final implementation of a part of the Business Systems Improvement Project, LDRD, and the elimination of the desktop refresh initiative.

## III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR

Compared to FY 2001, INEEL functional support costs have decreased approximately \$22.7M. The specific significant changes in the individual functional support categories are as follows:

*Executive Direction* Increased by \$1.8M due to activities associated with the Improving Management Systems (IMS) Wave II Analysis/Wave III Implementations and the Management System Restructuring Office/Six Sigma Program. Future cost reductions are anticipated from these activities.

*Chief Financial Officer* Decreased by \$3.5M due to less expenditures related to the final implementation stages for the Business Systems Improvement Project (Oracle Financials, PeopleSoft Human Resource Systems, and Passport Applications) and other miscellaneous activities within this category.

*Central Administrative Support* Decreased by \$2.0M due to budget reductions and work force restructuring activities.

*Program/Project Planning & Controls* Decreased by \$1.6M as the result of subcontract reductions and other miscellaneous activities.

*Information/Outreach Activities* Decreased by \$2.3M due to the absorption of costs into other functional cost categories.

*Information Services* Decreased by \$7.3M due to a reorganization and budget reductions (FTEs and material purchases).

*Other* Increased by \$2.8M due to issues associated with previous transition relocation expenses and workforce restructuring costs. Some level of workforce restructuring costs are expected to continue in the future but transition costs only occur with a change in the site M&O contractor. Other is made up of \$103K for General Liability Insurance, (\$9K) for Planning Support Services & Contract Transition, and \$1,932K for separation costs associated with Work Force Restructuring.

*Management/Award Fee/Incentive Fee* Increased by \$2.9M as the result of significant variations due to the overstatement/understatement of fee for prior performance periods and difficulty of predicting fee earnings due to changes in award fee and incentive performance during a report period. Such fluctuations will continue in the future.

*LDRD* Decreased by \$1.3M due to the lower LDRD ceiling imposed by the HQ secretarial office.

*Environmental* Decreased by \$1.4M due to a reorganization/work force restructuring and other cost reductions.

*Safety and Health* Increased by \$1.4M due to various work scope issues such as additional Fire Protection and Hazardous Identification FTEs.

*Maintenance* Decreased by \$10.1M due to significant labor cost reductions as a result of budget cuts.

*Utilities* Increased by \$2.6M due to electricity rate increases that may continue into the future.

*Logistics Support* Decreased by \$1.4M due to labor/non-labor cost reductions as a result of budget cuts.

*Quality Assurance/Compliance* Decreased by \$2.9M due to a reduction in FTEs and work scope as a result of budget cuts.

*Laboratory/Technical Support* Increased by \$1.5M due to additional FTEs from reorganizations associated with this functional category.

#### **IV. COST SAVINGS INITIATIVES**

The INEEL employs an integrated approach to cost management. Four processes are utilized to achieve this integration:

- 1) Develop and implement innovative and effective contract structures and incentives.
- 2) Utilize internal expertise to review and control cost through cost studies, analysis, and research. For example: Six Sigma, which is a proven systematic method of applying step-by-step improvements to our current work processes.
- 3) Employ outside experts to independently review and validate cost estimates.
- 4) Utilize performance measures and benchmarks to provide overall indicators of cost efficiency.

Kansas City

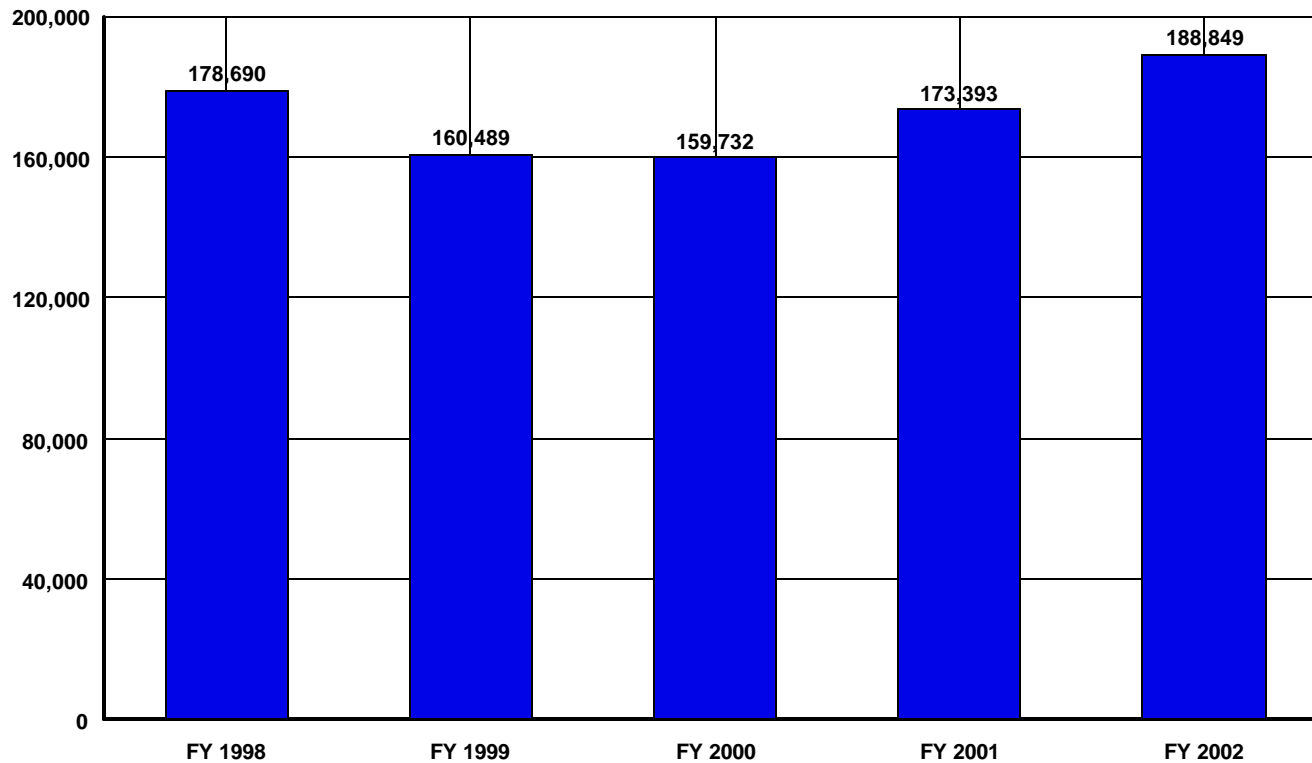
**Trends in Total Functional Support Cost Categories**

FY 2002

(\$ in 000's)

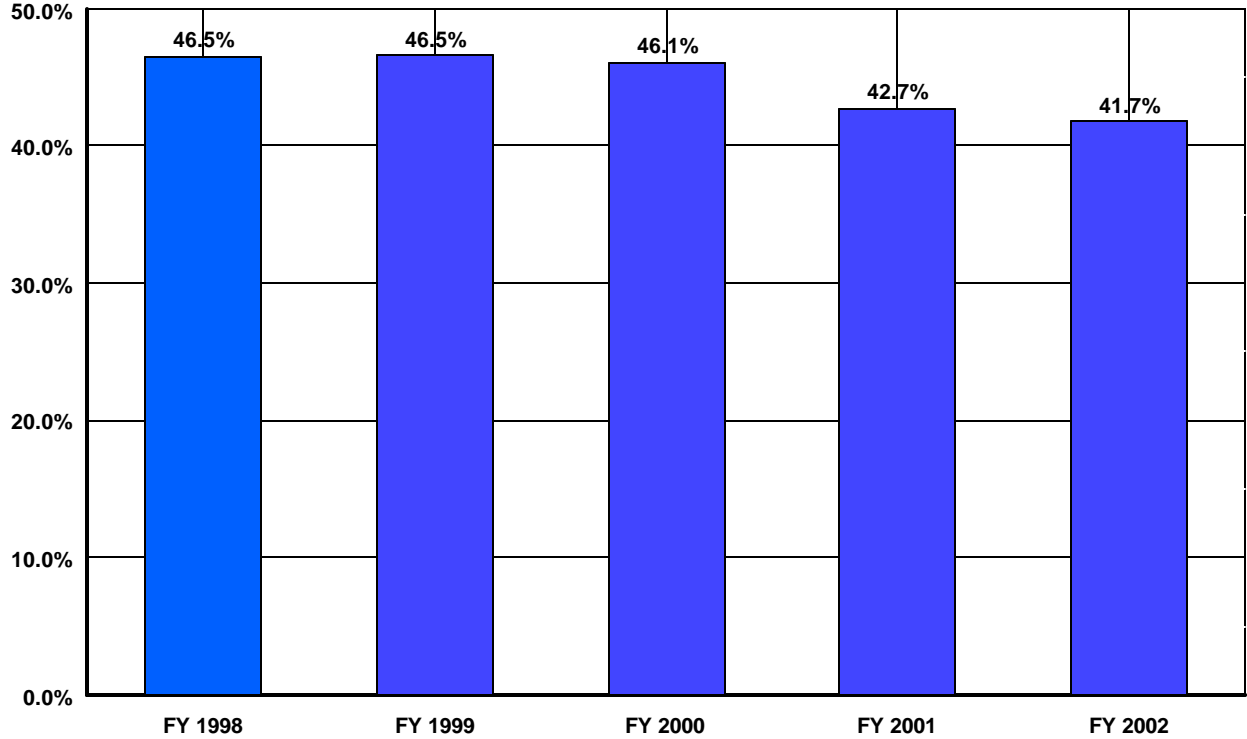
GENERAL SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
EXECUTIVE DIRECTION	3,447	2,988	3,723	4,598	4,216	769	22.3%
HUMAN RESOURCES	4,302	4,066	4,320	4,947	4,467	165	3.8%
CFO	4,205	3,097	3,518	5,266	4,286	81	1.9%
PROCUREMENT	5,013	4,102	5,026	6,108	6,299	1,286	25.7%
LEGAL	423	538	620	1,238	2,053	1,630	385.3%
CENTRAL ADMIN SERVICES	1,812	1,486	1,007	209	430	-1,382	-76.3%
PROGRAM/PROJECT CONTROL	4,042	4,832	4,513	6,410	7,172	3,130	77.4%
INFORMATION OUTREACH	2,429	3,136	2,628	3,163	3,888	1,459	60.1%
INFORMATION SERVICES	26,731	26,402	28,250	29,926	33,391	6,660	24.9%
OTHER	8,864	1,642	-12	-1,128	1,200	-7,664	-86.5%
<b>TOTAL GENERAL SUPPORT</b>	<b>61,268</b>	<b>52,289</b>	<b>53,593</b>	<b>60,737</b>	<b>67,402</b>	<b>6,134</b>	<b>10.0%</b>
MISSION SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
ENVIRONMENTAL	7,398	5,967	5,776	5,131	5,355	-2,043	-27.6%
SAFETY AND HEALTH	3,825	3,768	3,304	4,344	5,007	1,182	30.9%
FACILITIES MANAGEMENT	7,245	6,762	5,483	6,727	8,143	898	12.4%
MAINTENANCE	40,606	32,251	34,685	36,135	35,189	-5,417	-13.3%
UTILITIES	14,209	13,869	11,203	12,898	13,458	-751	-5.3%
SAFEGUARDS AND SECURITY	7,567	6,923	7,279	8,721	10,071	2,504	33.1%
LOGISTICS SUPPORT	5,022	6,443	5,631	6,270	6,399	1,377	27.4%
QUALITY ASSURANCE	8,035	7,700	7,357	7,450	8,203	168	2.1%
LABORATORY/TECHNICAL SUPPOR	3,631	4,018	3,225	3,690	4,016	385	10.6%
<b>TOTAL MISSION SUPPORT</b>	<b>97,538</b>	<b>87,701</b>	<b>83,943</b>	<b>91,366</b>	<b>95,841</b>	<b>-1,697</b>	<b>-1.7%</b>
SITE SPECIFIC	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
MANAGEMENT/INCENTIVE FEE	18,770	19,475	20,973	19,837	22,556	3,786	20.2%
TAXES	1,114	1,024	1,223	1,453	1,706	592	53.1%
LDRD / PDRD / SDRD	0	0	0	0	1,344	1,344	100.0%
<b>TOTAL SITE SPECIFIC</b>	<b>19,884</b>	<b>20,499</b>	<b>22,196</b>	<b>21,290</b>	<b>25,606</b>	<b>5,722</b>	<b>28.8%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>178,690</b>	<b>160,489</b>	<b>159,732</b>	<b>173,393</b>	<b>188,849</b>	<b>10,159</b>	<b>5.7%</b>
MISSION DIRECT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
Mission Direct Operation	173,912	164,927	163,982	187,292	208,277	34,365	19.8%
Capital Construction	31,833	19,371	23,071	45,427	55,396	23,563	74.0%
<b>TOTAL MISSION DIRECT</b>	<b>205,745</b>	<b>184,298</b>	<b>187,053</b>	<b>232,719</b>	<b>263,673</b>	<b>57,928</b>	<b>28.2%</b>
<b>Total Costs</b>	<b>384,435</b>	<b>344,787</b>	<b>346,785</b>	<b>406,112</b>	<b>452,522</b>	<b>68,087</b>	<b>17.7%</b>
<b>Total Costs w/o Construction</b>	<b>352,602</b>	<b>325,416</b>	<b>323,714</b>	<b>360,685</b>	<b>397,126</b>	<b>44,524</b>	<b>12.6%</b>
General Support % Total Costs	15.9%	15.2%	15.5%	15.0%	14.9%		
Mission Support % Total Costs	25.4%	25.4%	24.2%	22.5%	21.2%		
Site Specific % Total Costs	5.2%	5.9%	6.4%	5.2%	5.7%		
Total Support % Total Costs	46.5%	46.5%	46.1%	42.7%	41.7%		
Total Support % Total Costs w/o Co	50.7%	49.3%	49.3%	48.1%	47.6%		

## Total Support Costs (000's) Kansas City – Honeywell, FM&T



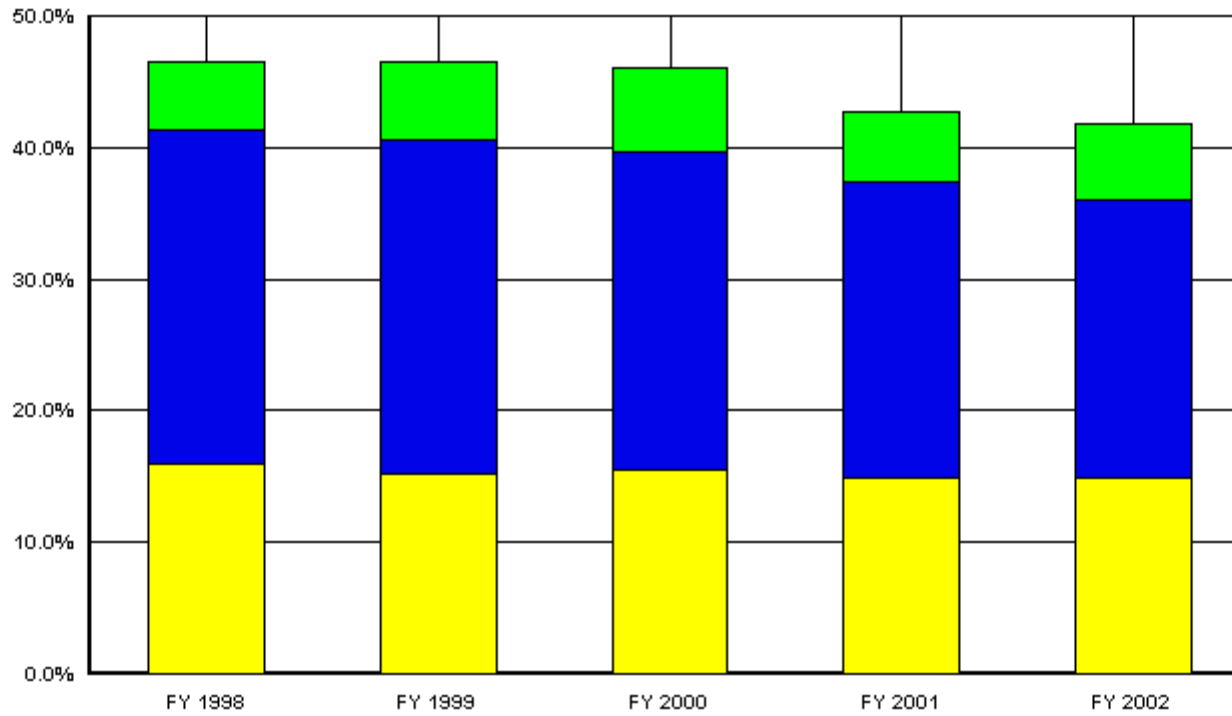
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	178,690	160,489	159,732	173,393	188,849

**Support Cost as a % of Total Cost  
Kansas City – Honeywell, FM&T**



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	46.5%	46.5%	46.1%	42.7%	41.7%

**US Department of Energy  
Percent of Support Category to Total  
Kansas City**



Gen Sup
  Mis Sup
  Site Specific

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
Gen Sup	15.9%	15.2%	15.5%	15.0%	14.9%
Mis Sup	25.4%	25.4%	24.2%	22.5%	21.2%
Site Specific	5.2%	5.9%	6.4%	5.2%	5.7%

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**SITE PROFILE**  
**KANSAS CITY - HONEYWELL, FM&T**

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**I. BACKGROUND**

The Kansas City Plant (KCP) is operated by Honeywell, Federal Manufacturing & Technologies (FM&T). Our broad array of products and capabilities are closely linked with current and future efforts to ensure the safety and reliability of the stockpile. The plant produces over 85% of the components that constitute a nuclear weapon—more than 1,000 active ship entities for over 40 product families. More than 100,000 ship entity pieces are shipped annually. Engineers are responsible for the full spectrum of products and technologies that perform weapon functions from access authorization to delivery of energy to the nuclear explosives package. These products include items such as radars, programmers, reservoirs, joint test assemblies, trajectory sensing signal generators, firesets, and mechanical cases. Other major initiatives the plant supports are: fabrication of telemetry systems to evaluate weapon systems, fabrication of Safeguards Transporters and program activities for the Office of Transportation Safeguards, warehousing and shipment of hardware for the Air Force's ongoing maintenance programs, and centralized procurement of Directed Stockpile Work production material.

The KCP includes property, assets and people located in Missouri, New Mexico and Arkansas. Current employment is approximately 3,100 people. The Kansas City facility resides on 141 acres including grounds and parking lots and currently utilizes approximately 2.9 million square feet of building space (primarily within one manufacturing building). The plant provides utility services to the South Kansas City Federal Complex, which includes the plant and General Services Administration (GSA) space leased to other federal agencies. The plant bills GSA for their utilities. In October 1994, the FM&T division assumed responsibility for Kirtland Operations previously operated by EG&G. Kirtland Operations is situated on four separate sites in Albuquerque, New Mexico: 20.2 fenced acres owned by the U.S. Air Force and occupied under permit to the DOE, the Craddock Facility, the Air Park Facility, and the Coyote Canyon Facility. The Kirtland Operation also provides facility support and training for Fort Chaffee, Arkansas, which supports the Office of Transportation Safeguards, and engineering and technical support for Los Alamos, New Mexico. There are approximately 30,000 items of equipment at the combined facilities.

**II. FUNCTIONAL SUPPORT COST TRENDS**

The plant cost profile is influenced by program requirements and funding trends associated with Defense Programs' workload and complementary work. Total operating costs (total costs less capital/construction) decreased between FY1998 and FY1999, remained level during FY2000, and then increased in both FY2001 and FY2002. General Support functions have remained at 17% of operating costs, while Mission Support functions have decreased from 28% to 24% during this time frame. Plant census trends reflect an increase in 127 associates between FY2000 and FY2002. The plant hired additional critical skills in FY2001 to proactively develop technical resources in support of workload requirements including the Life Extension Programs and to prepare the plant for projected increases in attrition. Several cost trends are associated with these resources, including development and support costs.

General Support

FY2002 General Support costs represent a \$13.8 million increase from the FY2000 level. Significant element trends within the category reflect increases in Procurement (\$1.3M), Legal (\$1.4M), Program/Project Planning & Control (\$2.7M), Information Outreach (\$1.3M), Information Services (\$5.1M) and Other (\$1.2M). The remaining \$0.8M is spread over four support elements.

The increase in Program/Project Planning & Control reflects additional headcount (17 FTEs) when compared to FY2000. The other cost trends are influence by a mixture of census increases and procurement activities. The



change in Procurement reflects increased labor costs and contract support services associated with the Ariba Buyer procurement system. The change in Legal is associated with increased contracted services. Information Outreach reflects an additional 7 FTEs and the upgrade of the plant's Technology Display Center in FY2002. Information Services is primarily related to software procurements (examples include the electronic Learning Management System for Human Resources, Ariba Buyer procurement system), software/hardware maintenance contracts (PeopleSoft ERP systems, Oracle licenses, Xerox contract etc.), communication services, contract support services and an additional 15 FTEs in the organization.

FY2002 General Support costs represent a \$6.8 million increase from the FY1998 level. Significant element trends within General Support reflect increases in Procurement (\$2.0M), Legal (\$1.6M), Program/Project Planning & Control (\$3.1M), Information Outreach (\$1.5M), Information Services (\$6.7M); and decreases in Central Administrative Services (-\$1.4M) and Other (-\$7.6M). The remaining \$0.9M is spread over three elements. The drivers to the Procurement, Program / Project Planning & Control, Information Outreach, and Information Services cost trends are the same as those previously described in the FY2002 versus FY2000 analysis. The decrease in Central Administrative Services reflects the outsourcing of the plant's cafeteria in FY2001. The Other category is described in the table below.

Activities in the General Support - Other category are summarized in the following table:

<u>General Support – Other</u>	
	(\$ in 000s)
<u>FY2002</u>	
Legal Settlement(s)	1,200
 <u>FY2001</u>	
Bid & Proposal and Contract Transition Labor Costs Charged to Honeywell	(1,128)
 <u>FY2000</u>	
Separation Costs (FY2000 RIF)	1,231
Bid & Proposal Labor Costs Charged to Honeywell	<u>(1,243)</u>
	(12)
 <u>FY1999</u>	
Separation Costs (FY1999 RIF)	1,642
 <u>FY1998</u>	
Separation Costs (1997 RIF)	8,864
 1997 Reduction in Force approximately 400 associates	
1999 Reduction in Force approximately 60 associates	
2000 Reduction in Force approximately 40 associates	

#### Mission Support

FY2002 Mission Support costs represent an \$11.9 million increase from the FY2000 level. Significant element trends within the category reflect increases in Safety & Health (\$1.7M), Facilities Management (\$2.7M) / Maintenance (\$0.5M), Utilities (\$2.3M), and Safeguards & Security (\$2.8M). The remaining \$1.9 is spread over four elements.

Safety & Health reflects increased labor costs (7 FTEs) and increased contract medical services. Multiple reorganizations through the fiscal years in the Facilities Management and Maintenance functions have impacted trends; therefore, these functional cost categories have been consolidated to address those trends. The variances in expenses are primarily attributed to increased contracted facilities engineering efforts including pre-Title I designs and contract labor services supporting activities such as roof refurbishment, asbestos abatement, and infrastructure refurbishment. The Utility increase is driven by the volatility in procured utility costs during this period. The Safeguards & Security cost increase reflects heightened security measures put into place since September 11, 2001. Security costs reflect increased overtime and the hiring of additional Security Police Officers during the second half of FY2002.

The \$2.4 million decrease in Mission Support costs from FY1998 to FY2002 is primarily attributed to decreases in Environmental (-\$2.0M), Maintenance (-\$5.4M), and partially offset by an increase in Facilities Management (\$.9M) Safety & Health (\$1.2M), Safeguards & Security (\$2.5M). The remaining \$0.4M is comprised of four elements. The decrease in Environmental reflects a reduction in resources (25 FTEs) throughout this period. The drivers to the Facilities Management, Safety & Health, and Safeguards & Security cost trends are the same as those previously described in the FY2002 versus FY2000 analysis. The decrease in maintenance expenditures during this period is attributed to the increased cost level in the base year. The plant received \$4M in Congressional Add-On funding in FY1998 for roof refurbishment. This additional funding increased base year costs; recent maintenance costs have remained stable from year to year. The facility size and quantity of equipment have remained relatively constant throughout this period. As a result, required Facility Management / Maintenance costs continue to be a driver of the mission support cost category.

#### Site Specific

The change in site specific costs between FY1998 and FY2002 is attributed to an increase in management/award incentive fees, an increase in New Mexico Gross Receipts tax, and the support of Program Directed Research and Development (PDRD) activities that were initiated in FY2001.

#### Global Cost Drivers/Anomalies

Since 1990, the plant census has been reduced by 51%. Workload and funding reductions have included early and regular retirements and have created a disproportionate amount of retirees to current associates. One source projects the average large company to have an employee to retiree ratio of 2.2:1. The employee to retiree ratio for the Kansas City Plant is approximately 1:1. Pensioner's Insurance is a significant fixed expense for the plant and is allocated to all cost categories.

**Knolls Lab**

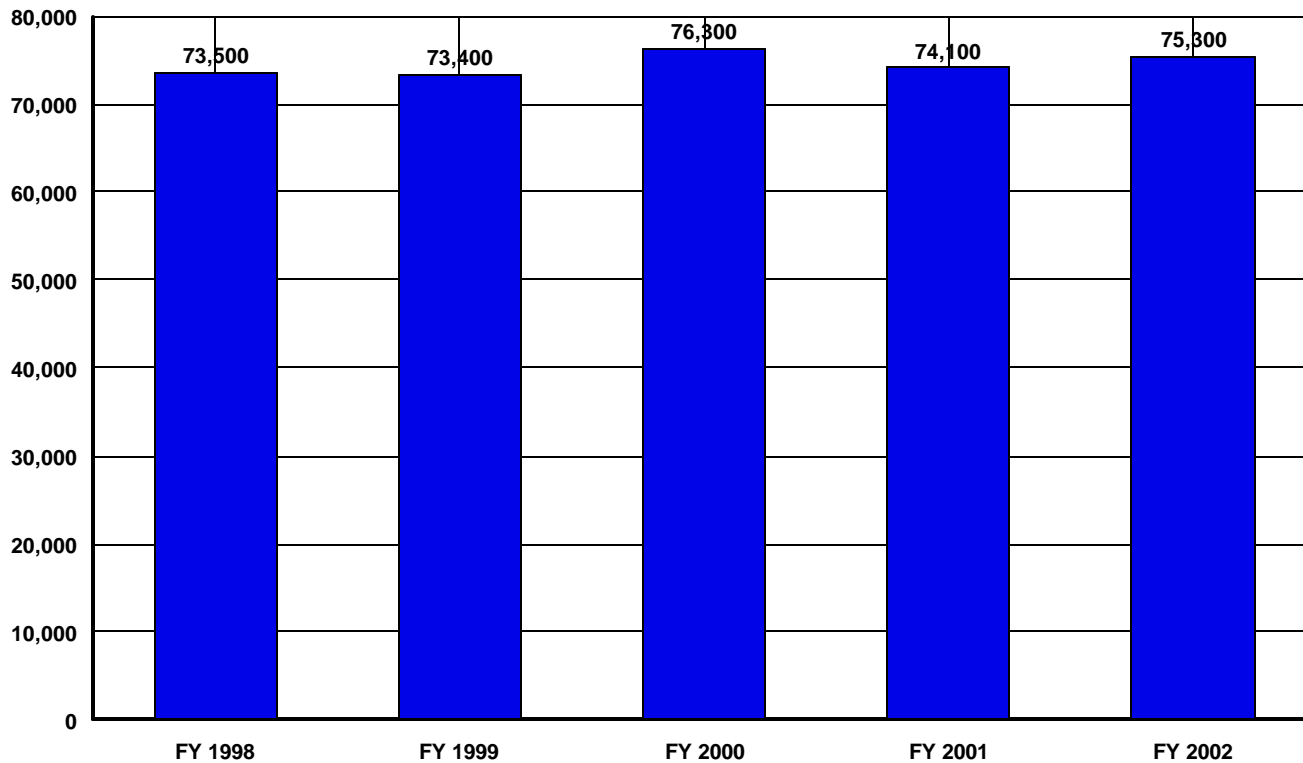
**Trends in Total Functional Support Cost Categories**

**FY 2002**

(\$ in 000's)

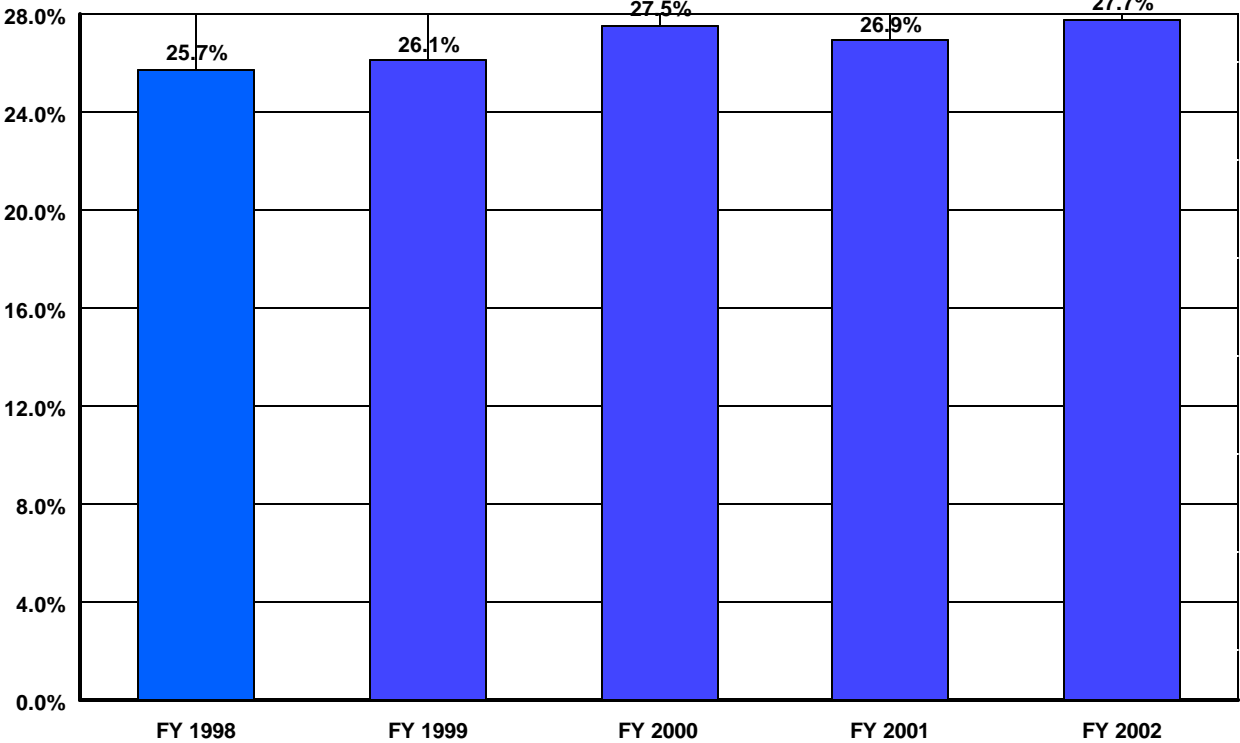
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	1,200	1,500	1,800	3,100	2,800	1,600	133.3%
HUMAN RESOURCES	1,900	2,100	2,700	2,800	3,400	1,500	78.9%
CFO	3,900	3,800	3,700	2,900	2,500	-1,400	-35.9%
PROCUREMENT	1,900	1,800	1,700	2,000	1,700	-200	-10.5%
LEGAL	200	500	1,400	400	200	0	0.0%
CENTRAL ADMIN SERVICES	1,400	1,200	1,100	1,200	1,300	-100	-7.1%
PROGRAM/PROJECT CONTROL	300	200	300	300	400	100	33.3%
INFORMATION OUTREACH	0	0	0	0	0	0	0.0%
INFORMATION SERVICES	9,200	9,700	9,200	8,000	10,600	1,400	15.2%
OTHER	0	0	0	0	0	0	0.0%
<b>TOTAL GENERAL SUPPORT</b>	<b>20,000</b>	<b>20,800</b>	<b>21,900</b>	<b>20,700</b>	<b>22,900</b>	<b>2,900</b>	<b>14.5%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	3,200	3,000	3,400	5,000	4,600	1,400	43.8%
SAFETY AND HEALTH	11,000	11,300	11,300	11,300	11,000	0	0.0%
FACILITIES MANAGEMENT	4,500	4,900	5,000	5,300	2,600	-1,900	-42.2%
MAINTENANCE	13,500	12,700	12,800	11,500	12,900	-600	-4.4%
UTILITIES	2,300	2,100	2,700	3,200	2,600	300	13.0%
SAFEGUARDS AND SECURITY	5,100	5,000	5,500	6,000	7,200	2,100	41.2%
LOGISTICS SUPPORT	1,800	2,300	2,700	2,500	2,800	1,000	55.6%
QUALITY ASSURANCE	3,800	3,000	3,100	3,200	3,000	-800	-21.1%
LABORATORY/TECHNICAL SUPPOR	0	0	0	0	0	0	0.0%
<b>TOTAL MISSION SUPPORT</b>	<b>45,200</b>	<b>44,300</b>	<b>46,500</b>	<b>48,000</b>	<b>46,700</b>	<b>1,500</b>	<b>3.3%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	7,800	7,500	7,300	5,100	5,000	-2,800	-35.9%
TAXES	500	800	600	300	700	200	40.0%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>8,300</b>	<b>8,300</b>	<b>7,900</b>	<b>5,400</b>	<b>5,700</b>	<b>-2,600</b>	<b>-31.3%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>73,500</b>	<b>73,400</b>	<b>76,300</b>	<b>74,100</b>	<b>75,300</b>	<b>1,800</b>	<b>2.4%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	186,100	187,200	174,600	178,700	180,400	-5,700	-3.1%
Capital Construction	26,200	20,900	26,300	22,900	15,900	-10,300	-39.3%
<b>TOTAL MISSION DIRECT</b>	<b>212,300</b>	<b>208,100</b>	<b>200,900</b>	<b>201,600</b>	<b>196,300</b>	<b>-16,000</b>	<b>-7.5%</b>
<b>Total Costs</b>	<b>285,800</b>	<b>281,500</b>	<b>277,200</b>	<b>275,700</b>	<b>271,600</b>	<b>-14,200</b>	<b>-5.0%</b>
<b>Total Costs w/o Construction</b>	<b>259,600</b>	<b>260,600</b>	<b>250,900</b>	<b>252,800</b>	<b>255,700</b>	<b>-3,900</b>	<b>-1.5%</b>
General Support % Total Costs	7.0%	7.4%	7.9%	7.5%	8.4%		
Mission Support % Total Costs	15.8%	15.7%	16.8%	17.4%	17.2%		
Site Specific % Total Costs	2.9%	2.9%	2.8%	2.0%	2.1%		
Total Support % Total Costs	25.7%	26.1%	27.5%	26.9%	27.7%		
Total Support % Total Costs w/o Co	28.3%	28.2%	30.4%	29.3%	29.4%		

## Total Support Costs (000's) Knolls Lab – Lockheed Martin



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	73,500	73,400	76,300	74,100	75,300

**Support Cost as a % of Total Cost  
Knolls Lab – Lockheed Martin**

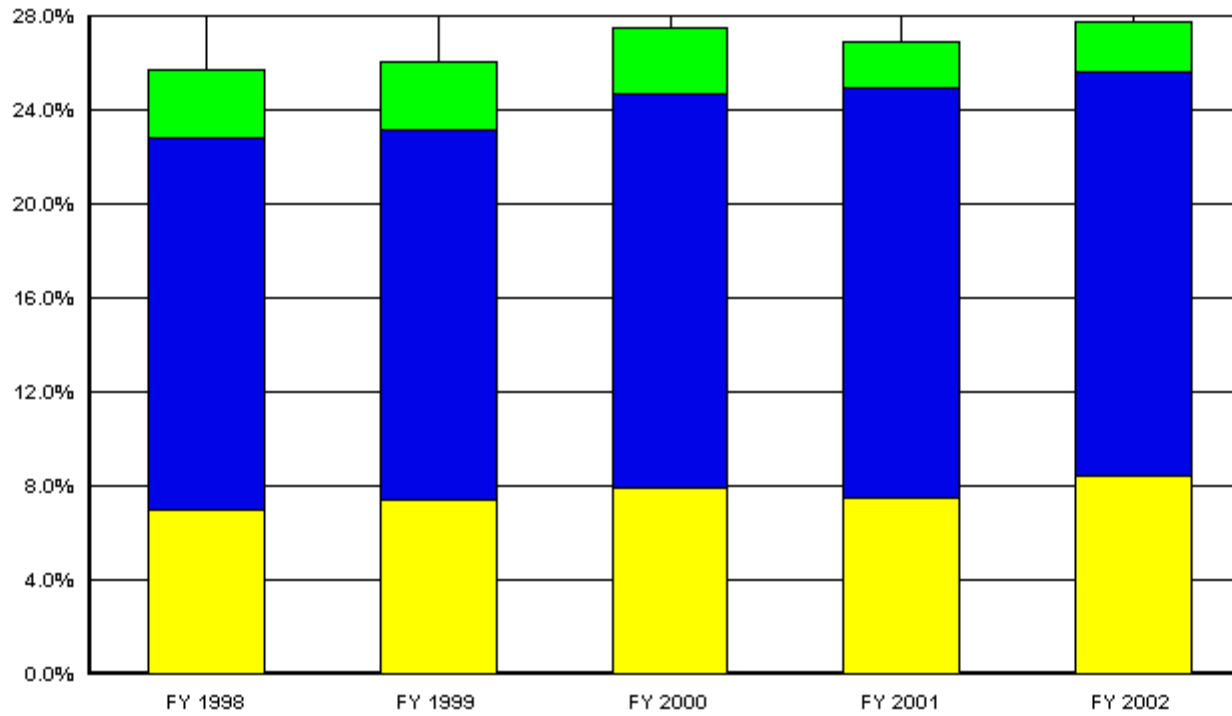


**FY 1998      FY 1999      FY 2000      FY 2001      FY 2002**

**Total Functional Support**

**25.7%      26.1%      27.5%      26.9%      27.7%**

**US Department of Energy  
Percent of Support Category to Total  
Knolls Lab**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	7.0%	7.4%	7.9%	7.5%	8.4%
<b>Mis Sup</b>	15.8%	15.7%	16.8%	17.4%	17.2%
<b>Site Specific</b>	2.9%	2.9%	2.8%	2.0%	2.1%

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**SITE PROFILE**  
**KNOLLS LABORATORY – LOCKHEED MARTIN**

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The Knolls Atomic Power Laboratory (KAPL) is operated for the Department of Energy by KAPL, Inc., a Lockheed Martin Company. It is KAPL's sole function to support the United States Naval Nuclear Propulsion Program through development of advanced reactor plant designs, while providing design agency support of the operating fleet and training nuclear propulsion plant operating personnel.

KAPL currently employs more than 2,600 people at two major sites, in Niskayuna, NY and in West Milton, NY. The Knolls Site in Niskayuna and the Kesselring Site in West Milton are situated on approximately 180 and 3,905 acres of land, respectively. KAPL field personnel also operate out of shipyards in New Hampshire, Connecticut, Virginia, Hawaii, Washington State and at the Naval Reactors Facility Site in Idaho.

KAPL was originally operated by the General Electric (GE) Company. GE received its initial research contract to establish KAPL from the Manhattan Engineering District in May of 1946. KAPL's mission was converted to a nuclear propulsion project in 1950. KAPL's initial efforts were spent developing a safe reactor small enough to operate inside a submarine. SeaWolf launched in 1955, represented the first KAPL designed reactor plant. Subsequently, KAPL designed reactors for the TRITON (SSN586), NARWHAL (SSN671), the research submarine NR-1, and the LOS ANGELES and VIRGINIA Class attack and Trident Class ballistic missile submarines.

KAPL currently maintains, supports and enhances the mission capability of LOS ANGELES class submarines and OHIO class ballistic missile submarines. KAPL also supports Electric Boat and Newport News in the test and construction of the VIRGINIA Class submarines and provides design and engineering support for the future CVNX class aircraft carriers.

KAPL's efforts focus on designing the world's most technologically advanced nuclear reactor plants for the U.S. Navy submarines. Fundamental research is conducted to develop improved materials, chemistry control systems and components for naval nuclear propulsion technology.

KAPL uses its theoretical knowledge, sophisticated testing capabilities and computational power to design new reactor and propulsion systems and components that will be used on existing and future Navy surface ships and submarines. Some additional areas KAPL focuses on are direct energy conversion, electric drive propulsion and advanced composite materials.

In addition, KAPL operates two prototype plants located at the Kesselring Site in West Milton, NY. The MARF and S8G prototypes commenced operation in 1976 and 1978, respectively, and are used for naval nuclear propulsion training. These plants are also used to test reactors, reactor plant systems, and reactor steam and electric plant components. Two other prototypes located at the site, the S3G and D1G prototypes, are currently undergoing inactivation. S3G and D1G, which started operation in 1958 and 1962, respectively, were operated for training and testing until their missions were completed in the 1990's. At that time, the plants were shutdown and inactivation was started as part of Naval Reactors' continuing commitment to ensure proper dismantlement and environmental remediation of formerly used facilities.



Los Alamos

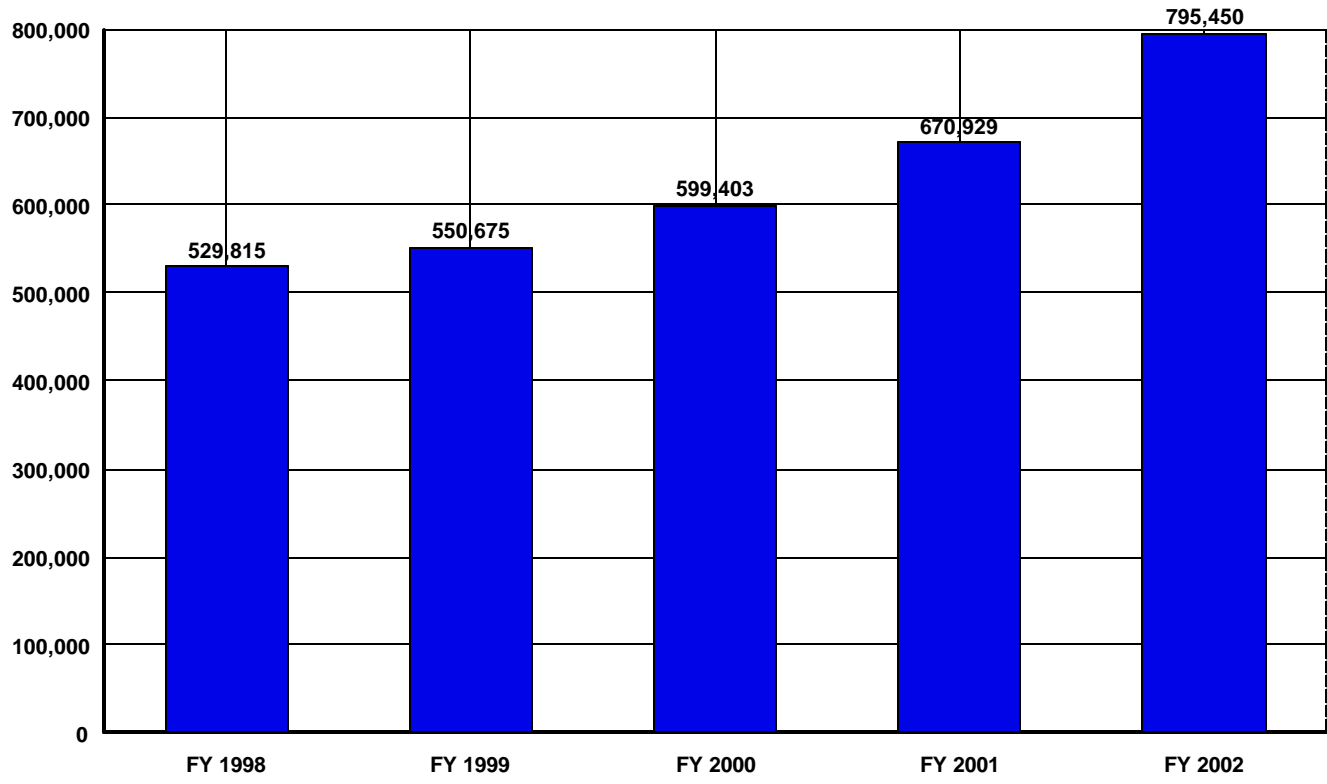
**Trends in Total Functional Support Cost Categories**

FY 2002

(\$ in 000's)

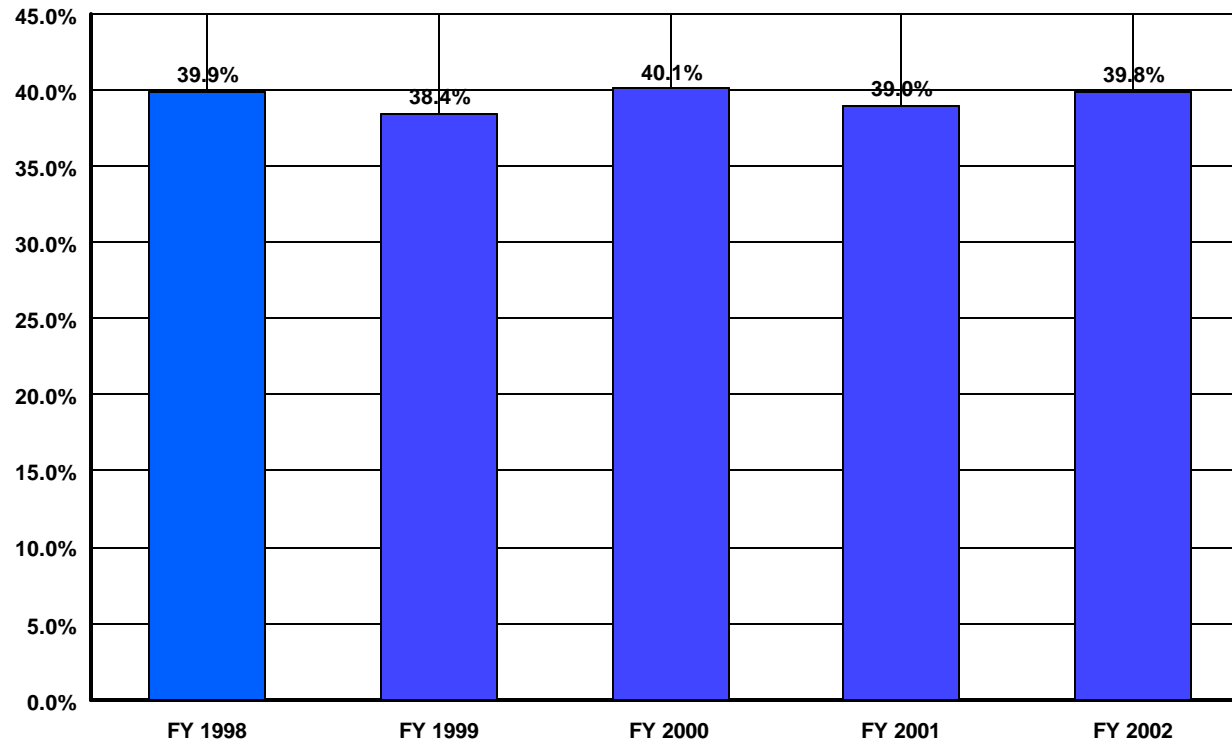
GENERAL SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
EXECUTIVE DIRECTION	4,786	7,250	12,715	14,443	22,708	17,922	374.5%
HUMAN RESOURCES	14,741	16,179	19,971	20,831	21,793	7,052	47.8%
CFO	7,578	7,991	9,058	8,401	9,708	2,130	28.1%
PROCUREMENT	10,256	10,465	11,315	12,501	12,935	2,679	26.1%
LEGAL	7,297	7,618	8,826	10,040	8,776	1,479	20.3%
CENTRAL ADMIN SERVICES	27,745	30,637	27,581	26,572	28,110	365	1.3%
PROGRAM/PROJECT CONTROL	12,891	17,654	22,049	22,810	18,872	5,981	46.4%
INFORMATION OUTREACH	31,748	24,421	21,480	22,890	20,607	-11,141	-35.1%
INFORMATION SERVICES	64,636	72,927	76,532	82,755	108,088	43,452	67.2%
OTHER	19,662	4,052	6,181	13,719	4,887	-14,775	-75.1%
<b>TOTAL GENERAL SUPPORT</b>	<b>201,340</b>	<b>199,194</b>	<b>215,708</b>	<b>234,962</b>	<b>256,484</b>	<b>55,144</b>	<b>27.4%</b>
MISSION SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
ENVIRONMENTAL	17,420	20,802	23,993	20,638	24,461	7,041	40.4%
SAFETY AND HEALTH	48,589	58,298	61,068	62,574	71,974	23,385	48.1%
FACILITIES MANAGEMENT	11,202	7,046	58,821	71,082	103,706	92,504	825.8%
MAINTENANCE	69,674	70,074	52,665	56,486	62,111	-7,563	-10.9%
UTILITIES	43,817	43,479	50,003	58,613	68,293	24,476	55.9%
SAFEGUARDS AND SECURITY	53,657	60,634	60,294	63,247	88,642	34,985	65.2%
LOGISTICS SUPPORT	6,329	6,563	6,478	6,934	8,823	2,494	39.4%
QUALITY ASSURANCE	6,959	8,765	9,652	8,602	9,530	2,571	36.9%
LABORATORY/TECHNICAL SUPPOR	1,882	1,076	2,070	2,104	2,507	625	33.2%
<b>TOTAL MISSION SUPPORT</b>	<b>259,529</b>	<b>276,737</b>	<b>325,044</b>	<b>350,280</b>	<b>440,047</b>	<b>180,518</b>	<b>69.6%</b>
SITE SPECIFIC	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
MANAGEMENT/INCENTIVE FEE	14,213	14,600	18,122	19,356	19,455	5,242	36.9%
TAXES	0	0	0	0	0	0	0.0%
LDRD / PDRD / SDRD	54,733	60,144	40,529	66,331	79,464	24,731	45.2%
<b>TOTAL SITE SPECIFIC</b>	<b>68,946</b>	<b>74,744</b>	<b>58,651</b>	<b>85,687</b>	<b>98,919</b>	<b>29,973</b>	<b>43.5%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>529,815</b>	<b>550,675</b>	<b>599,403</b>	<b>670,929</b>	<b>795,450</b>	<b>265,635</b>	<b>50.1%</b>
MISSION DIRECT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
Mission Direct Operation	673,763	720,835	757,854	810,845	968,017	294,254	43.7%
Capital Construction	125,919	161,904	138,706	239,245	232,949	107,030	85.0%
<b>TOTAL MISSION DIRECT</b>	<b>799,682</b>	<b>882,739</b>	<b>896,560</b>	<b>1,050,090</b>	<b>1,200,966</b>	<b>401,284</b>	<b>50.2%</b>
<b>Total Costs</b>	1,329,497	1,433,414	1,495,963	1,721,019	1,996,416	666,919	50.2%
<b>Total Costs w/o Construction</b>	1,203,578	1,271,510	1,357,257	1,481,774	1,763,467	559,889	46.5%
General Support % Total Costs	15.1%	13.9%	14.4%	13.7%	12.8%		
Mission Support % Total Costs	19.5%	19.3%	21.7%	20.4%	22.0%		
Site Specific % Total Costs	5.2%	5.2%	3.9%	5.0%	5.0%		
Total Support % Total Costs	39.9%	38.4%	40.1%	39.0%	39.8%		
Total Support % Total Costs w/o Co	44.0%	43.3%	44.2%	45.3%	45.1%		

## Total Support Costs (000's) Los Alamos – University of California



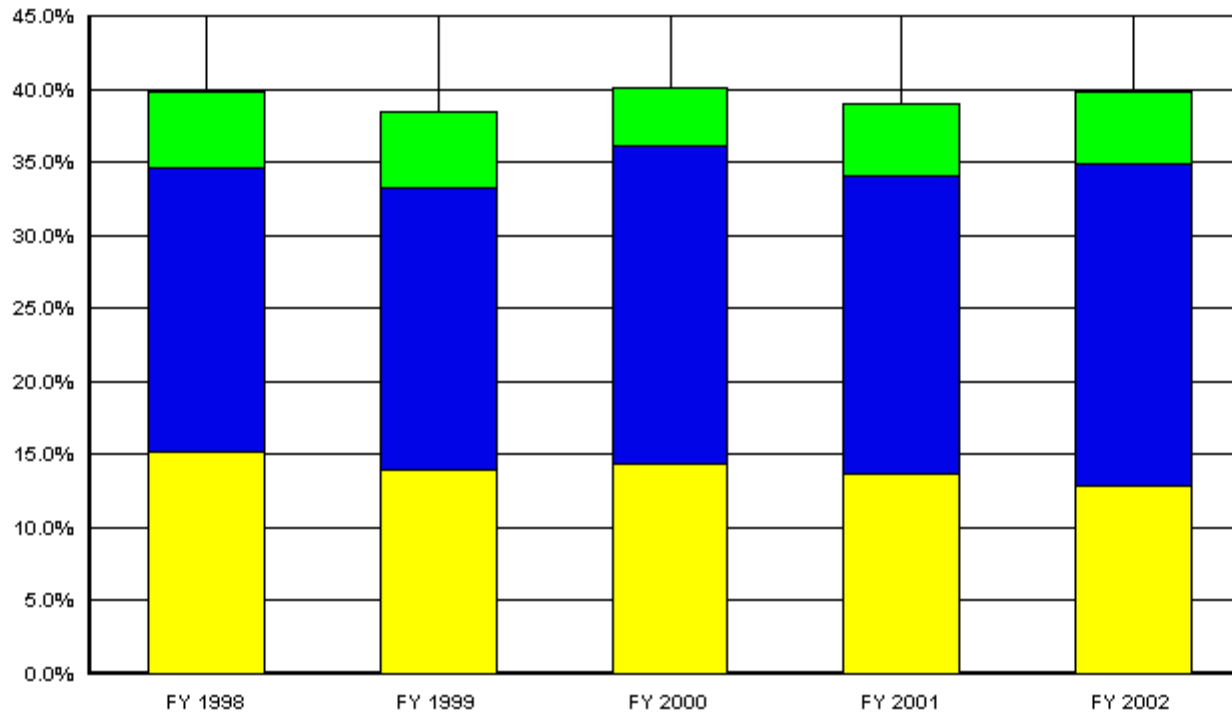
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	529,815	550,675	599,403	670,929	795,450

## Support Cost as a % of Total Cost Los Alamos – University of California



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	39.9%	38.4%	40.1%	39.0%	39.8%

**US Department of Energy  
Percent of Support Category to Total  
Los Alamos**



Gen Sup
  Mis Sup
  Site Specific

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
Gen Sup	15.1%	13.9%	14.4%	13.7%	12.8%
Mis Sup	19.5%	19.3%	21.7%	20.4%	22.0%
Site Specific	5.2%	5.2%	3.9%	5.0%	5.0%

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**SITE PROFILE**  
**LOS ALAMOS NATIONAL LAB – UNIVERSITY OF CALIFORNIA**

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**I. SITE CHARACTERISTICS**

*Location:* Los Alamos National Laboratory (the Laboratory) is located in northern New Mexico. The University of California (UC) has managed the Laboratory since 1943, when the Laboratory was built as part of the Manhattan Project to develop the first atomic weapons during World War II.

*Physical size of the site:* The Laboratory occupies more than 43 square miles (approximately 27,800 acres) of mesas and canyons. These 43 square miles are divided into 50 technical areas and locations and spacing that reflect historical development patterns, topography, and functional relationships.

*Number of employees:* As the largest institution and the largest employer in the area, the Laboratory employs approximately 7,802 UC full-time equivalents (FTEs) and 678 UC Student FTEs.

*Number of contractors on site:* The Laboratory employs approximately 3,339 contractor FTEs in the following areas:

- Protection Technology Los Alamos (PTLA) – Laboratory security force – 650 FTEs
- Johnson Controls of Northern New Mexico (JCNNM) – Laboratory subcontractor for maintenance activities – 1,554 FTEs
- Contractor employees – 1,135 FTEs

*Worker skill mix:* The worker skill mix (FTEs) at the Laboratory is composed of the following categories:

- Technical Staff Member . . . . . 3,509
- Technician . . . . . 1,789
- Administrative Staff . . . . . 1,953
- Management . . . . . 551
- Students . . . . . 678

*Requirements for housing and cafeterias:* The Laboratory supports one main cafeteria and two satellite cafeterias for the 43 square miles of Laboratory facilities. The Laboratory provides economical housing to students on short-term assignments at the Laboratory.

*Transportation (buses) requirements:* The Laboratory maintains a taxi service for traveling from work-site to work-site and several shuttle buses to carry employees to and from outlying parking areas.

*Amount of work subcontracted:* Out of the Laboratory’s total expenditures of \$1,996M, the Laboratory spent \$1,117M on subcontracted activities. This subcontracted work falls into the following categories.

- Materials . . . . . \$249M
- Services . . . . . \$388M
- Equipment . . . . . \$88M
- Capital/Construction \$180M
- JCNNM Services . . . \$120M
- Travel/Misc. . . . . \$92M

*Level of security*

- Of the Laboratory's 43 square miles, approximately 20 square miles are considered security areas with limited access.
- Over 60% of LANL employees have a security clearance.

*Customer diversity:* The following three types of customers sponsor Laboratory activities:

- National Nuclear Security Administration (NNSA) . . . . 70%
- Department of Energy (DOE) (non-NNSA) . . . . . 20%
- Non-DOE Work for Others (WFO) . . . . . 10%

*Levels of non-DOE work:* The Non-DOE Work for Others portion of the Laboratory's sponsorship is composed of the following categories:

- Department of Defense.. . . . .42%
- Federal Agency - Intelligence.. . . . . 26%
- Department of Health and Human Services.. . . . 10%
- Non-Federal Universities and Institutions.. . . . .6%
- National Aeronautics and Space Admin. . . . . 5%
- Other.. . . . .11%

*Main mission activities:* For more than 50 years, the Laboratory's primary mission has been to apply science and technology to problems of national security. However, well before the end of the Cold War, this mission expanded to encompass energy, economic competitiveness, and other national issues. The Laboratory has focused on reducing the global nuclear danger through the stewardship and management of the nation's nuclear stockpile, but has also conducted large-scale, multidisciplinary research and development in hundreds of areas ranging from advanced manufacturing techniques to human genome studies and from alternative energy sources to new polymers.

These efforts require a solid foundation in science and state-of-the-art technology. Partnering with universities and industry is critical to our success, and carefully selected civilian research and development programs complement our mission.

## **II. HIGHLIGHTS OF TRENDS - Historical**

As detailed in the table below, the Laboratory's Total Functional Support Costs have increased by \$265,632K over the period FY98 - FY02. However, the percentage of Total Functional Support Costs to Total Site Costs for the period FY98-FY02 has decreased from 39.9% to 39.4%.

**Laboratory Functional Cost Summary: FY98 - FY02 Costs in \$K**

	<b>FY98</b>	<b>FY99</b>	<b>FY00</b>	<b>FY01</b>	<b>FY02</b>
General Support	201,340	198,999	215,708	234,962	256,483
Mission Support	259,529	276,737	325,044	350,280	440,045
Site Specific	68,946	74,744	58,651	85,687	98,919
<b>Total Functional Support Costs</b>	<b>529,815</b>	<b>550,480</b>	<b>599,403</b>	<b>670,929</b>	<b>795,447</b>
Mission Direct	673,763	720,835	757,854	810,845	968,017
Capital/Construction	125,919	161,904	138,706	239,245	232,949
<b>Total Site Costs</b>	<b>1,329,497</b>	<b>1,433,219</b>	<b>1,495,963</b>	<b>1,721,019</b>	<b>1,996,413</b>
<b>Total Functional Support Costs as % of Total Site Costs</b>	<b>39.9%</b>	<b>38.4%</b>	<b>40.1%</b>	<b>39.0%</b>	<b>39.4%</b>

Listed below are the major cost drivers that have contributed to the overall increase in Total Functional Support Costs of \$265M between FY98 and FY02.

- Facilities Management– increase of \$92M is primarily due to more appropriately capturing costs and re-categorizing them from Mission Direct to Mission Support.
- Safety and Health– increase of \$23M due to increased costs driven by programmatic and facility requirements.
- Utilities– increase of \$18M due primarily to higher utility commodity costs and improving the utility infrastructure.
- Safeguards and Security– increased by \$35M due to increased funding and requirements for Safeguards and Security activities.
- Laboratory-Directed Research & Development– increased by \$25M during this time. This program’s growth is due to the increasing size of Laboratory programs, since the LDRD program is sized as a percentage of Laboratory operating and capital programs.
- Information Services– increased by \$43M due to increased demand for computing services, increased costs for software and computing licenses, and the Laboratory’s investment in a new Enterprise software project to replace many of the Laboratory’s current administrative computing systems.

Costs in the areas of Safety and Health, Maintenance, Utilities, and Safeguards and Security may appear to be out of line with “similar” sites. As described above, the Laboratory is a very large research and development facility encompassing 43 square miles. In addition, the Laboratory has special nuclear material facilities and plutonium facilities, which contribute to total functional support costs. Nuclear facilities are located at 13 of the 50 technical area sites.

### III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR

The following paragraphs highlight the DOE functional support categories in which significant changes have occurred in the costs from FY01 to FY02. Each paragraph details the total costs for the functional area, the net change from the prior fiscal year, a brief explanation of the change, and the impact on the future.

#### General Support

*Executive Direction* increased by \$8,265K.

FY02: \$22,708K  
FY01: \$14,443K  
Change: \$8,265K/+57%

The increase in this area was due to several factors. Of this increase, \$3M is due to the establishment of two new directorates—Weapons Physics and Weapons Engineering and Manufacturing—as part of the Laboratory’s management restructure; \$1.2M is due to payment (directed by the DOE) to a neighboring Pueblo for a road easement agreement; the remainder of the increase is due to institutional issues and commitments that benefit the entire Laboratory but are not funded by other functional areas.

*Legal* decreased by \$1,264K.

FY02: \$8,776K  
FY01: \$10,040K  
Change: \$1,264K/-13%

The decrease is due to a reduced need for outside counsel and a reduction in the workforce through normal attrition.

*Program/Project Planning & Control* decreased by \$3,938K.

FY02: \$18,872K  
FY01: \$22,810K  
Change: \$3,938K/-17%

The decrease is primarily due to several Laboratory reorganizations—environmental management, finance and budgeting, procurement, property management—being re-categorized from General Support to Mission Support.

*Information/Outreach Activities* decreased by \$2,283K.

FY02: \$20,607K  
FY01: \$22,890K  
Change: \$2,283K/-10%

The decrease is due to the cost for director-funded post-docs being transferred from General Support, Information/Outreach Activities and more appropriately categorized in the Site-Specific, LDRD category.



*Information Services* increased by \$25,333K.

FY02: \$108,088K  
FY01: \$82,755K  
Change: \$25,333K/+31%

The increase is primarily due to the continued support for the Enterprise Planning (EP) system—a computer-based system that will integrate, unify, modernize, and streamline the way the Laboratory handles administrative functions, including financial records, time-and-effort reporting, project management, property management, and facility maintenance. Costs also increased as the result of increased customer demand for software and associated licenses, desktop services, and integrated computing network services.

*Other General Support* decreased by \$8,832K.

FY02: \$4,887K  
FY01: \$13,719K  
Change: \$8,832K/-64%

The decrease is due to a one-time payment made as part of a legal settlement in FY01.

### **Mission Support**

*Facilities Management/Engineering* increased by \$32,624K.

FY02: \$103,706K  
FY01: \$71,082K  
Change: \$32,624K/+46%

The increase is primarily due to the re-categorization of facility operation costs from Mission Direct to Mission Support—a more appropriate categorization of these costs. This re-categorization represents a refinement of the Laboratory's functional cost data.

*Utilities* increased by \$9,680K.

FY02: \$68,293K  
FY01: \$58,613K  
Change: \$9,680K/+17%

The increase is due to increased costs for maintenance and improvement of the Laboratory's utilities infrastructure.

*Safeguards and Security* increased by \$25,395K.

FY02: \$88,642K  
FY01: \$63,247K  
Change: \$25,395K/+40%

The increase is the result of increases in funding and programmatic requirements for the Laboratory's Safeguards and Security program.

*Logistics Support* increased by \$1,888K.

FY02: \$8,823K  
FY01: \$6,934K  
Change: \$1,888K/+27%

The increase is due to an internal Laboratory reorganization that resulted in a re-categorization of property management from General Support to Mission Support.

### **Site Specific**

*Laboratory Directed Research and Development (LDRD)* increased by \$13,133K.

FY02: \$79,464K  
FY01: \$66,331K  
Change: \$13,133K/+20%

The increase is the result of growth in the Laboratory's LDRD program, which is sized based upon the Laboratory's operating and capital expenditures. Due to the rapid growth of the Laboratory from FY01 to FY02, the LDRD program was able to expand at the same pace. LDRD costs also increased due to direct-funded post-docs being re-categorized from General Support to LDRD.

### **Mission Direct**

*Defense Programs* increased by \$101,383K.

FY02: \$539,421K  
FY01: \$438,038K  
Change: \$101,383K/+23%

The increase is due to increased funding for Pit Manufacturing and Certification, Readiness Technology-Based Facilities (RTBF), and other campaign activities.

*Environmental Management* decreased by \$6,893K.

FY02: \$57,879K  
FY01: \$64,772K  
Change: \$6,893K/-11%

The decrease is the result of decreasing funding for legacy waste over the last several years.

*Nonproliferation and National Security* increased by \$12,391K.

FY02: \$86,343K  
FY01: \$73,952K  
Change: \$12,391K/+17%

The increase is primarily due to increased funding for non-proliferation and verification R&D and materials protection control and accounting (MPC&A) activities.

*Work for Other Federal Agencies* increased by \$46,013K.

FY02: \$181,525K  
FY01: \$135,512K  
Change: \$46,013K/+34%

The increase is primarily due to increases in Department of Defense activities and the Spallation Neutron Source (SNS) project being constructed at Oak Ridge National Laboratory.

*Emergency Management/Preparedness* decreased by \$1,979K.

FY02: \$2K  
FY01: \$1,981K  
Change: \$1,979K/-100%

The decrease is due to costs being re-categorized from Mission Direct to the more appropriate category of Mission Support.

#### **IV. LANL INDIRECT COST MANAGEMENT**

##### **A. Indirect Budget Development**

The Laboratory's indirect budget is developed via a top-down approach, with Senior Management actively involved throughout the process. The Indirect budget process begins with an analysis of indirect cost trends by the CFO Organization. This information is used by Senior Management, in conjunction with Laboratory strategic goals, to set target budgets for each directorate. Target budgets must then pass through several levels of management review (Group, Division, Associate Director, and Senior Executive Team) before they are finalized.

##### **B. Indirect Budget Execution**

Senior Management reviews the execution of the Laboratory's indirect budgets on a quarterly basis through briefings by the Laboratory CFO. Each of the briefings details the current and expected year-end institutional positions in addition to any unplanned institutional issues that arose during the quarter. Senior Management prioritizes any unplanned institutional issues against other requirements, and reviews the projected progress of cost of doing business metrics. At the end of the fiscal year, the Laboratory CFO briefs Senior Management on the final year-end institutional position and the indirect budget performance of each Laboratory organization.

##### **C. Strategic Rate Management**

Senior Management has aggressively managed the Laboratory's indirect portfolio over the past several years with the goal of reducing the cost of doing business at the Laboratory. Several metrics are used to measure and track performance of indirect costs. However, the ratio of Indirect to Total Operating Costs (overhead ratio) is the primary metric used to manage the indirect portfolio. This ratio measures indirect costs (G&A, Organizational Support, and Institutional Recharge) as a percentage of operating costs. The calculation uses the sum of overhead costs with "recycled costs" removed. Recycled costs are simply where one overhead pays the costs of another overhead, such as organizational support on a G&A

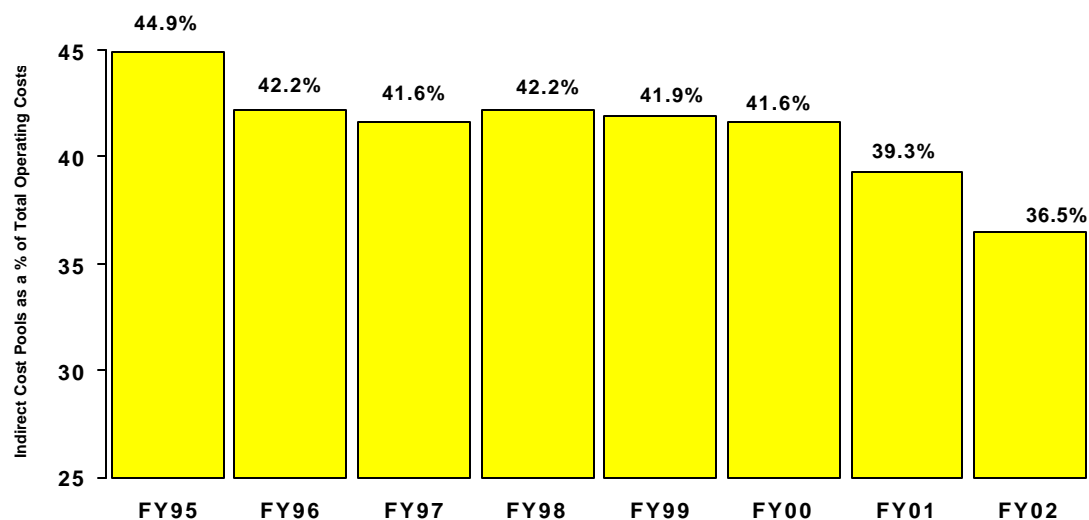
account. By eliminating the recycled costs, one is able to calculate the total “prime” overhead costs where each overhead dollar is only counted once.

## **Results**

As shown in the chart, the Laboratory has been able to reduce the Overhead ratio from 44.9% in FY95 to 36.5% in FY02. This represents a 19% decrease in this ratio over an 8-year period. The dramatic improvement in this indirect cost metric is a reflection of the engagement and determination of Senior Management to reduce the overhead burden paid by programs. Reducing overhead as a percentage of dollars spent means additional resources can be applied to the technical programmatic missions conducted at the Laboratory, or put simply the result is more dollars for science.

### **LANL Overhead per Operating Dollar Spent**

The Indirect to Total Operating Cost Ratio



Senior Management has made a concerted effort over the past several years to hold the growth of overhead activities to an absolute minimum level, even while the Laboratory’s technical programs were growing. Over the last three years (FY00 - FY02), Laboratory operating costs increased by 31% while prime overhead costs increased by only 13%. The ability to keep prime overhead costs far below the growth of Laboratory operating programs is a reflection of Senior Management’s intention for such an outcome. The majority of the 13% increase in overhead costs was not attributable to normal operations of indirect activities, but rather to unexpected costs (lawsuit settlements) or costs driven up from external sources (utility price increases), with a small portion of this growth due to inflation (staff salary adjustments).

The most visible impact of the reduction in FY02 in the overhead percentage has been a 2-point reduction in the Laboratory G&A rate from 40% to 38%. This rate reduction provided an immediate reduction in G&A costs charged to programs.

Summarized below are some of the aggressive actions taken by Senior Management in FY02 (October 2001 - September 2002) related to indirect cost management.

- Senior Management established aggressive FY02 indirect budgets with most indirect areas receiving flat budgets from final FY01 levels.

- Senior Management established the FY02 G&A budget to enable the funding of \$17M for the Enterprise Project (new integrated computer system including replacement of all financial systems) without raising the G&A rate. This required making priority decisions on G&A activities in order to hold this rate constant.
- Senior Management changed the Organizational Support allocation base for operating costs from a total cost base (labor, materials, and services) to a labor base. Senior Management made this change to improve the cost accounting in this area (labor is the most appropriate base for this intermediate cost pool) and simplify the Laboratory overhead structure.
- At FY02 mid-year, it was clear that the Laboratory budget was increasing beyond estimates made at the beginning of FY02. Senior Management made the decision to use this increase in programmatic activity as an opportunity to reduce the Laboratory G&A rate by 2 points (from 40% to 38%). This decision reduced overhead costs to programs by \$14M and resulted in the ability to accomplish additional programmatic work (i.e. more science).

### Other

The *Other* category includes the following costs in \$K:

	<b>FY98</b>	<b>FY99</b>	<b>FY00</b>	<b>FY01</b>	<b>FY02</b>
Economic Development	0	278	0	0	0
Risk Management	1,283	1,117	1,247	827	254
Inst. Program Development	3,947	2,462	4,934	3,492	4,633
Lawsuit Settlement	13,000	0	0	9,400	0
Flood Damage	1,432	0	0	0	0
<b>Total Costs</b>	<b>19,662</b>	<b>3,857</b>	<b>6,181</b>	<b>13,719</b>	<b>4,887</b>

### Reconciliation to Management Analysis Reporting System

Costs in \$K:

	<b>FY98</b>	<b>FY99</b>	<b>FY00</b>	<b>FY01</b>	<b>FY02</b>
Op. Costs Charged to DOE	1,327,449	1,431,262	1,492,930	1,717,987	1,994,413
UC Sponsored Research	1,634	1,419	900	704	675
Other Cash Reimbursements	414	538	2,133	2,328	1,325
<b>Total Costs</b>	<b>1,329,497</b>	<b>1,433,219</b>	<b>1,495,963</b>	<b>1,721,019</b>	<b>1,996,413</b>

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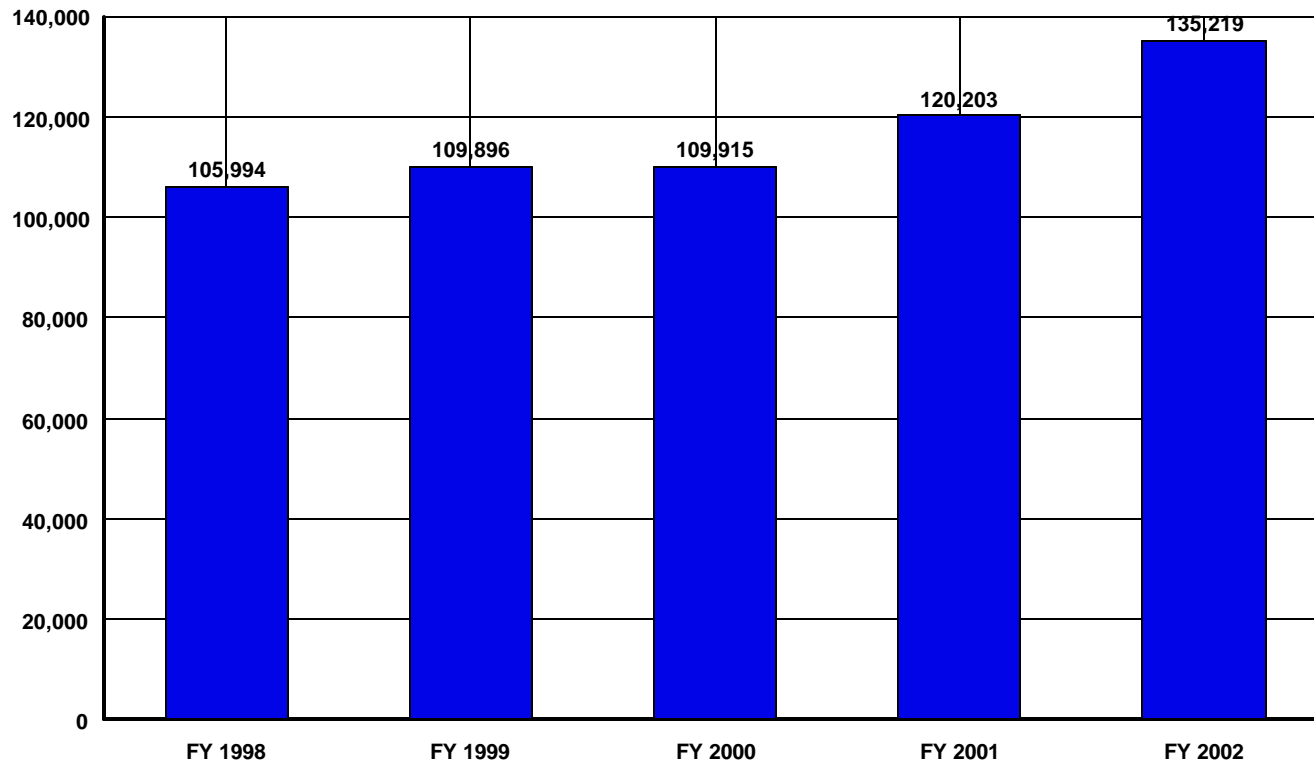
**Trends in Total Functional Support Cost Categories**

**FY 2002**

(\$ in 000's)

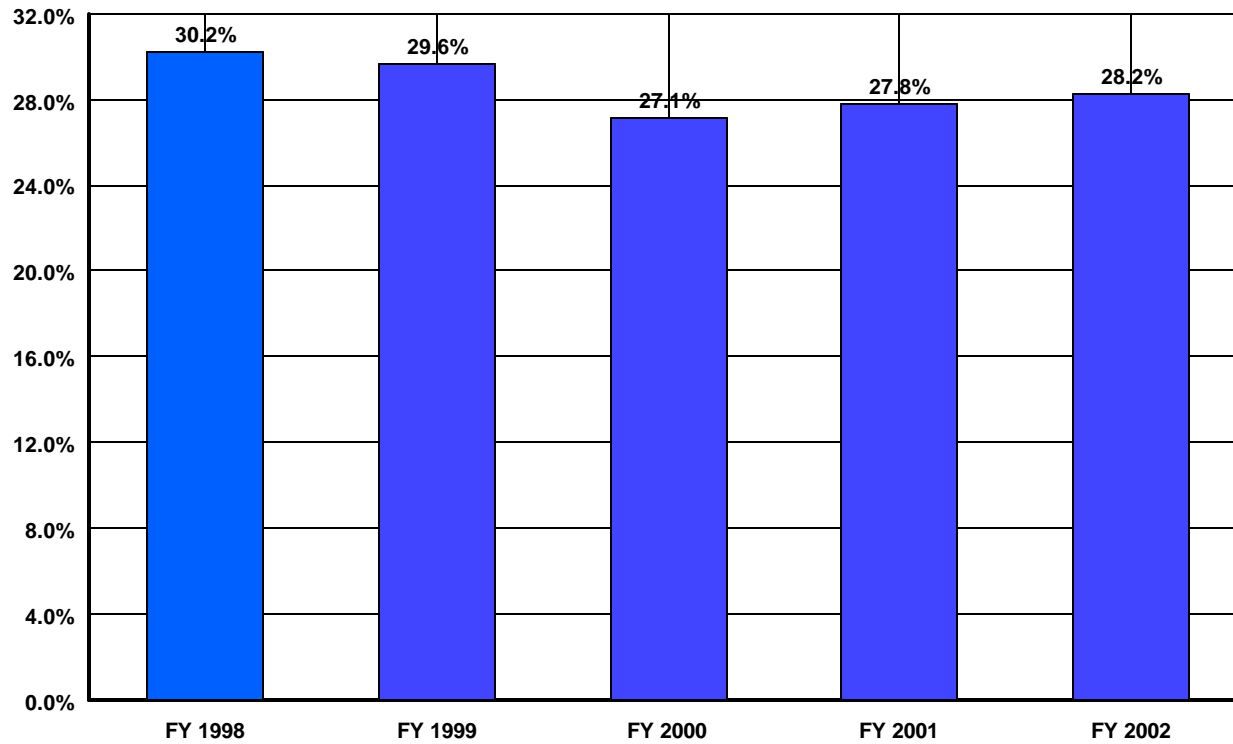
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	2,857	3,435	3,701	4,199	8,192	5,335	186.7%
HUMAN RESOURCES	3,925	3,771	4,034	3,610	3,676	-249	-6.3%
CFO	4,792	3,928	4,309	4,743	4,890	98	2.0%
PROCUREMENT	2,260	2,504	4,033	3,506	4,284	2,024	89.6%
LEGAL	2,164	2,400	1,338	1,646	1,503	-661	-30.5%
CENTRAL ADMIN SERVICES	2,159	3,179	4,456	6,069	5,847	3,688	170.8%
PROGRAM/PROJECT CONTROL	0	0	0	0	0	0	0.0%
INFORMATION OUTREACH	3,104	2,788	3,204	3,004	3,454	350	11.3%
INFORMATION SERVICES	18,248	18,703	17,196	19,270	20,916	2,668	14.6%
OTHER	2,469	52	-3,196	-1,175	2,041	-428	-17.3%
<b>TOTAL GENERAL SUPPORT</b>	<b>41,978</b>	<b>40,760</b>	<b>39,075</b>	<b>44,872</b>	<b>54,803</b>	<b>12,825</b>	<b>30.6%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	1,922	1,943	2,829	5,127	2,159	237	12.3%
SAFETY AND HEALTH	7,880	7,900	8,175	7,068	9,254	1,374	17.4%
FACILITIES MANAGEMENT	10,002	11,217	12,068	14,556	16,125	6,123	61.2%
MAINTENANCE	15,652	18,640	16,905	15,527	16,322	670	4.3%
UTILITIES	4,060	4,584	4,313	5,918	7,947	3,887	95.7%
SAFEGUARDS AND SECURITY	854	1,437	1,590	2,590	3,259	2,405	281.6%
LOGISTICS SUPPORT	4,078	3,623	3,695	4,228	4,006	-72	-1.8%
QUALITY ASSURANCE	38	36	41	25	56	18	47.4%
LABORATORY/TECHNICAL SUPPOR	7,765	8,017	9,947	9,008	8,097	332	4.3%
<b>TOTAL MISSION SUPPORT</b>	<b>52,251</b>	<b>57,397</b>	<b>59,563</b>	<b>64,047</b>	<b>67,225</b>	<b>14,974</b>	<b>28.7%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	2,836	2,964	3,070	2,950	3,107	271	9.6%
TAXES	438	289	234	349	271	-167	-38.1%
LDRD / PDRD / SDRD	8,491	8,486	7,973	7,985	9,813	1,322	15.6%
<b>TOTAL SITE SPECIFIC</b>	<b>11,765</b>	<b>11,739</b>	<b>11,277</b>	<b>11,284</b>	<b>13,191</b>	<b>1,426</b>	<b>12.1%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>105,994</b>	<b>109,896</b>	<b>109,915</b>	<b>120,203</b>	<b>135,219</b>	<b>29,225</b>	<b>27.6%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	203,773	222,825	243,286	265,254	278,204	74,431	36.5%
Capital Construction	40,811	38,000	52,261	46,568	65,282	24,471	60.0%
<b>TOTAL MISSION DIRECT</b>	<b>244,584</b>	<b>260,825</b>	<b>295,547</b>	<b>311,822</b>	<b>343,486</b>	<b>98,902</b>	<b>40.4%</b>
<b>Total Costs</b>	<b>350,578</b>	<b>370,721</b>	<b>405,462</b>	<b>432,025</b>	<b>478,705</b>	<b>128,127</b>	<b>36.5%</b>
<b>Total Costs w/o Construction</b>	<b>309,767</b>	<b>332,721</b>	<b>353,201</b>	<b>385,457</b>	<b>413,423</b>	<b>103,656</b>	<b>33.5%</b>
General Support % Total Costs	12.0%	11.0%	9.6%	10.4%	11.4%		
Mission Support % Total Costs	14.9%	15.5%	14.7%	14.8%	14.0%		
Site Specific % Total Costs	3.4%	3.2%	2.8%	2.6%	2.8%		
Total Support % Total Costs	30.2%	29.6%	27.1%	27.8%	28.2%		
Total Support % Total Costs w/o Co	34.2%	33.0%	31.1%	31.2%	32.7%		

## Total Support Costs (000's) Lawrence Berkeley – University of California



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	105,994	109,896	109,915	120,203	135,219

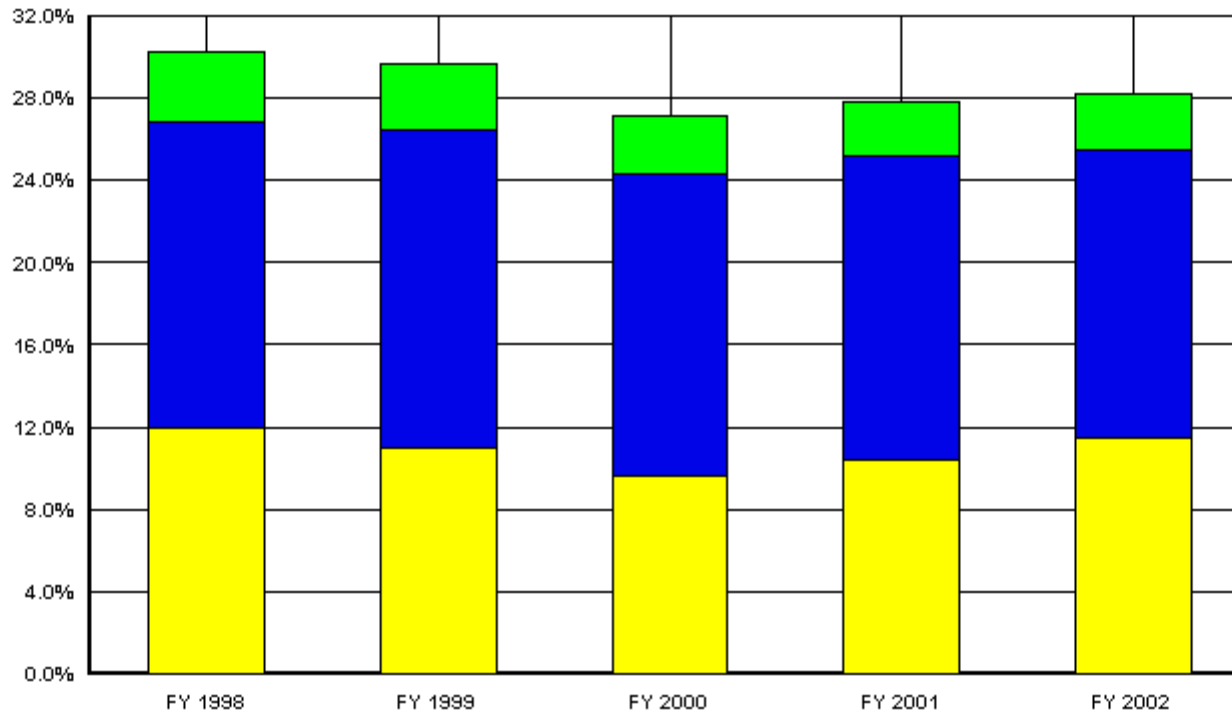
## Support Cost as a % of Total Cost Lawrence Berkeley – University of California



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	30.2%	29.6%	27.1%	27.8%	28.2%



**US Department of Energy  
Percent of Support Category to Total  
L. Berkeley**



Gen Sup
  Mis Sup
  Site Specific

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
Gen Sup	12.0%	11.0%	9.6%	10.4%	11.4%
Mis Sup	14.9%	15.5%	14.7%	14.8%	14.0%
Site Specific	3.4%	3.2%	2.8%	2.6%	2.8%

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**SITE PROFILE**  
**LAWRENCE BERKELEY NATIONAL LABORATORY – UNIVERSITY OF CALIFORNIA**

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**I. SITE CHARACTERISTICS**

Lawrence Berkeley National Laboratory (LBNL) is a multi-program lab engaged in basic research in a wide variety of scientific disciplines. Major scientific achievements include 9 winners of the Nobel Prize and other world-class, competitive prizes. The Lab’s core competencies are in Computational Science and Engineering; Particle and Photon Beams; Bio Science and Bio Technology; the Characterization, Synthesis, and Theory of Materials; Advanced Technologies for Energy Supply and Energy Efficiency; Chemical Dynamics, Catalysis, and Surface Science; Advanced Detector Systems; and Environmental Assessment and Remediation. The Berkeley Lab provides several unique national experimental user facilities for qualified investigators: the Advanced Light Source (ALS); the National Energy Research Scientific Computing Center (NERSC); Energy Sciences Network (ESnet); 88-Inch Cyclotron and the National Center for Electron Microscopy.

LBNL is managed by the University of California and is located in Berkeley, California. LBNL occupies 220 buildings and trailers on 200 acres. In FY 2002, the workforce was approximately 3,800 people, consisting of 63% Career employees, 15% Graduate Student Research Assistants & Student Assistants, 6% Faculty, 6% Postdoctoral Fellows & Researchers, and 10% Other. LBNL's major DOE customer is Office of Science (SC), which provided 57% of total direct funding, followed by work for other Agencies (Federal and Non-Federal). Other DOE programs served are Energy Efficiency (EE), Environmental Management (EM), Fossil Energy (FE), Nonproliferation and National Security (NA) and Environment, Health, and Safety (EH). LBNL conducts its unclassified research mission as a Tier III laboratory (no classified research or information on-site). Berkeley Lab’s cybersecurity program addresses the needs of all computer and networking systems and is fully appropriate to systems that contain no classified information. The Laboratory’s cybersecurity software is a powerful system for detecting network intruders and has served as a model for other laboratories.

**II. HIGHLIGHTS IN TRENDS (IN \$000's)**

	FY98	FY99	FY00	FY01	FY02
General Support	\$41,978	\$40,761	\$39,075	\$44,873	\$54,803
Mission Support	52,250	57,396	59,561	64,045	67,225
Site Specific	11,765	11,738	11,278	11,284	13,191
Total Functional Support Costs (FSC)	105,993	109,896	109,914	120,202	135,219
Total Mission Direct	203,773	222,825	243,284	265,256	278,204
Capital/Construction	40,811	38,000	52,261	46,568	65,282
Total Site Costs	\$350,578	\$370,721	\$405,459	\$432,027	\$478,705
Total FSC as % of Total Site Costs	30.2%	29.6%	27.1%	27.8%	28.2%
Ratio of Mission Direct to FSC	1.92	2.03	2.21	2.21	2.06

LBNL's trend in Functional Support Costs (FSC) as a percent of Total Site Costs has been around 30% for FY 1998 and FY 1999. The percent decreased to 27.1% in FY00, 27.8% in FY01 and increased slightly to 28.2% in FY02. In FY98, \$100 in Functional Support supported \$192 of Mission Direct. In FY02, the same \$100 FSC supported \$206 in Mission Direct; thus, support productivity as measured in dollars has increased by 7 percent. Since FY98, Mission Direct costs have increased 37 percent, while Functional Support costs have increased 28 percent.

Major changes from FY98 to FY02:

The implementation in FY98 of LBNL's new Financial Management System (FMS) enabled it to obtain complex data more accurately. The data for FY98 through FY02 are in accordance with the directives for the Functional Support Cost Report, which for cost classification/definition purposes essentially remained unchanged since FY99. Major cost drivers affecting functional support cost has been increased lease costs (Facilities Management) and recognition in FY02 of Division Director's as part of the executive level of laboratory strategic and leadership direction (Executive Direction). The approximate \$3M cost was previously part of mission direct.

### **III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR (FY01 to FY02)**

#### **A. GENERAL SUPPORT:**

Category 1 - Executive Direction. Major costs include the Lab Director's office, Division Directors' salaries, and strategic planning support. Increased \$4.0M primarily due to inclusion of about \$3M in Division Directors' salaries in FY 02 since the majority of their functions are now recognized as institutional in nature and increased strategic planning effort. In prior years Division Directors' salaries were included in Mission Direct.

Category 2 - Human Resources. Major costs include HR operations, recruitment, and administration of compensation/benefit programs. Increased by \$66K since the HR Department Head position was filled during the year.

Category 3 - Chief Financial Officer: Major costs include the CFO, Internal Audit, Financial Services, General Accounting, Accounts Payable, and Cost Accounting. Increased \$148K due to further enhancements to the new Accounts Payable system.

Category 4 - Procurement: Major costs include commercial and R&D subcontracts administration, development of the new purchasing system, and the subcontracts administration group. Increased \$778K due to the development and implementation of the new Procurement system.

Category 5 - Legal: Major costs include the counsel/patents office and external patent attorney fees. Decreased by \$143K due to a decrease in legal fees.

Category 6 - Central Administrative Services: Major costs include library services, the administrative services department, general travel administration expenses, and travel agency fees. Decreased \$221K due to non-recurrence of travel system implementation costs and a decrease in library services costs.

Category 8 - Information/Outreach Activities: Major costs include the Industrial Collaboration Office (i.e., technology transfer department) and the Office of Planning & Communication (Public Affairs). Increased \$451K due to the development of a database for the technology transfer requirements and the installation of new digital information screens throughout the Laboratory.

Category 9 – Information Services: Major costs include Information System Services (UNIX, LAN, WEB, databases), computer infrastructure support, and network support. Increased \$1.6M due to expansion of LAN operations, continuous Web-based developments, more utilization of systems operations (UNIX), and telephone services.

Category 10 – Other: Major costs include legal settlements and postdoctoral support. Increased \$3.2M primarily due to the non-recurrence of a \$3.1M credit from general ledger account reconciliations in FY01 and legal settlements increased by \$312K.

## **B. MISSION SUPPORT:**

Category 11 – Environmental: Major costs include the environmental services group, National Environmental Policy Act/California Environmental Quality Act, and the Environmental Health & Safety division office. Decreased \$2.9M primarily due to a decrease in costs in the materials and vault characterization dispositions.

Category 12 – Safety and Health: Major costs include the radiation protection group, property protection & life safety, operations, health services group, the fire department, and emergency management. Increased \$2.2M primarily due to the increase costs in Radiation Protection programs.

Category 13 – Facilities Management: Major costs include offsite leases, facilities planning projects, and institutional projects. Increased \$1.6M due to higher demand for facilities and engineering work/job orders as a result of higher program spending in the Office of Science.

Category 14 – Maintenance: Major costs include general maintenance expenses, gas/electricity/water projects, and facilities non-capitalized projects. Increased \$795K due to increased general maintenance expenses.

Category 15 – Utilities: Major costs include electricity, natural gas, and water. Increased \$2M due to increased costs of electricity.

Category 16 – Safeguards and Security: Major costs include general security and computer/cyber security. Increased \$669K due to continuing enhancements in cyber & computer security.

Category 17 – Logistics Support: Major costs include material handling transportation, shipping/receiving/warehouse, and stores/inventory management. Decreased \$223K due to non-recurrence of one-time inventory writeoff in FY01.

Category 19 – Lab/Technical Support: Major costs include engineering infrastructure projects. Decreased \$911K as less engineering infrastructure projects were undertaken.

## **C. SITE SPECIFIC:**

Category 20 – Management Award and Fees: Cost is the University of California management fee. Increased \$157K due to increased management fees.

Category 21 – Taxes: Costs are sales taxes. Decreased by \$78K due to less fabrication projects subject to state tax.

Category 22 – LDRD: Costs are LDRD operating and equipment projects. Increased \$1.8M due to increased funding allocation.

**D. MISSION DIRECT:**

Overall increased 5% or \$13M. Major increases of \$10.2M in the Office of Science (SC), \$2.3M in Energy Efficiency (EE), \$2.2M in Work For Others and \$1.1M in Fossil Energy (FE) were offset by a \$3.6M decrease in Other.

**E. CAPITAL/CONSTRUCTION:**

Increased by 40% or \$18.7M primarily due to additional spending by the Genome Division to upgrade capacity for sequencing machines including genomes related to bio-threat reduction.

**IV. COST SAVING INITIATIVES FROM FY99 to FY02**

Over the past four years, LBNL has developed system and process improvements that not only decreased transaction costs in Payroll and Accounts Payable but also increased productivity in Travel administration. In FY 2002, LBNL implemented the Procurement/Receiving/Payables (PRP) system.

The Laboratory anticipates future cost savings by continual process improvements, such as promoting increased utilization of the Electronic Data Interchange (EDI) and developing new systems e.g. Grants system, Gelco Travel system, Technology Transfer system for patents and licenses, and HRIS (Human Resources) upgrade. The Laboratory also has quality employee training and development programs to improve work force efficiency, thereby realizing savings from streamlined operations. Laboratory management expects cost savings in the range of \$600K in the first full year of implementation of the Gelco Travel System. Conference Services has also implemented an on-line registration system that accepts credit card charges. This reduces cash handling and the associated risk of handling cash.

**V. OTHER**

		-----Amount in 000's-----	
<u>Item</u>	<u>Description</u>	<u>FY 2001</u>	<u>FY 2002</u>
General Ledger	One time accounts reconciliation	\$ (3,253)	\$ 38
Misc. Adjustments	WFO Factor, etc.	(184)	8
General Expenses	Miscellaneous	584	(6)
Legal	Settlements	1,295	1,608
Post Doc Support	Career development training	<u>383</u>	<u>393</u>
	Total	\$ (1,175)	\$ 2,041

L. Livermore

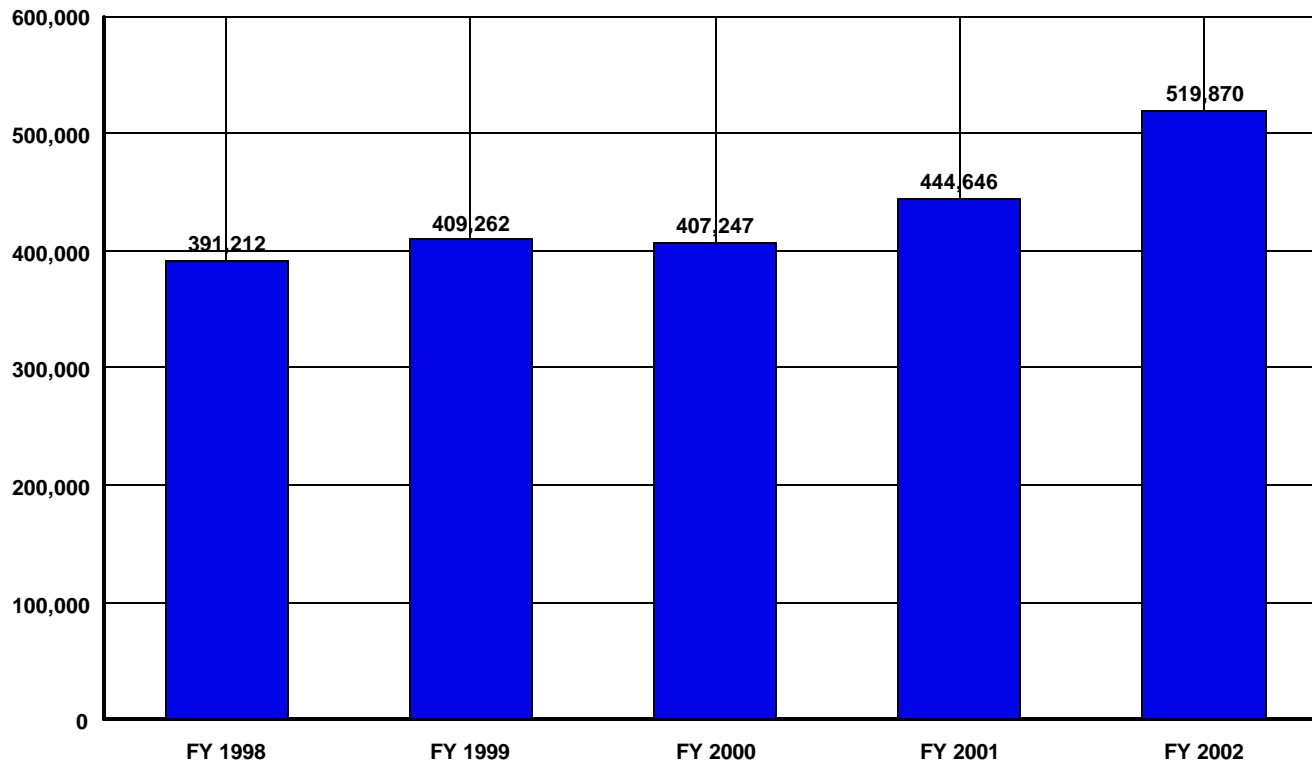
**Trends in Total Functional Support Cost Categories**

FY 2002

(\$ in 000's)

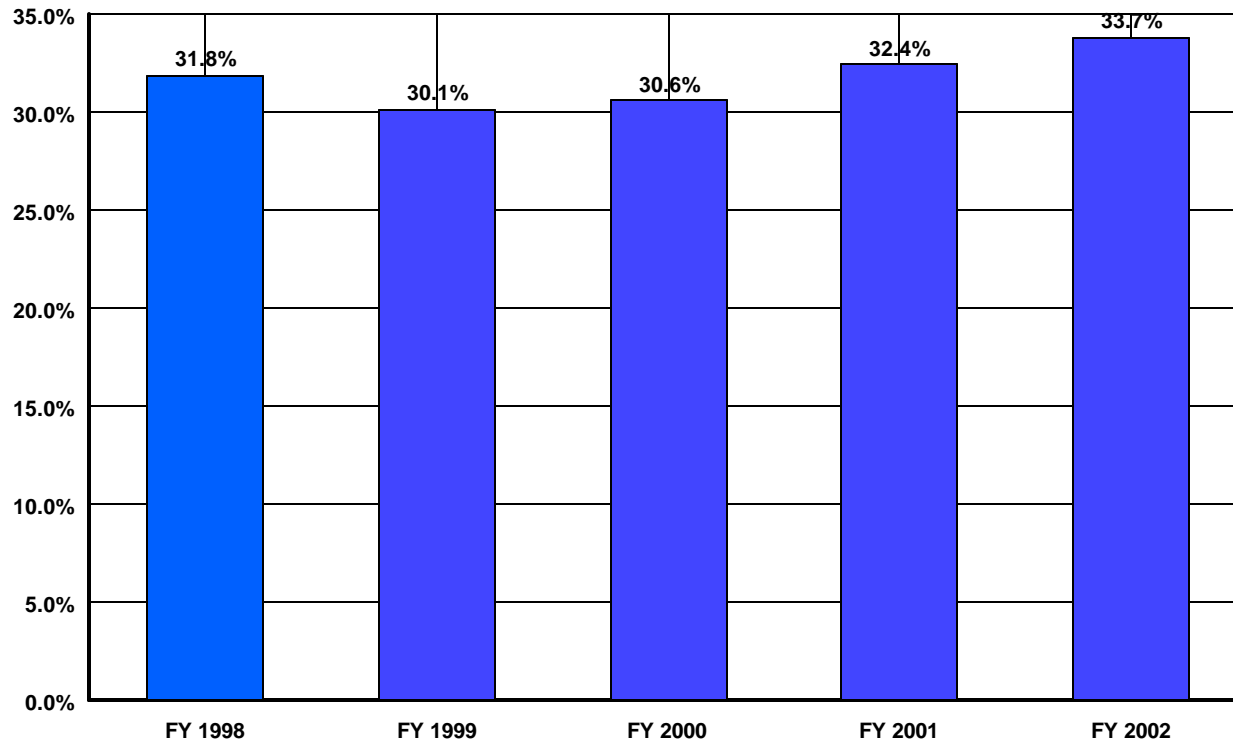
GENERAL SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
EXECUTIVE DIRECTION	12,364	14,559	14,198	15,557	19,977	7,613	61.6%
HUMAN RESOURCES	14,834	16,310	16,493	17,093	18,904	4,070	27.4%
CFO	9,107	9,197	9,388	7,030	7,231	-1,876	-20.6%
PROCUREMENT	13,543	13,626	13,137	13,015	13,994	451	3.3%
LEGAL	2,461	2,882	3,456	3,280	3,060	599	24.3%
CENTRAL ADMIN SERVICES	18,332	16,418	17,586	18,834	21,590	3,258	17.8%
PROGRAM/PROJECT CONTROL	2,798	2,550	2,287	2,064	2,325	-473	-16.9%
INFORMATION OUTREACH	12,397	12,958	13,681	14,433	18,400	6,003	48.4%
INFORMATION SERVICES	36,325	33,497	28,382	38,090	47,311	10,986	30.2%
OTHER	930	276	6,417	10,364	5,523	4,593	493.9%
<b>TOTAL GENERAL SUPPORT</b>	<b>123,091</b>	<b>122,273</b>	<b>125,025</b>	<b>139,760</b>	<b>158,315</b>	<b>35,224</b>	<b>28.6%</b>
MISSION SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
ENVIRONMENTAL	16,584	16,765	15,631	17,598	22,048	5,464	32.9%
SAFETY AND HEALTH	25,980	28,630	31,721	31,284	36,327	10,347	39.8%
FACILITIES MANAGEMENT	29,994	33,076	34,801	39,382	42,156	12,162	40.5%
MAINTENANCE	72,410	76,279	75,793	71,642	91,063	18,653	25.8%
UTILITIES	15,253	14,386	12,050	15,173	22,383	7,130	46.7%
SAFEGUARDS AND SECURITY	27,272	32,782	45,912	44,648	56,063	28,791	105.6%
LOGISTICS SUPPORT	9,572	10,009	9,895	10,831	10,510	938	9.8%
QUALITY ASSURANCE	4,870	5,415	6,097	5,866	5,363	493	10.1%
LABORATORY/TECHNICAL SUPPOR	12,595	15,613	13,078	12,585	13,870	1,275	10.1%
<b>TOTAL MISSION SUPPORT</b>	<b>214,530</b>	<b>232,955</b>	<b>244,978</b>	<b>249,009</b>	<b>299,783</b>	<b>85,253</b>	<b>39.7%</b>
SITE SPECIFIC	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
MANAGEMENT/INCENTIVE FEE	11,523	11,631	11,578	13,929	14,632	3,109	27.0%
TAXES	221	338	743	212	310	89	40.3%
LDRD / PDRD / SDRD	41,847	42,065	24,923	41,736	46,830	4,983	11.9%
<b>TOTAL SITE SPECIFIC</b>	<b>53,591</b>	<b>54,034</b>	<b>37,244</b>	<b>55,877</b>	<b>61,772</b>	<b>8,181</b>	<b>15.3%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>391,212</b>	<b>409,262</b>	<b>407,247</b>	<b>444,646</b>	<b>519,870</b>	<b>128,658</b>	<b>32.9%</b>
MISSION DIRECT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
Mission Direct Operation	686,062	724,709	707,424	714,873	778,090	92,028	13.4%
Capital Construction	152,412	225,064	217,878	213,526	242,488	90,076	59.1%
<b>TOTAL MISSION DIRECT</b>	<b>838,474</b>	<b>949,773</b>	<b>925,302</b>	<b>928,399</b>	<b>1,020,578</b>	<b>182,104</b>	<b>21.7%</b>
<b>Total Costs</b>	<b>1,229,686</b>	<b>1,359,035</b>	<b>1,332,549</b>	<b>1,373,045</b>	<b>1,540,448</b>	<b>310,762</b>	<b>25.3%</b>
<b>Total Costs w/o Construction</b>	<b>1,077,274</b>	<b>1,133,971</b>	<b>1,114,671</b>	<b>1,159,519</b>	<b>1,297,960</b>	<b>220,686</b>	<b>20.5%</b>
General Support % Total Costs	10.0%	9.0%	9.4%	10.2%	10.3%		
Mission Support % Total Costs	17.4%	17.1%	18.4%	18.1%	19.5%		
Site Specific % Total Costs	4.4%	4.0%	2.8%	4.1%	4.0%		
Total Support % Total Costs	31.8%	30.1%	30.6%	32.4%	33.7%		
Total Support % Total Costs w/o Co	36.3%	36.1%	36.5%	38.3%	40.1%		

## Total Support Costs (000's) Lawrence Livermore – University of California



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	391,212	409,262	407,247	444,646	519,870

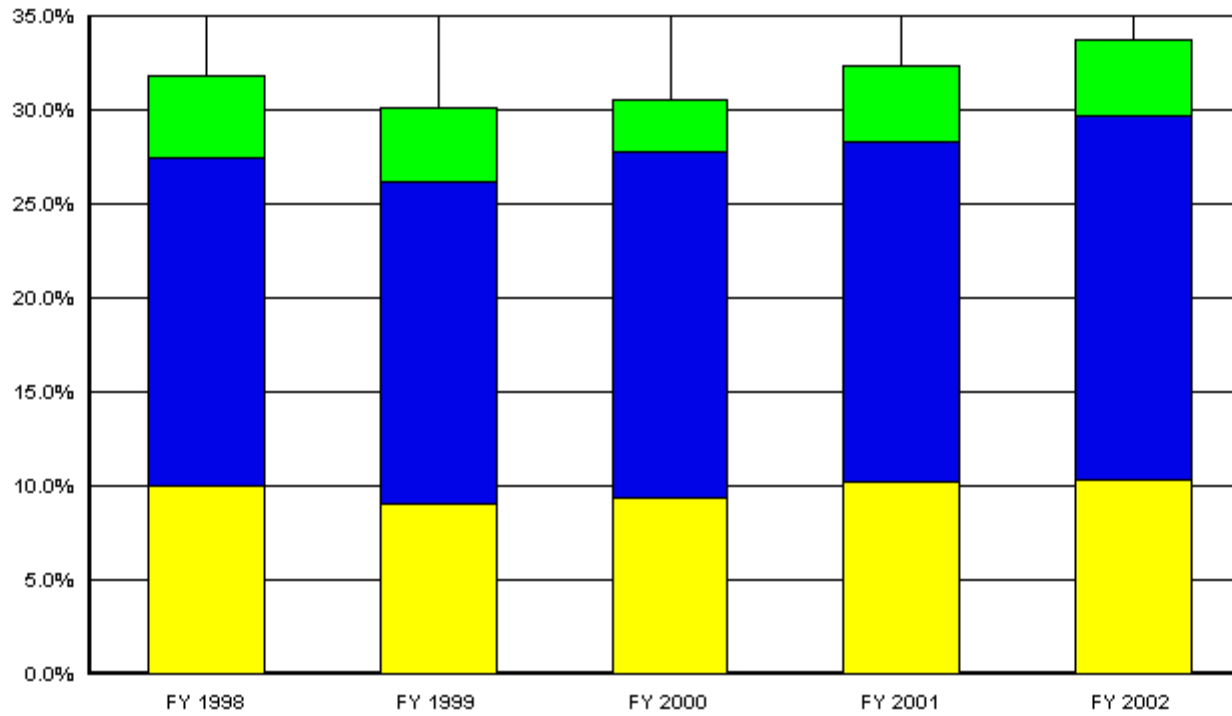
## Support Cost as a % of Total Cost Lawrence Livermore – University of California



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	31.8%	30.1%	30.6%	32.4%	33.7%



**US Department of Energy  
Percent of Support Category to Total  
L. Livermore**



Gen Sup
  Mis Sup
  Site Specific

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
Gen Sup	10.0%	9.0%	9.4%	10.2%	10.3%
Mis Sup	17.4%	17.1%	18.4%	18.1%	19.5%
Site Specific	4.4%	4.0%	2.8%	4.1%	4.0%

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**SITE PROFILE**  
**LAWRENCE LIVERMORE NATIONAL LAB – UNIVERSITY OF CALIFORNIA**

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**I. BACKGROUND**

Established in 1952, Lawrence Livermore National Laboratory (LLNL) is a government-owned, contractor operated R&D facility managed and operated by the University of California for the National Nuclear Security Administration (NNSA) within the U.S. Department of Energy (DOE). LLNL is responsible for ensuring that the nation's nuclear weapons remain safe, secure, and reliable. In addition, the Laboratory also has a primary role in NNSA's mission in the prevention of the spread and use of nuclear weapons, as well as other weapons of mass destruction. Technologies and assessment tools developed at Livermore are contributing to homeland security and the war against terrorism. With its special capabilities, the Laboratory is also able to meet enduring national needs in conventional defense, energy, environment, biosciences, and basic science. LLNL has a diverse customer base with major efforts for DOE and NNSA program offices (Defense Programs, Defense Nuclear Nonproliferation, Science, and Environmental Restoration and Waste Management) as well as considerable work for other federal and non-federal agencies.

LLNL is a world-class leader in technical research and development. LLNL is home of the Option White 12-teraflops supercomputer, the most powerful computer in the world when it was installed, and will be home of the National Ignition Facility (NIF). NIF, now under construction, will be the world's most powerful laser and a cornerstone of the Stockpile Stewardship Program. LLNL's contributions to nonproliferation and homeland security include the development of sensors to detect proliferation activities as well as fast, portable sensors for biological agent detection. Recent LLNL breakthroughs in science and technology include the creation of new forms of solid carbon dioxide, the development of a laser guide star system for the Keck Observatory and its use for discoveries in planetary science, and the development of novel applications of accelerator mass spectrometry to biomedical research. Laboratory researchers have earned 91 "R&D 100 Awards" since 1978 (including six in 2002), which is indicative of LLNL's many other technical accomplishments. In addition, two LLNL researchers received the E. O. Lawrence Award in 2002.

LLNL has about 8,900 University of California employees, which includes all workforce categories except contractors. LLNL's highly educated workforce includes about 1,700 doctorates, 1,200 masters, and 1,800 bachelor degrees. The primary LLNL site is located on one square mile, 40 miles southeast of San Francisco.

**II. TRENDS**

LLNL's support costs as a percentage of total Laboratory costs have increased from 31.8% in Fiscal Year (FY) 1998 to 33.7% in FY 2002, largely due to increased Safeguards & Security activities. LLNL experienced an increase from 32.4% in FY 2001 to 33.7% in FY 2002, due primarily to a change in the charging mechanism for Plant Engineering jobs. The total increase in

support costs was also attributable to an increase in security requirements and activities as a result of the September 11, 2001, incident, and increased electricity costs due to the California energy crisis.

The following paragraphs highlight the DOE functional support categories where a significant change occurred in raw costs from FY 2001 to FY 2002. Each paragraph annotates the total raw costs for the functional area, the net change from the prior year, and a brief explanation of the change. A concise description of the costs included in each category has also been included.

Please note that the Mission Direct Costs reflect “raw costs” (i.e. costs without distributed charges) and will not tie back to the funding assigned by the Assistant Secretary.

#### General Support

*Executive Direction* (\$19,977K) rose by \$4,420K, due to a variety of reasons including increases due to follow-up on the Laboratory-wide employee survey conducted every five years, costs associated with increased strategic planning, and additional senior managers. This category includes costs associated with the Laboratory Director and Associate Directors, the DOD Program Office, and various strategic councils.

*Human Resources* (\$18,904K) increased by \$1,811K, mainly due to the establishment of the new Administration & Human Resources Directorate (AHRD) Associate Director’s office and an increase in the number of Student-Employee Graduate Research Fellowships (SEGRF). Costs in this category also consist of the Human Resources Department, Staff Relations activities, and the Employee Education Department.

*Procurement* (\$13,994K) increased by \$979K, mainly due to the establishment of the Plant Engineering Material Distribution service center. In addition, costs also rose due to increased Full Time Equivalents (FTE) needed for procurement growth in FY 2002. This category also includes expenditures for other procurement-related costs and contract management activities.

*Legal* (\$3,060K) decreased by \$220K, due to a decline in outside counsel services needed to address litigation. Expenses in this category include general legal and intellectual property activities.

*Central Administrative Services* (\$21,590K) increased by \$2,755K, largely due to increased costs in the Technical Information Department (TID) associated with increased demand in FY 2002. In addition, travel costs rose due to the mid-year airline industry decision to eliminate travel rebates. Costs associated with the TID Library, travel-related support, and the cafeterias are also included in this category.

*Program/Project Planning & Control* (\$2,325K) increased by \$260K, due to an increase in costs in the Budget Office. FY 2002 included additional labor costs as a result of vacant positions from FY 2001 being filled in FY 2002. This category consists of costs associated with the Budget Office, which primarily includes budget and financial management activities.

*Information/Outreach Activities* (\$18,400K) increased by \$3,967K, mainly due to an increase in Public Affairs' activities related to the implementation of an institutional tours program. In addition, there was an increase in the number of Post Docs in Physics & Advanced Technologies (PAT) and Chemistry & Materials Sciences (CMS). Costs in this category also consist of Industrial Partnerships, University of California (UC) relations, Special Employees/Post-Docs, and various fellowships.

*Information Services* (\$47,311K) increased by \$9,222K, largely due to the development of a new institutional configuration management system, which provides the Laboratory with the ability to share and access component engineering data, standards, policies, and procedures electronically in response to various DOE requirements (10CRF830.120, 10CRF830.122, and UC Contract 48, Appendix O). Costs also grew due to the implementation and deployment of the Automatic Software Distribution (ASD) project and the increased use of software site licenses at LLNL. Other costs in this category include those related to telecommunications services, computer network and applications support, and Institutional Computing.

*Other* (\$5,523K) decreased by \$4,841K. FY 2001 included costs resulting from the September 11, 2001, incident and PAT Employees Between Assignments (EBAs), due to the structural reorganization of LLNL. The first of these did not recur in FY 2002, and the second was reduced in FY 2002 as EBAs found assignments. A description of the costs in this category is included in the breakdown of the *Other* category provided below.

#### Mission Support

*Environmental* (\$22,048K) increased by \$4,450K, primarily as a result of the Environmental Impact Statement (EIS) and the decontamination of Building 251 to reduce the building's status from a Category 2 Nonreactor Nuclear Facility to a Radiological Facility. In this category, costs primarily stem from Environmental Protection activities, Pollution Prevention, and Medical Waste Processing.

*Safety and Health* (\$36,327K) increased by \$5,044K, due to increased Authorization Basis and Emergency Preparedness activities as a result of compliance requirements. Costs also increased as a result of the replacement of the LLNL Wide Area Microwave Network. Activities in this category also consist of Hazards Control, Health Services, and the Document Manager.

*Facilities Management* (\$42,156K) rose by \$2,775K, primarily due to an increase in the number of facility and infrastructure projects managed by the Institutional Facilities Manager's office. Costs associated with Organizational Facility Charges (OFC) are also included in this category.

*Maintenance* (\$91,063K) increased by \$19,421K, primarily due to an increase in Plant Engineering (PE) job costs in FY 2002 resulting from a structural change to the charging mechanism. This change allows a higher portion of maintenance costs to be captured in this report. Activities in this category also consist of the Laboratory Facilities Charge (LFC) and various infrastructure support and revitalization projects.

*Utilities* (\$22,383K) increased by \$7,211K, primarily due to an increase in electricity costs that were a result of the California energy crisis. Expenses in this category include electricity costs and mechanical utilities costs for water, gas, and sewage.

*Safeguards and Security* (\$56,063K) increased \$11,414K, primarily because of a security supplement in FY 2002 that funded increased security requirements and activities as a result of the September 11, 2001, incident. This category mainly consists of Safeguards and Security Program activities and includes costs related to the Superblock, a defense plutonium research and development facility.

*Quality Assurance* (\$5,363K) decreased \$503K, primarily because of a structural adjustment in FY 2002 in which the Engineering Records Center was reclassified to Information Services from Quality Assurance. Costs associated with various assurance offices, Engineering Compliance, and the Laboratory Training Manager are included in this category.

*Laboratory/Technical Support* (\$13,870K) increased \$1,385K, primarily because of an increase in Engineering Electronics Services/Electronic Manufacturing service center activities resulting from increased customer demand due to an Engineering workforce expansion in FY 2002. Other activities in this category include Material Characterization and Processing (MCAP), manufacturing technology, and engineering materials and measurement systems.

#### Site Specific

*Management/Award Fee* (\$14,632K) increased \$704K, primarily due to higher management fees paid to the University of California in FY 2002 resulting from a rating of “outstanding” in FY 2001. Costs in this category consist primarily of the management fees that are paid to the University of California.

*Taxes* (\$310K) increased \$98K as a result of taxes paid on the operating lease for the capillary machines that support the Bio Production Sequencing Facility.

*Laboratory Directed Research and Development (LDRD)* (\$46,830K) increased \$5,094K as a result of the LDRD distribution base increasing in FY 2002.

LLNL Support Cost by Functional Activity Summary  
FY 1998 - FY 2002 (\$ in thousands not adjusted for inflation)

	<b>FY98</b>	<b>FY99</b>	<b>FY00</b>	<b>FY01</b>	<b>FY02</b>
<b>General Support</b>	<b>124,335</b>	<b>122,839</b>	<b>127,593</b>	<b>139,760</b>	<b>158,314</b>
<b>Mission Support</b>	<b>214,266</b>	<b>232,391</b>	<b>246,179</b>	<b>248,908</b>	<b>299,783</b>
<b>Site Specific Support</b>	<b>53,591</b>	<b>54,034</b>	<b>37,244</b>	<b>55,876</b>	<b>61,722</b>
<b>Total Support Costs</b>	<b>392,192</b>	<b>409,263</b>	<b>411,016</b>	<b>444,544</b>	<b>519,869</b>
<b>Mission Direct Operating</b>	<b>688,163</b>	<b>723,929</b>	<b>704,543</b>	<b>714,874</b>	<b>778,090</b>
<b>Mission Direct Capital</b>	<b>152,879</b>	<b>225,843</b>	<b>216,991</b>	<b>213,526</b>	<b>242,488</b>
<b>Total Mission Specific</b>	<b>841,042</b>	<b>949,772</b>	<b>921,534</b>	<b>928,400</b>	<b>1,020,578</b>
<b>Total Site Costs</b>	<b>1,233,234</b>	<b>1,359,035</b>	<b>1,332,550</b>	<b>1,372,944</b>	<b>1,540,447</b>
<b>Total Support Costs as % of Total Site Costs</b>	<b>31.8%</b>	<b>30.1%</b>	<b>30.8%</b>	<b>32.4%</b>	<b>33.7%</b>

Note: There may be minor variances due to rounding.

### III. COST SAVING INITIATIVES

LLNL continues to pursue institutional cost savings and efficiencies. Examples of cost savings include the following:

- LLNL has dramatically reduced travel costs by outsourcing travel services and aggressively implementing good travel-management practices. In FY 2000, the Laboratory joined the State of California's discount airfare program (YCal), which includes discount airfares for over 140 city-pairs for travel within and outside of California and generates an estimated cost savings of \$2 million annually. Although similar savings are expected to be realized in FY 2003, additional future savings are unknown, due to the YCal contract being up for bid in FY 2004. In addition to the YCal program, about \$1 million is estimated to be saved in FY 2002 through the use of non-refundable tickets for those destinations not covered by YCal airfares. Savings in FY 2001 and FY 2000 were estimated to be approximately \$2 million per year. Due to new regulations and uncertainty in the airline industry, the site is estimated to achieve savings of \$750,000 and \$500,000 in FY 2003 and FY 2004, respectively. In October 2001, LLNL also introduced a new online web-based travel-booking tool called Business Travel Solutions (BTS). Currently, 14% of domestic travel reservations are processed via BTS, generating an estimated annual savings of \$87,000. A software upgrade for BTS will be required in FY 2003 at a cost of \$30,000.

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>
Savings	\$3,087,000	\$2,837,000	\$587,000
Investment	\$0	\$30,000	\$0
Net Savings	\$3,087,000	\$2,807,000	\$587,000

- An estimated net cost savings of \$21.85 million in FY 2002 comes from site-wide licensing of software and volume purchase agreements. In FY 2001, a site license for Microsoft Enterprise was negotiated which covers licenses for the Windows operating system, Office software, and Client Access and contributes to this savings. Additionally, the use of institutional desktop standards for computer software has resulted in a net cost savings of about \$400,000 for FY 2002. It is anticipated that the combined estimated net cost savings of \$22.25 million in FY 2002 will be fairly similar in future years.

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>
Savings	\$30,650,000	\$30,650,000	\$30,650,000
Investment	\$8,400,000	\$8,400,000	\$8,400,000
Net Savings	\$22,250,000	\$22,250,000	\$22,250,000

- In FY 2002, the Environmental Restoration Division successfully negotiated with the Regional Water Quality Control Board, the Environmental Protection Agency, and the Department of Toxic Substances Control to reduce reporting and monitoring requirements by 50%. As a result, the anticipated net cost savings are estimated at \$600,000 per year with no up-front investment costs incurred. In addition, numerous efforts on the part of the Waste Management team have resulted in a net cost savings of approximately \$501,000 in FY 2002. Additional net cost savings related to the Waste Management team are estimated to be \$299,000 and \$314,000 in FY 2003 and FY 2004, respectively.

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>
Savings	\$1,141,200	\$899,000	\$914,000
Investment	\$40,200	\$0	\$0
Net Savings	\$1,101,000	\$899,000	\$914,000

- LLNL first piloted and now has in place highly efficient, cost-effective means for managing its excess facilities and Decontamination and Demolition (D&D) projects. During FY 2002, D&D work began on nine facilities totaling nearly 52,000 gross square feet. Demolition of the nine buildings and trailers eliminates/avoids \$4.7 million of current maintenance backlog and saves an ongoing yearly cost of over \$393,000.

- LLNL's Work-for-Others (WFO) proposal approval procedures were streamlined in FY 2002. For federal and non-federal proposals, the time for approval has been cut by more

than half, with potential savings of \$183,000 annually (based on 180 proposals/year). For WFO DOE proposals, the cut in approval time is about 90%, with projected annual cost savings of \$245,000 (based on 102 proposals/year). Cost savings in future years were estimated to rise by 5% annually as a result of wage increases.

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>
Savings	\$428,000	\$449,400	\$471,900
Investment	\$3,500	\$0	\$0
Net Savings	\$424,500	\$449,400	\$471,900

#### IV. OTHER

As requested, a breakdown of the support cost category “Other” is shown below:

LLNL Support Cost Reported by Functional Activity Summary: FY 1998 to FY 2002

10. Other (\$ in thousands)	<b>FY98</b>	<b>FY99</b>	<b>FY00</b>	<b>FY01</b>	<b>FY02</b>
Misc Bus Exp/Credits – Accounting Adjustments	288	16	-5	-11	-3
Misc Bus Exp/Credits – DCSP Procurement Variance	-256	-66	0	0	0
Misc Bus Exp/Credits – Self Insurance/Reserve <sup>1</sup>	918	894	5,987	7,320	5,431
Misc Bus Exp/Credits – Bad Debt Allowance	0	-420	0	-200	-3
Misc Bus Exp/Credits (w/o special items)	-170	-148	-180	-208	-177
Lasers Employees Between Assignments (EBAs)	0	0	615	0	0
PAT Employees Between Assignments (EBAs) <sup>2</sup>	0	0	0	1,416	275
Special Severance Pay (B&R GG06/GG08)	150	0	0	0	0
September 11, 2001 Institution Impacts	0	0	0	2,046	0
Total	930	276	6,417	10,364	5,523
<b>Note: There may be minor variances due to rounding</b>					

<sup>1</sup> Self Insurance/Reserve Costs cover the estimated payments for litigation costs/settlements and general claims other than for workers' compensation and unemployment.

<sup>2</sup> Physics & Advanced Technologies (PAT) Employees Between Assignments (EBAs) are a result of the reorganization of Physics Directorate and Lasers Directorate into the National Ignition Facility (NIF) Directorate and the PAT Directorate. Although a majority of the costs were incurred in FY 2001, a portion remained in FY 2002.



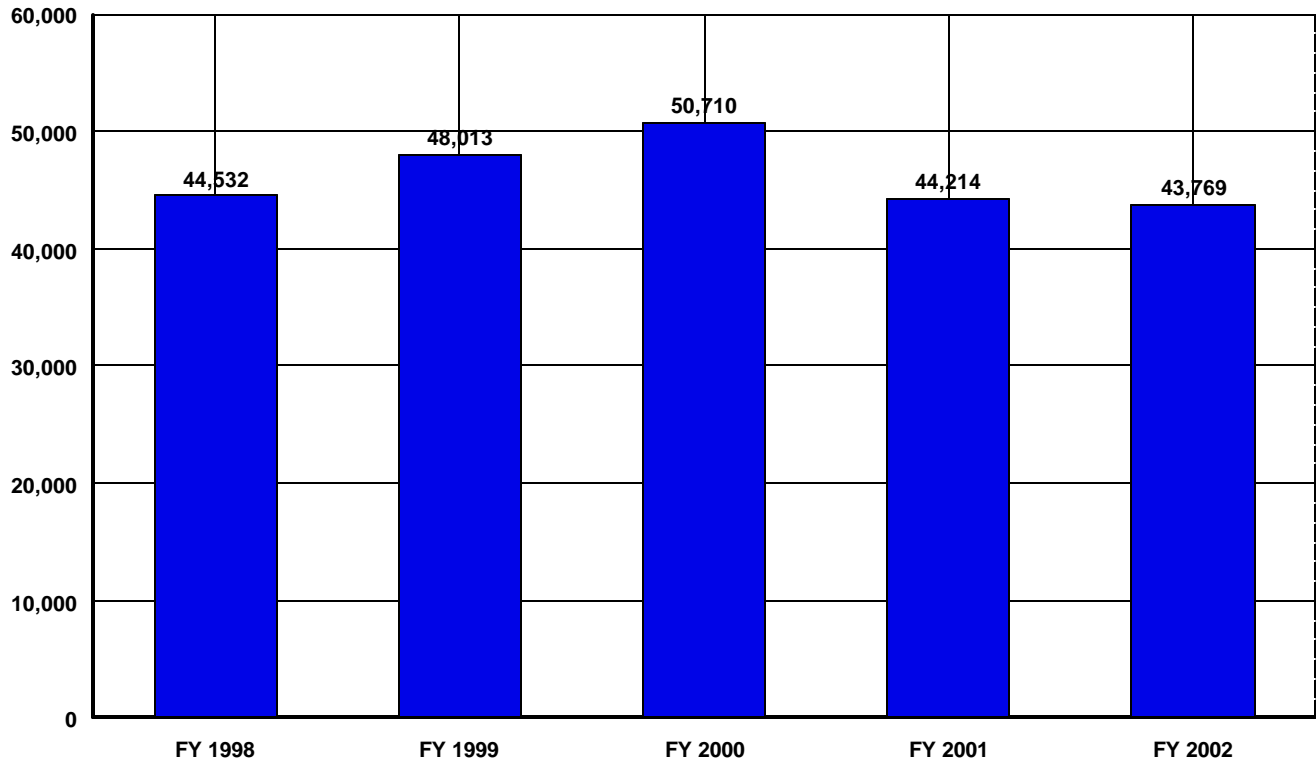
**Mound**  
**FY 2002**

**Trends in Total Functional Support Cost Categories**

(\$ in 000's)

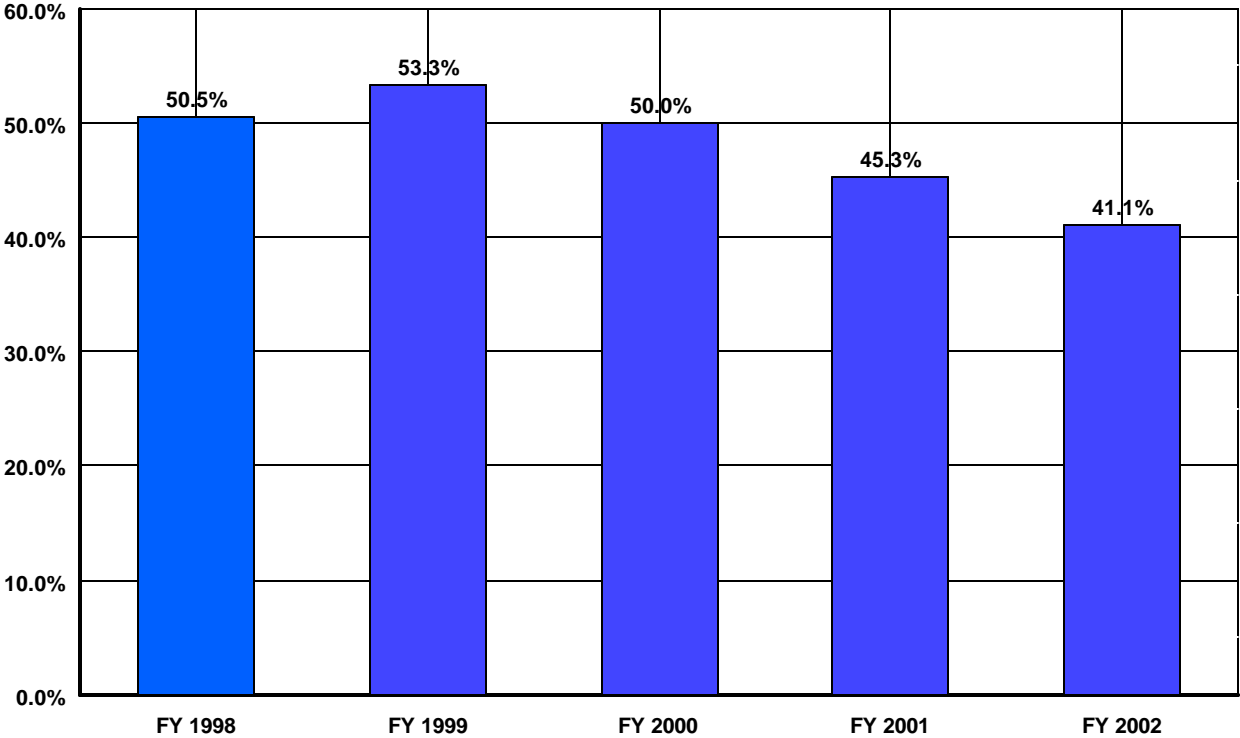
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	657	672	800	1,022	612	-45	-6.8%
HUMAN RESOURCES	907	1,138	1,363	976	1,160	253	27.9%
CFO	1,706	2,553	2,689	2,281	1,539	-167	-9.8%
PROCUREMENT	404	689	799	771	922	518	128.2%
LEGAL	146	173	133	365	631	485	332.2%
CENTRAL ADMIN SERVICES	1,400	1,194	1,539	1,228	953	-447	-31.9%
PROGRAM/PROJECT CONTROL	2,171	1,835	1,628	1,055	824	-1,347	-62.0%
INFORMATION OUTREACH	205	164	162	146	51	-154	-75.1%
INFORMATION SERVICES	4,756	3,065	4,493	3,061	2,682	-2,074	-43.6%
OTHER	0	0	0	-762	-858	-858	100.0%
<b>TOTAL GENERAL SUPPORT</b>	<b>12,352</b>	<b>11,483</b>	<b>13,606</b>	<b>10,143</b>	<b>8,516</b>	<b>-3,836</b>	<b>-31.1%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	1,353	1,163	1,132	1,240	1,028	-325	-24.0%
SAFETY AND HEALTH	6,384	8,031	9,387	7,647	7,600	1,216	19.0%
FACILITIES MANAGEMENT	1,389	1,400	1,101	1,032	863	-526	-37.9%
MAINTENANCE	6,269	6,794	5,010	4,496	5,809	-460	-7.3%
UTILITIES	2,379	1,863	2,590	2,607	2,468	89	3.7%
SAFEGUARDS AND SECURITY	3,708	3,885	3,676	3,664	3,709	1	0.0%
LOGISTICS SUPPORT	1,443	1,299	1,373	1,821	1,244	-199	-13.8%
QUALITY ASSURANCE	135	137	112	132	657	522	386.7%
LABORATORY/TECHNICAL SUPPOR	1,862	1,685	1,601	1,702	1,828	-34	-1.8%
<b>TOTAL MISSION SUPPORT</b>	<b>24,922</b>	<b>26,257</b>	<b>25,982</b>	<b>24,341</b>	<b>25,206</b>	<b>284</b>	<b>1.1%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	6,322	9,608	10,449	9,170	9,412	3,090	48.9%
TAXES	936	665	673	560	635	-301	-32.2%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>7,258</b>	<b>10,273</b>	<b>11,122</b>	<b>9,730</b>	<b>10,047</b>	<b>2,789</b>	<b>38.4%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>44,532</b>	<b>48,013</b>	<b>50,710</b>	<b>44,214</b>	<b>43,769</b>	<b>-763</b>	<b>-1.7%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	43,649	42,100	50,707	53,322	62,717	19,068	43.7%
Capital Construction	0	0	0	0	0	0	0.0%
<b>TOTAL MISSION DIRECT</b>	<b>43,649</b>	<b>42,100</b>	<b>50,707</b>	<b>53,322</b>	<b>62,717</b>	<b>19,068</b>	<b>43.7%</b>
<b>Total Costs</b>	<b>88,181</b>	<b>90,113</b>	<b>101,417</b>	<b>97,536</b>	<b>106,486</b>	<b>18,305</b>	<b>20.8%</b>
<b>Total Costs w/o Construction</b>	<b>88,181</b>	<b>90,113</b>	<b>101,417</b>	<b>97,536</b>	<b>106,486</b>	<b>18,305</b>	<b>20.8%</b>
General Support % Total Costs	14.0%	12.7%	13.4%	10.4%	8.0%		
Mission Support % Total Costs	28.3%	29.1%	25.6%	25.0%	23.7%		
Site Specific % Total Costs	8.2%	11.4%	11.0%	10.0%	9.4%		
Total Support % Total Costs	50.5%	53.3%	50.0%	45.3%	41.1%		
Total Support % Total Costs w/o Co	50.5%	53.3%	50.0%	45.3%	41.1%		

## Total Support Costs (000's) Mound – Babcock & Wilcox



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	44,532	48,013	50,710	44,214	43,769

# Support Cost as a % of Total Cost Mound – Babcock & Wilcox

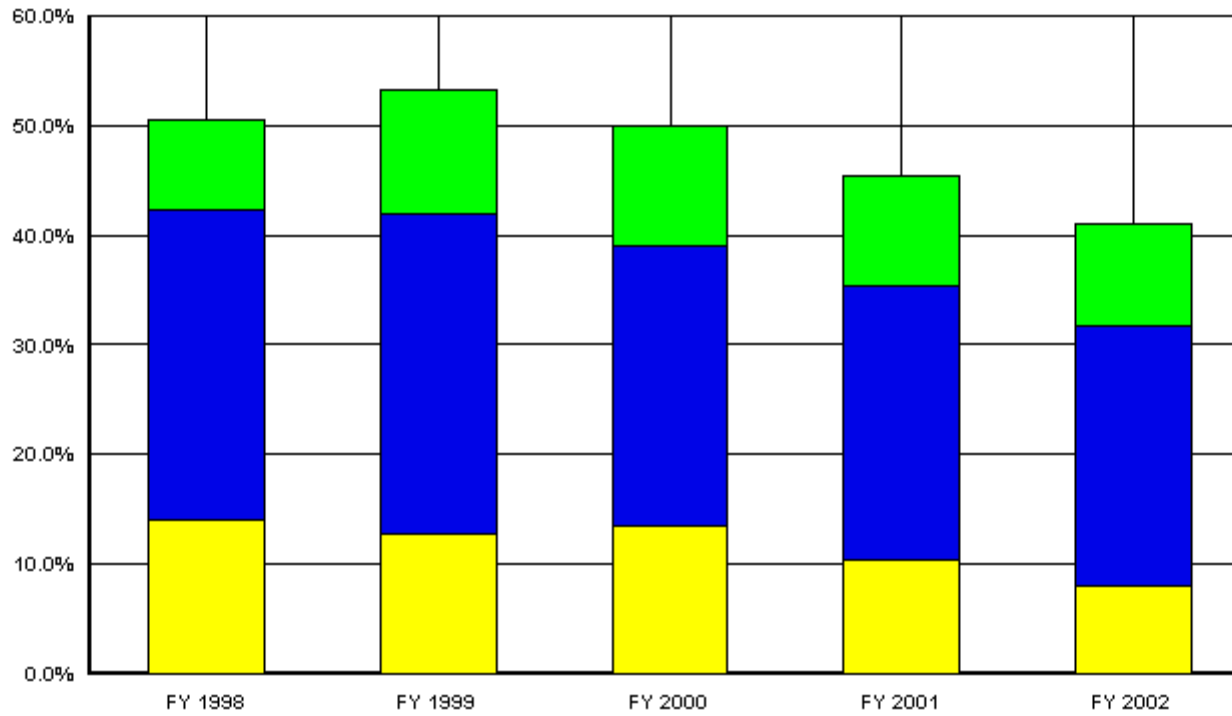


FY 1998      FY 1999      FY 2000      FY 2001      FY 2002

**Total Functional Support**

50.5%      53.3%      50.0%      45.3%      41.1%

**US Department of Energy  
Percent of Support Category to Total  
Mound**



Gen Sup
  Mis Sup
  Site Specific

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
Gen Sup	14.0%	12.7%	13.4%	10.4%	8.0%
Mis Sup	28.3%	29.1%	25.6%	25.0%	23.7%
Site Specific	8.2%	11.4%	11.0%	10.0%	9.4%

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**SITE PROFILE**  
**MOUND PLANT – BABCOCK AND WILCOX**

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**I. SITE CHARACTERISTICS**

The Department of Energy's Miamisburg Closure Project at the Mound Plant in Miamisburg, Ohio, is located on 306 acres in the southwest section of the city. The plant occupies approximately 60 buildings currently, including stand-alone power generating facilities, water supplies, and wastewater treatment facilities. The site also houses the Department of Energy Ohio Field Office, which began operations in October of 1994, as well as the DOE Miamisburg Closure Project office. BWXT of Ohio (BWXTO), which is managing the environmental cleanup, employs 561 employees, of which 213 are salaried exempt; 112 are salaried non-exempt; and 236 are bargaining unit employees. Additionally, 20 employees from BWXT Corporation and Washington Group provide management support; and approximately 125 subcontract employees provide direct support.

For over 40 years the Mound Site focused on integrated research, development and production. The primary mission was the process development, production engineering, manufacturing, surveillance, and evaluation of explosive components for the United States nuclear defense stockpile. Mound had secondary missions related to nuclear material safeguards, radioactive waste management and recovery, the building and testing of nuclear generators, and the purification of non-radioactive isotopes for medical, industrial and agricultural research.

In 1991, the Department of Energy initiated a reconfiguration process that called for the eventual closing of the Mound Plant and the relocation of equipment, materials, and production work to other DOE sites.

Mound was placed on the Superfund List in 1989 and a Federal Facility Agreement was reached among DOE, U.S. EPA, and Ohio EPA in 1993. Mound's focus is now on the environmental remediation of the buildings and grounds at the site. Work includes decontamination and decommissioning of the buildings and facilities; removal of volatile organic compounds from the site; and removal of radioactively contaminated soils from both on and off-plant site. As part of this effort, the City of Miamisburg formed the Miamisburg Mound Community Improvement Corporation (MMCIC) to lay the groundwork and direct economic development at the site using available buildings, equipment and technology. As cleanup activities are completed, land and buildings are transitioned to MMCIC ownership for future economic development. Currently, 121 acres have been transferred to MMCIC.

Commercialization of the site is underway with over 30 private companies already operating on the site. Work continues on the site to conduct safe shutdown of buildings for future commercial use, cleanup of the soil, and decontamination and decommissioning of facilities that are no longer needed. Over 67 buildings have already been demolished.

BWXTO's approach to the comprehensive cleanup of the Mound Site focuses on a critical path approach to ensure timely completion of the project. Using this approach, BWXTO has developed a vision to successfully complete the project:

- A site remediated safely and quickly, and transferred to MMCIC ownership;
- A facility that has value to its tenants with useful economic infrastructure;
- A model for cost-effective DOE cleanup; and,
- A community and facility with a future independent of DOE support.

Nuclear energy programs continued at the Mound Plant during FY2002 alongside the cleanup work and the commercialization process. This includes support of Radioisotopic Thermoelectric Generators (RTGs), or space batteries, in support of NASA Missions. Future activities for these programs will be transitioned to Argonne West at the INEEL site in Idaho.

## **II. HIGHLIGHTS OF TRENDS**

Trend analysis for functional cost reporting is given from FY1998 forward as a new baseline was initiated in FY1998 with the arrival of a new Primary Contractor (BWXTO). Major changes in trend from FY1998 to FY2002 are:

The percent of spending for Functional Support has, and is, projected to decline each year from FY1998 (50.5% of total) through FY2002 (41.1% of total) as more funds are focused on Mission Direct projects and support budgets are trimmed.

## **III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR**

In FY2002, some fluctuations are observed due to the reclassification of indirect costs to match the guidance provided. The major effects are described below.

Security costs increased \$45K in FY2002 due to the impact of post-911 (September 11, 2001) requirements, as well as increased security requirements for the NE program prior to transfer of the radioactive materials associated with that program. The table of year-to-year comparisons does not appear to indicate an increase in Safeguards and Security; however, Fire Protection and Emergency Management were reported in this category prior to FY2002. In FY2002, \$925K for Fire Protection and Emergency Management is reported in the Safety and Health Category.

Safety and Health costs have been reduced \$47K due to the completion of most of the Dose Reconstruction activities. Again, due to the recategorization of Fire Protection and Emergency Management, it is not readily apparent that the Safety and Health savings have been realized.

Waste Management Operations was reported in "Mission Direct – Other" in FY1999 (\$4.2M) but is direct funded as part of Waste Applications in "Mission Direct – Environmental Management (EM)" in FY2000 through FY2002.

Executive Direction shows a \$410K decrease in FY2002 due to the recategorization of BWXT disability costs and the annual liability insurance premium.

Prior to FY2002, the majority of the Quality Assurance costs were erroneously reported in the Chief Financial Officer category. This led to an artificially high Chief Financial Officer category and an artificially low Quality Assurance category in previous years.

Legal costs have increased \$266K in FY2002 due to the increase in litigation support costs required to prepare for outstanding cases. No settlement costs, however, were paid in FY2002.

Maintenance costs increased \$1,313K in FY2002 due to the large amount of overtime worked by bargaining unit employees to support an aggressively accelerated Decommissioning & Dismantlement schedule. This required maintenance activities for buildings in preparation for demolition or transition, maintenance of heavy-duty equipment, etc. In addition, a new building was constructed for the NE program, necessitating additional maintenance support.

Post Closure costs in “Mission Direct” include \$6,015K pension costs and \$8,619K retiree and disabled benefits previously included in labor fringe calculation and in site support costs that were spread throughout the Functional Support area prior to FY2000.

“Mission Direct – Other” category primarily includes the cost offset for the Miamisburg Mound Community Improvement Corporation (MMCIC) utility usage.

Items included in “General Support – Other” category include:

<b>\$ in thousands</b>	<b>FY 2001</b>	<b>FY 2002</b>
Downtime (Plant Shutdown, Transition Center Labor, etc.)	85	18
Transfers of costs to non-DOE work	(32)	
Transfers of costs to Nuclear Energy (NE) branch of the WBS	(816)	(1,100)
Annual Liability Insurance Premium		102
Severance		123
<b>TOTAL</b>	<b>(763)</b>	<b>(857)</b>

Prior to FY2001, NE transfers were included in each functional cost area; in FY2001 and FY2002, the transfers were combined in one work package. Also included in this category for FY 2002, as per the guidance, are severance and the annual liability insurance premium. In FY 2001, severance was reported in Executive Direction and the annual liability insurance premium was included in “Mission Direct.”

All taxes for the Mound Plant are included under the “Site Specific – Taxes” category.

#### **IV. COST SAVINGS INITIATIVES**

On January 1, 2003, a new contractor will assume responsibility for the cleanup activities at the Mound site. Cost savings plans for FY2003 and future years will be determined by the new contractor at that time.

**National Renewabl**  
**FY 2002**

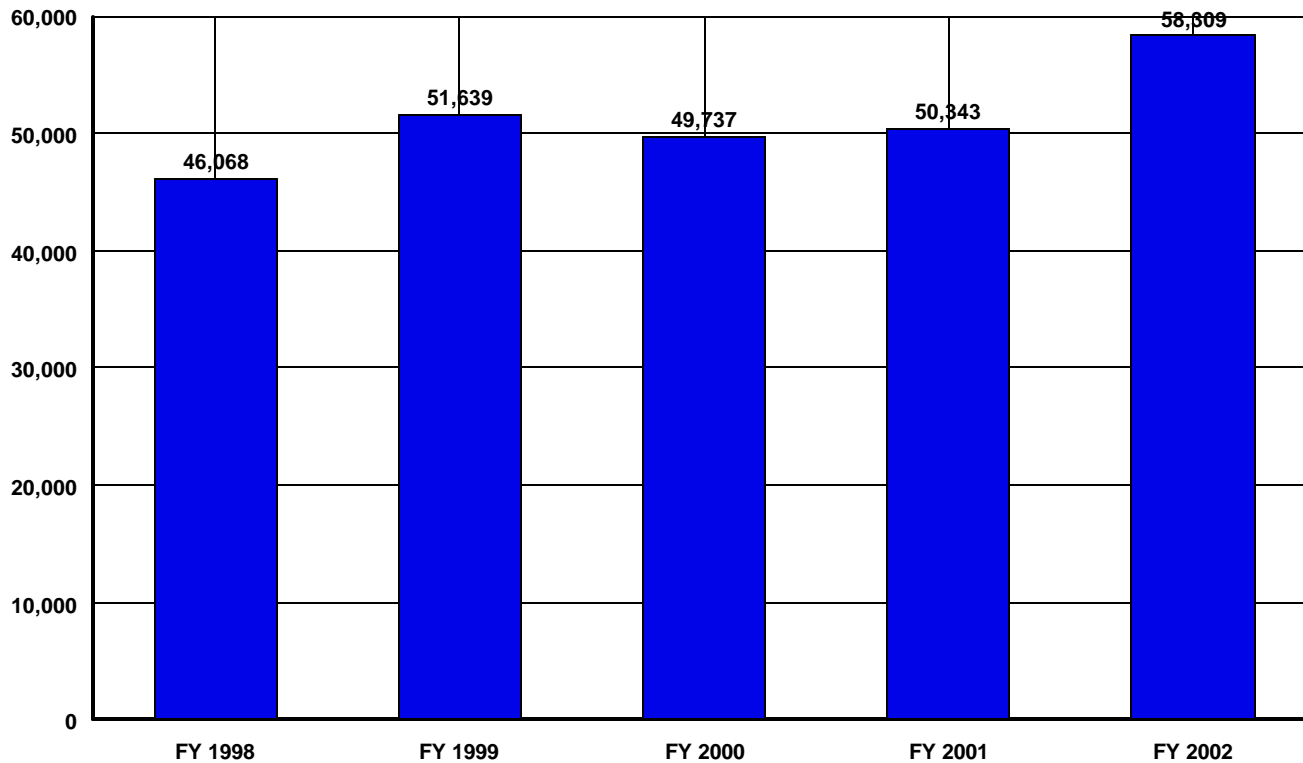
**Trends in Total Functional Support Cost Categories**

(\$ in 000's)

<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	1,458	1,420	2,362	3,051	3,667	2,209	151.5%
HUMAN RESOURCES	949	1,135	1,521	1,418	1,651	702	74.0%
CFO	1,164	1,379	1,732	1,659	1,962	798	68.6%
PROCUREMENT	1,874	1,936	2,169	2,166	2,381	507	27.1%
LEGAL	733	1,627	1,023	1,323	1,916	1,183	161.4%
CENTRAL ADMIN SERVICES	2,087	1,218	1,737	2,184	2,553	466	22.3%
PROGRAM/PROJECT CONTROL	2,637	799	791	1,840	1,061	-1,576	-59.8%
INFORMATION OUTREACH	5,010	9,926	10,307	9,589	12,834	7,824	156.2%
INFORMATION SERVICES	8,901	11,141	7,940	6,794	8,652	-249	-2.8%
OTHER	0	1,068	2,810	1,919	2,126	2,126	100.0%
<b>TOTAL GENERAL SUPPORT</b>	<b>24,813</b>	<b>31,649</b>	<b>32,392</b>	<b>31,943</b>	<b>38,803</b>	<b>13,990</b>	<b>56.4%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	0	0	0	0	0	0	0.0%
SAFETY AND HEALTH	691	746	920	931	1,029	338	48.9%
FACILITIES MANAGEMENT	7,381	7,991	7,106	6,692	6,783	-598	-8.1%
MAINTENANCE	2,163	2,524	1,818	2,816	2,980	817	37.8%
UTILITIES	926	915	1,000	1,130	967	41	4.4%
SAFEGUARDS AND SECURITY	561	584	780	906	1,197	636	113.4%
LOGISTICS SUPPORT	517	823	387	408	406	-111	-21.5%
QUALITY ASSURANCE	0	466	535	579	719	719	100.0%
LABORATORY/TECHNICAL SUPPOR	0	0	238	272	261	261	100.0%
<b>TOTAL MISSION SUPPORT</b>	<b>12,239</b>	<b>14,049</b>	<b>12,784</b>	<b>13,734</b>	<b>14,342</b>	<b>2,103</b>	<b>17.2%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	7,085	4,423	4,561	4,666	5,164	-1,921	-27.1%
TAXES	0	0	0	0	0	0	0.0%
LDRD / PDRD / SDRD	1,931	1,518	0	0	0	-1,931	-100.0%
<b>TOTAL SITE SPECIFIC</b>	<b>9,016</b>	<b>5,941</b>	<b>4,561</b>	<b>4,666</b>	<b>5,164</b>	<b>-3,852</b>	<b>-42.7%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>46,068</b>	<b>51,639</b>	<b>49,737</b>	<b>50,343</b>	<b>58,309</b>	<b>12,241</b>	<b>26.6%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	148,159	137,130	131,973	151,803	132,398	-15,761	-10.6%
Capital Construction	9,986	11,677	4,523	5,361	7,599	-2,387	-23.9%
<b>TOTAL MISSION DIRECT</b>	<b>158,145</b>	<b>148,807</b>	<b>136,496</b>	<b>157,164</b>	<b>139,997</b>	<b>-18,148</b>	<b>-11.5%</b>
<b>Total Costs</b>	<b>204,213</b>	<b>200,446</b>	<b>186,233</b>	<b>207,507</b>	<b>198,306</b>	<b>-5,907</b>	<b>-2.9%</b>
<b>Total Costs w/o Construction</b>	<b>194,227</b>	<b>188,769</b>	<b>181,710</b>	<b>202,146</b>	<b>190,707</b>	<b>-3,520</b>	<b>-1.8%</b>
General Support % Total Costs	12.2%	15.8%	17.4%	15.4%	19.6%		
Mission Support % Total Costs	6.0%	7.0%	6.9%	6.6%	7.2%		
Site Specific % Total Costs	4.4%	3.0%	2.4%	2.2%	2.6%		
Total Support % Total Costs	22.6%	25.8%	26.7%	24.3%	29.4%		
Total Support % Total Costs w/o Co	23.7%	27.4%	27.4%	24.9%	30.6%		

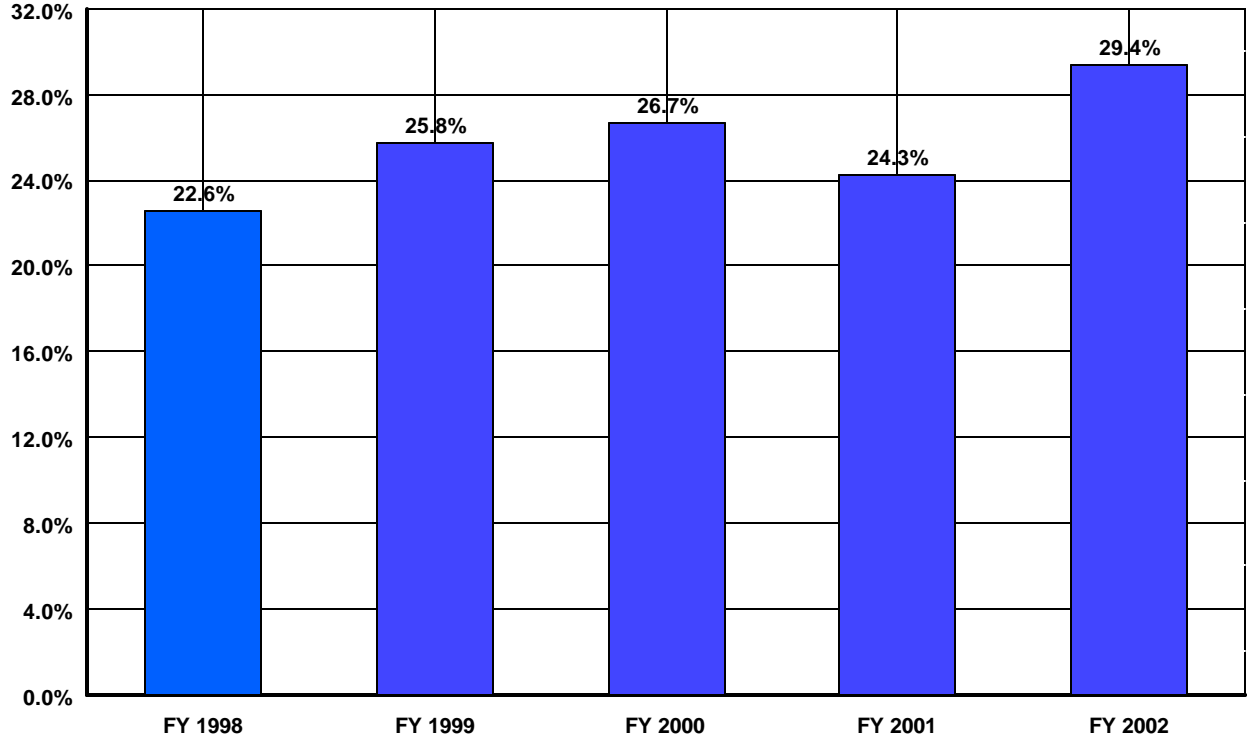


# Total Support Costs (000's) National Renew. Energy Lab – Midwest Research



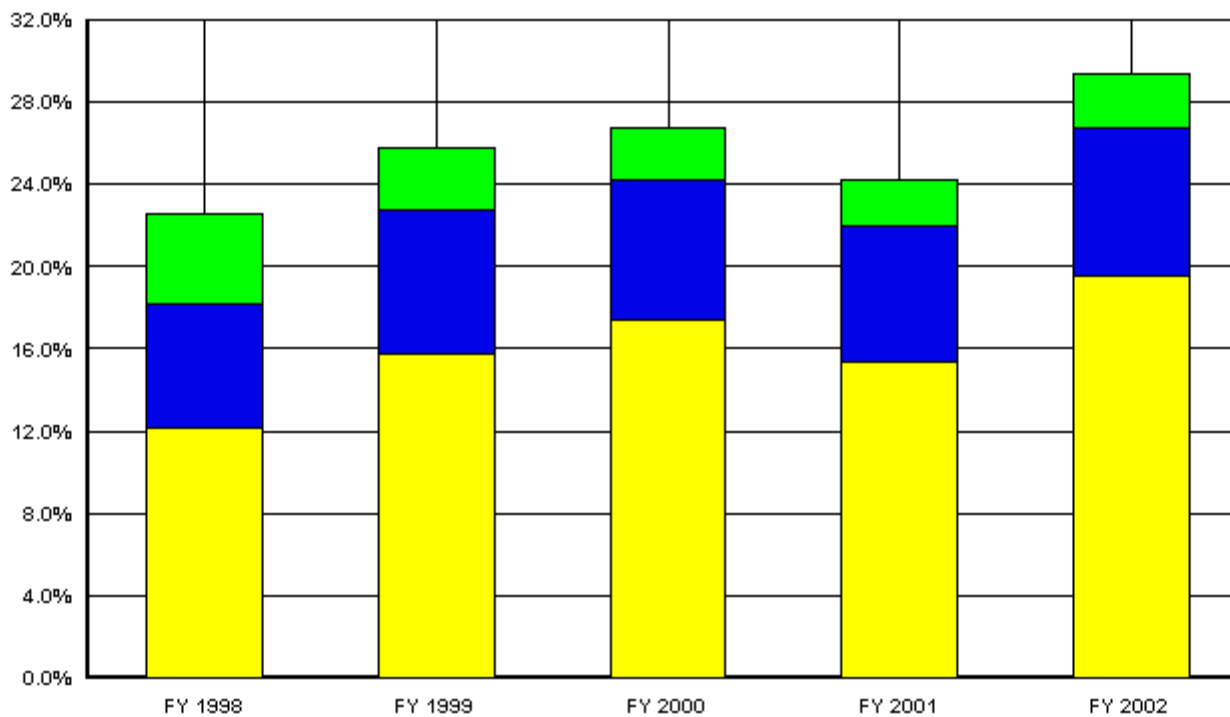
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	46,068	51,639	49,737	50,343	58,309

# Support Cost as a % of Total Cost National Renew. Energy Lab – Midwest



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	22.6%	25.8%	26.7%	24.3%	29.4%

**US Department of Energy  
Percent of Support Category to Total  
National Renewable Energy Lab**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	12.2%	15.8%	17.4%	15.4%	19.6%
<b>Mis Sup</b>	6.0%	7.0%	6.9%	6.6%	7.2%
<b>Site Specific</b>	4.4%	3.0%	2.4%	2.2%	2.6%

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**SITE PROFILE**  
**NATIONAL RENEWABLE ENERGY LAB – MIDWEST RESEARCH INST**

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## **I SITE CHARACTERISTICS**

The National Renewable Energy Laboratory is the only “single program” laboratory in the federal complex of laboratories dedicated to supporting renewable energy and energy efficiency technologies. NREL operates in six separate locations; five are near Golden, Colorado, 8 miles west of Denver, and one in Washington, D.C. The Golden area locations consist of the DOE-owned South Table Mountain (STM) and National Wind Technology Center (NWTC) sites incorporating 325 acres of land at the STM and 280 acres at the NWTC, 20 miles north of STM. Most of the 394,249 sq. ft. of research and support space is located in the three largest DOE-owned buildings. The remaining 277,832 sq. ft. of space is leased and houses basic administrative and support functions with less than 15,000 sq. ft. of laboratories. The cost of leased space is a significant contributor to NREL’s reported cost of facilities.

NREL has approximately 950 payrolled employees, and about 1150 persons on site at all its locations. The majority of NREL’s funding comes from the Office of Energy Efficiency and Renewable Energy, with lesser amounts provided by Energy Research and other DOE and non-DOE sources. NREL’s programs include:

- Solar Energy
- Wind Energy
- Biomass
- Hydrogen, Fuel Cells, & Infrastructure
- Building Technologies
- Federal Energy Management Program
- Geothermal Energy
- FreedomCAR & Vehicle Technologies
- Distributed Energy & Electricity Reliability

## **II COST TRENDS**

The raw data suggest that support costs as a percentage of total costs have been rising since FY 1998. However, a closer look at the data shows that the increase in this percentage in FY 2002 was caused by a shift in total Laboratory costs from subcontracting to in-house research. While total costs decreased by about 4.4% from FY 2001 to FY 2002, in-house research costs increased by over 9%. It should also be noted that, for the purposes of this report, some directly funded Information Outreach costs are included in the support cost category. This added about \$2 million to support costs in FY 2002.

### III ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR

1. Executive Direction – Increase is due to a reclassification of costs for Assoc. Director for Planning in this category in FY 2002 (\$698K) from the Program/Project Control category.
2. CFO – Increase is due to increased training costs, upgrading desktop computers for Finance Office staff, and a reduction in the amount of travel credits received from outside travel agency
3. Legal – Increase due to significantly higher costs for intellectual property due to higher number of patent filings (from \$490K to \$1,097).
4. Information Outreach – This category is showing the greatest increase in growth. The trend toward increasing costs for NREL outreach activities has primarily been driven by the increasing emphasis on information and outreach by our clients in the Office of Energy and Renewable Energy (EE). This new emphasis on outreach at EE is also evident in the education area. Additionally, the trend toward higher outreach costs is the result of several, significant one-time projects, such as investment in Visitors Center upgrades and special projects such as the DOE-sponsored solar car race and the solar decathlon. As mentioned above, this category includes about \$2 million in directly funded Information Outreach work.
5. Information Services – The increase in FY02 was largely the result of the inclusion of nearly \$1 million for a new Computational Science program. Even including this added cost, the FY 2002 spending level was about the same as the level in FY 1998, and considerably lower than the FY 1999 level.
6. Other – As in past years, this category was used to reflect the costs of NREL's Director's Discretionary Research and Development activity.
7. Environmental – NREL's environmental costs are included in the Safety and Health category.

### IV COST SAVINGS INITIATIVES

**Reducing lease costs:** NREL has taken the initiative to pursue lower lease costs from the Lab's primary landlord to take advantage of the general economic downturn in the Denver area. Through persistent negotiations, NREL lowered its average lease cost and avoid expected increases.

**Reducing utilities costs:** NREL has initiated a lab-wide program to make laboratory operations more sustainable, meaning less impact on the environment without decreasing financial or personnel effectiveness. This initiative includes several different elements; the three elements that provide cost savings are reducing energy use in buildings, reducing the impact of transportation, and reducing water use. Utilities costs decreased from \$1,130K in FY 2001 to \$967K in FY 2002. Some of the specific activities undertaken or planned include:

- replacing water fixtures with low- or waterless units (toilets, urinals, showerheads, etc);
- replacing boilers, chillers, and other major building equipment with newer, more efficient units, and in some cases, replacing electric with natural-gas-powered units;

- enforcing the purchase of Energy Star rated office equipment;
- replacing some older lighting with newer, more energy-efficient lighting;
- installing energy saving devices on vending machines;
- installing electricity and water meters throughout the complex, in all individual buildings, to better manage and control energy and water use.

**Electronic processing initiative:** NREL is launching an initiative to improve the effectiveness and efficiency of our business processes by providing more timely and higher quality data for management decisions. This will include providing online entry of transactions; implementing electronic data checking, routing and approvals; eliminating hard copy forms; reducing the time and other resources to process transactions; and eliminating redundant process steps. Electronic processing will significantly reduce the time employees spend recording, validating, routing and approving transactions that currently comprise 40,000 documents annually. Expected benefits include:

- Spending more staff time on data analysis and less time on data collection and input
- Ability to shorten time for approving transactions via online signatures
- Providing more up-to-date information (as often as daily updates) to improve project management
- Automatic quality checks as staff enter transactions for improved quality of reports
- Preventing the development and maintenance of custom information systems
- Reducing volume of paper, reducing environmental impact and cost of purchase and disposal
- Providing centralized information for more timely NREL performance metrics

## Nevada

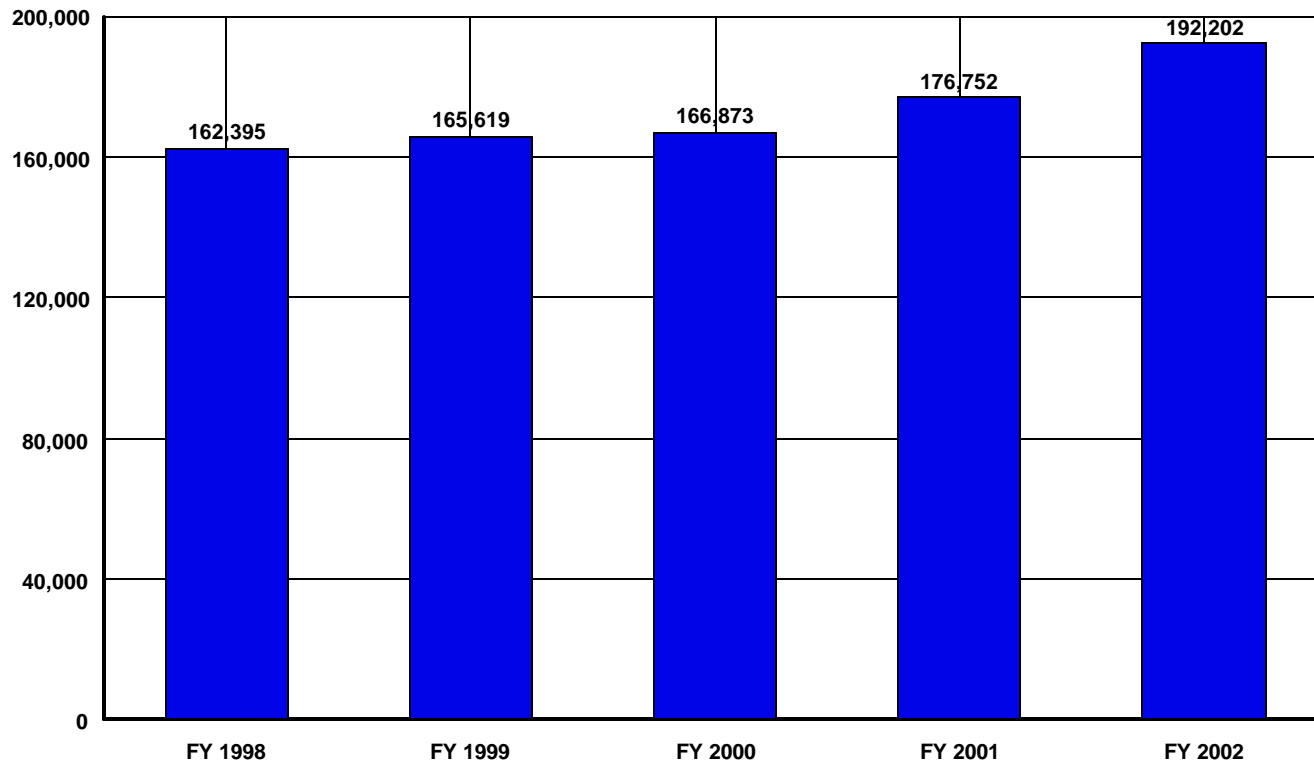
## Trends in Total Functional Support Cost Categories

FY 2002

(\$ in 000's)

GENERAL SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
EXECUTIVE DIRECTION	4,510	6,357	7,066	10,409	6,607	2,097	46.5%
HUMAN RESOURCES	3,451	3,285	3,229	3,302	3,656	205	5.9%
CFO	3,690	3,659	3,439	3,561	3,991	301	8.2%
PROCUREMENT	2,429	1,974	2,014	1,863	2,306	-123	-5.1%
LEGAL	832	919	996	865	1,012	180	21.6%
CENTRAL ADMIN SERVICES	9,610	7,249	7,470	8,114	9,566	-44	-0.5%
PROGRAM/PROJECT CONTROL	1,302	1,130	1,200	1,151	1,719	417	32.0%
INFORMATION OUTREACH	583	1,610	1,676	1,240	1,920	1,337	229.3%
INFORMATION SERVICES	18,275	15,452	16,107	17,378	21,177	2,902	15.9%
OTHER	6,377	750	1,776	1,021	2,024	-4,353	-68.3%
<b>TOTAL GENERAL SUPPORT</b>	<b>51,059</b>	<b>42,385</b>	<b>44,973</b>	<b>48,904</b>	<b>53,978</b>	<b>2,919</b>	<b>5.7%</b>
MISSION SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
ENVIRONMENTAL	3,345	4,218	3,079	930	950	-2,395	-71.6%
SAFETY AND HEALTH	11,632	13,229	13,992	14,956	16,936	5,304	45.6%
FACILITIES MANAGEMENT	5,172	6,077	5,131	6,815	7,716	2,544	49.2%
MAINTENANCE	23,571	24,645	23,033	23,013	22,672	-899	-3.8%
UTILITIES	8,284	6,814	7,397	10,499	11,877	3,593	43.4%
SAFEGUARDS AND SECURITY	21,341	23,630	24,611	24,995	27,523	6,182	29.0%
LOGISTICS SUPPORT	7,334	10,542	11,920	10,408	11,174	3,840	52.4%
QUALITY ASSURANCE	1,961	2,710	3,763	5,576	3,548	1,587	80.9%
LABORATORY/TECHNICAL SUPPOR	9,277	7,932	7,791	8,227	7,133	-2,144	-23.1%
<b>TOTAL MISSION SUPPORT</b>	<b>91,917</b>	<b>99,797</b>	<b>100,717</b>	<b>105,419</b>	<b>109,529</b>	<b>17,612</b>	<b>19.2%</b>
SITE SPECIFIC	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
MANAGEMENT/INCENTIVE FEE	16,100	16,350	17,794	17,530	19,613	3,513	21.8%
TAXES	3,319	7,087	3,389	4,899	5,822	2,503	75.4%
LDRD / PDRD / SDRD	0	0	0	0	3,260	3,260	100.0%
<b>TOTAL SITE SPECIFIC</b>	<b>19,419</b>	<b>23,437</b>	<b>21,183</b>	<b>22,429</b>	<b>28,695</b>	<b>9,276</b>	<b>47.8%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>162,395</b>	<b>165,619</b>	<b>166,873</b>	<b>176,752</b>	<b>192,202</b>	<b>29,807</b>	<b>18.4%</b>
MISSION DIRECT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
Mission Direct Operation	225,408	228,143	240,389	273,437	293,512	68,104	30.2%
Capital Construction	16,380	12,502	10,332	31,866	19,276	2,896	17.7%
<b>TOTAL MISSION DIRECT</b>	<b>241,788</b>	<b>240,645</b>	<b>250,721</b>	<b>305,303</b>	<b>312,788</b>	<b>71,000</b>	<b>29.4%</b>
<b>Total Costs</b>	<b>404,183</b>	<b>406,264</b>	<b>417,594</b>	<b>482,055</b>	<b>504,990</b>	<b>100,807</b>	<b>24.9%</b>
<b>Total Costs w/o Construction</b>	<b>387,803</b>	<b>393,762</b>	<b>407,262</b>	<b>450,189</b>	<b>485,714</b>	<b>97,911</b>	<b>25.2%</b>
General Support % Total Costs	12.6%	10.4%	10.8%	10.1%	10.7%		
Mission Support % Total Costs	22.7%	24.6%	24.1%	21.9%	21.7%		
Site Specific % Total Costs	4.8%	5.8%	5.1%	4.7%	5.7%		
Total Support % Total Costs	40.2%	40.8%	40.0%	36.7%	38.1%		
Total Support % Total Costs w/o Co	41.9%	42.1%	41.0%	39.3%	39.6%		

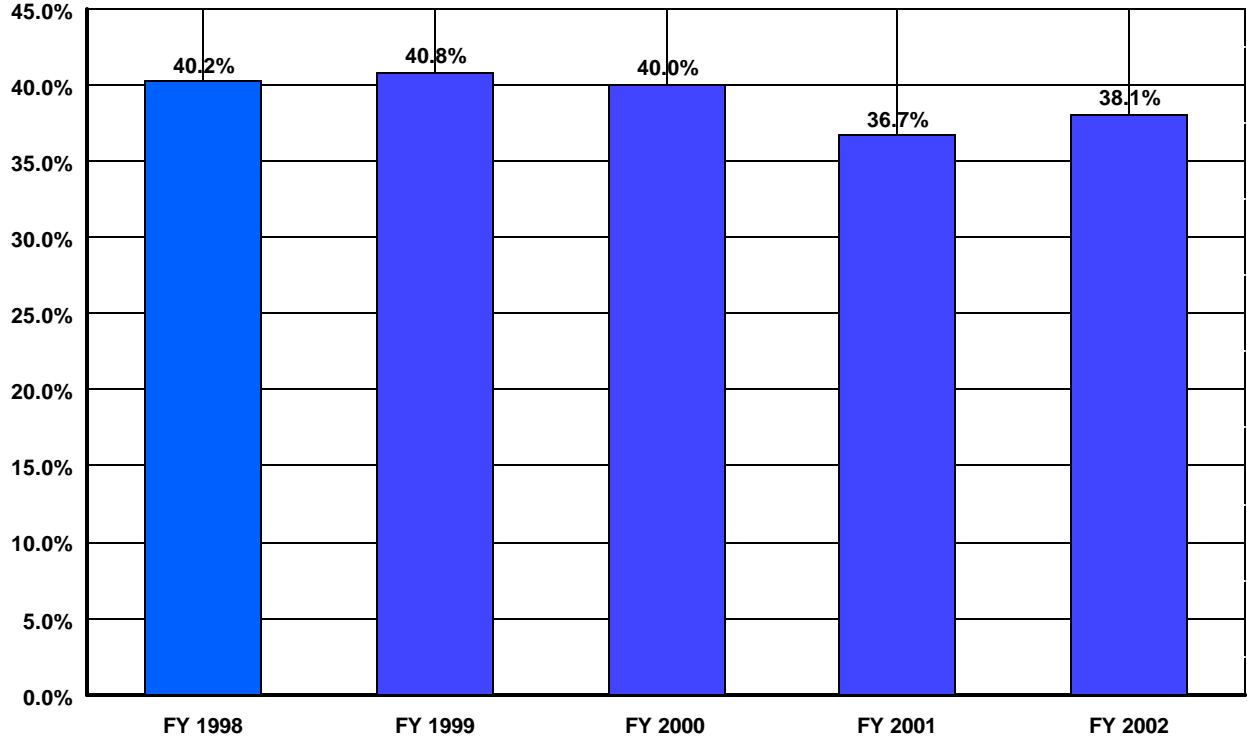
## Total Support Costs (000's) Nevada - Bechtel



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	162,395	165,619	166,873	176,752	192,202

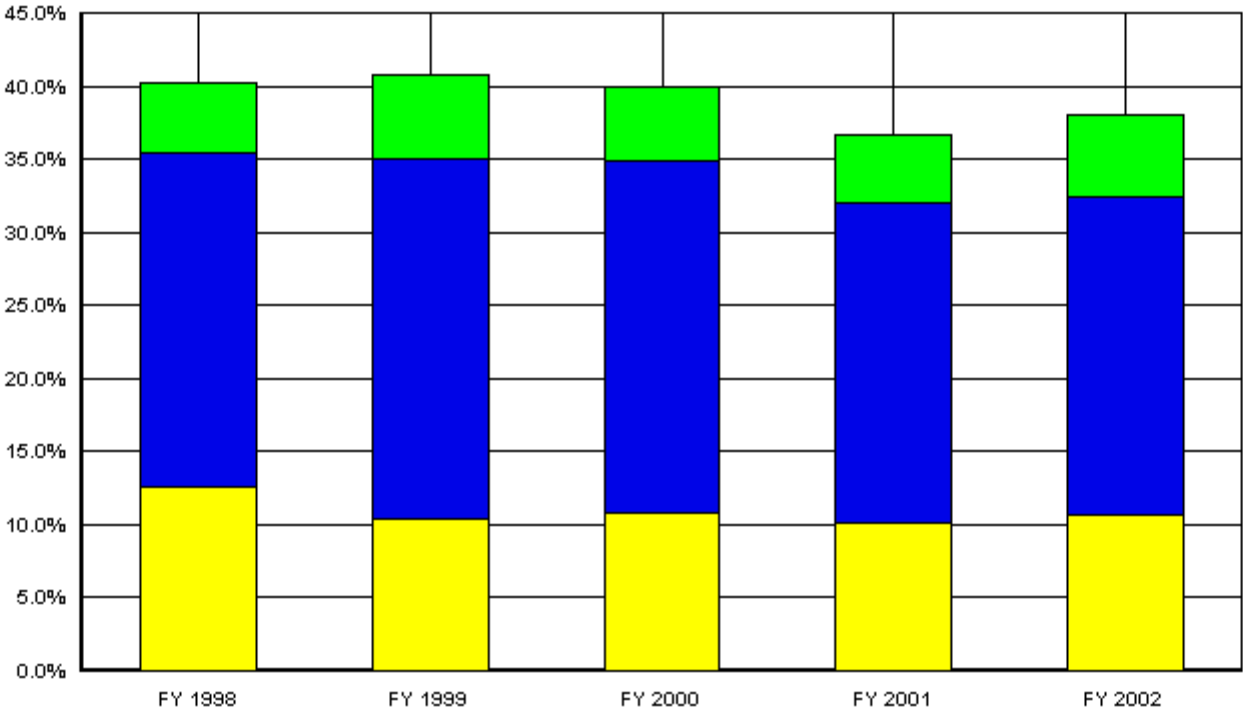


# Support Cost as a % of Total Cost Nevada - Bechtel



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	40.2%	40.8%	40.0%	36.7%	38.1%

**US Department of Energy  
Percent of Support Category to Total  
Nevada**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	12.6%	10.4%	10.8%	10.1%	10.7%
<b>Mis Sup</b>	22.7%	24.6%	24.1%	21.9%	21.7%
<b>Site Specific</b>	4.8%	5.8%	5.1%	4.7%	5.7%

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**SITE PROFILE**  
**NEVADA OPERATIONS OFFICE – BECHTEL**

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**I. SITE CHARACTERISTICS :**

The Nevada Test Site, located 65 miles north of Las Vegas, is a massive outdoor laboratory and national experimental center. Larger than the state of Rhode Island, it is 1,375-square-miles, making it one of the largest secured areas in the United States. The remote site is surrounded by thousands of additional acres of land withdrawn from the public domain for use as a protected wildlife range and for a military gunnery range, creating an unpopulated land area comprising some 5,470 square miles. But, the test site is more than the 1,375-square-mile remote-testing site in southern Nevada. Satellite facilities and laboratories are also located in California, Maryland, Nevada, and New Mexico. Total test site and related employment is about 6,500. The arid desert climate allows for year-round operation.

Located within the boundaries of the Nevada Test Site, the base camp of Mercury has many of the amenities found in a typical small town. Housing, medical services, fire protection, law enforcement and security, and a cafeteria are all on site. There are 541 support buildings and laboratories with a replacement cost of \$814 million. There is housing for 349; offices, laboratories, warehouses, and training facilities; a hospital, post office, fire station, and sheriff's substation; and a large motor pool complete with repair facilities.

There are 400 miles of paved roads and 300 miles of unpaved roads, two airstrips, and 10 heliports, as well as several active water wells and an electric power transmission system. Programs are in place to ensure environmental protection and the safety and health of the work force.

Established as the Atomic Energy Commission's on-continent proving ground, the Nevada Test Site has seen more than four decades of nuclear weapons testing. Since the nuclear weapons testing moratorium in 1992, test site use has diversified into many other programs. DOE/NV's current mission is to strengthen United States' security through the military application of nuclear energy and by reducing the global threat from terrorism and weapons of mass destruction. Our five strategic goals are:

1. Maintain and enhance the safety, security, and reliability of the nation's nuclear weapons stockpile to counter the threats of the 21<sup>st</sup> century
2. Detect, prevent, and reverse the proliferation of weapons of mass destruction while promoting nuclear safety worldwide.
3. Provide the Navy with safe, militarily effective nuclear propulsion plants and ensure their continued safe and reliable operation.
4. Ensure the vitality and readiness of the NNSA's nuclear security enterprise.
5. Create a well-managed, responsive, and accountable organization.

## II. HIGHLIGHTS OF TRENDS:

A summary of the change in the various functional cost categories from FY 1998 to FY 2002 is as follows:

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change FY98-02
General Support	\$ 51,059	\$ 42,385	\$ 44,971	\$ 48,904	\$ 53,978	6%
Mission Support	91,917	99,797	100,716	105,419	109,529	19%
Site Specific	19,419	23,437	21,183	22,429	28,695	48%
Total Support	\$ 162,395	\$ 165,619	\$ 166,870	\$ 176,752	\$ 192,202	18%
Mission Direct	225,408	228,143	240,389	273,437	293,512	30%
Capital/Constr.	16,380	12,502	10,332	31,866	19,276	18%
Total Site	\$ 404,183	\$ 406,264	\$ 417,591	\$ 482,055	\$ 504,990	25%
Sppt Cost Ratio	40.2%	40.8%	40.0%	36.7%	38.1%	-5%

Total Support costs increased by 9% from FY 2001 to FY 2002. However, two percentage points of this increase is due to implementation of the new Plant Directed Research, Development and Demonstration (PDRD) program. Although Mission Direct work increased by 7% from FY 2001 to FY 2002, overall site costs increased by only 5% due to a significant decrease in Capital/Construction effort. This resulted in our support cost ratio increasing from 36.7% in FY 2001 to 38.1% in FY 2002. The reasons for significant increases/decreases for each line item are detailed below.

## III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR:

Significant changes in various specific line items from FY 2001 to 2002 are as follows:

- Executive Direction. The decrease is related to completion of a business systems development project. In FY 2000, Bechtel Nevada started the process of creating a Data Warehouse and updating its project and financial systems. Most of the work scope was completed in FY 2001.
- Information Services. The increase resulted primarily from equipment purchases and increased headcount.
- Other. A detailed breakdown of the elements included in this line item is provided below.
- Safety and Health. The increase is due to Beryllium testing that was conducted in various buildings in the North Las Vegas Complex.
- Utilities. The increase resulted from higher usage and purchase rate for electrical power.
- Safeguards and Security. The increase resulted from increased work scope for our security services contractor, Wackenhut Services, Incorporated.

- Taxes. The increase resulted from an increase in the sales/use tax base. All contractor taxes, including all sales/use taxes, are reported in this line item.
- LDRD. The Plant Directed Research Development and Demonstration Project, a LDRD-type program which supports science-based manufacturing related to the National Nuclear Security Administration weapons program, was authorized by Congress for implementation in FY 2002.
- Mission Direct. Mission direct costs associated with Defense Programs, Nuclear Nonproliferation and most of Security and Emergency Operations programs were recast to National Nuclear Security Administration (NNSA) as a result of these programs' realignment under the NNSA.
- Capital/Construction. FY 2001 included a \$13M line item project for radio conversions.

#### **IV. COST SAVING INITIATIVES:**

**FY 2000:** In FY 2000, NV initiated a review of the overall Nevada Test Site infrastructure. The focus of the independent review related to requirements and the strategy and sizing of individual overhead pools in meeting those requirements. The infrastructure review was conducted by a multi-discipline team that included programmatic representatives and functional managers from within DOE/NV and the National Labs. As a result of this review, the team identified 25 Focus Areas in a letter to the contractor dated October 17, 2000, and requested that Bechtel Nevada (BN) evaluate those areas for change which would result in a reduction in the cost of doing business. As a result of this review, BN saved \$540K in FY 2001. Of this amount, \$328K was in reductions in Information Services personnel and \$212K was in reductions in the size of the vehicle fleet (including corresponding reductions in fleet labor).

**FY 2001:** In addition to the \$540K in cost savings resulting from the Focus Area Action Plans as detailed above, BN chose to expand on those action plans and issued a call for Indirect cost avoidance suggestions from all individual BN organizations. A total of 68 recommendations were received and validated by NV during FY 2001. Cost savings resulting from the 68 cost avoidance recommendations totaled \$1.1M, detailed as follows:

- \$572K in permanent personnel transfers to other sites
- \$119.5K in personnel reductions in Human Resources
- \$99K in outsourcing the Dosimetry operations
- \$84K in reductions in property personnel
- \$60K resulting from modifications to the Sanitary Landfill permits
- \$59K resulting from efficiencies in scheduling hazardous waste pickups
- \$48.5K resulting from utilizing the Environmental Management Consolidated Audit Program for BN subcontract laboratory analysis
- \$39K resulting from the use of alternate storage facilities for Ecological and Environmental monitoring equipment
- \$27K in property tax reductions
- \$25K in reductions in Project Controls personnel
- \$4K resulting from the use of alternate portable toilets

- \$1.6K resulting from combining required Safety and Industrial Hygiene training into one session.

**FY 2002:** In order to ensure the continuity of process efficiencies that resulted from the cost savings initiatives implemented in FY 2000 and 2001 as detailed above, and to promote additional cost savings initiatives for FY 2002, NV set up an award fee performance measure that required BN to maintain or reduce the ratio of indirect to direct costs without negatively impacting service levels. As a result of this measure, BN reduced the ratio of indirect to direct costs from 45.9 to 45.4 percent in FY 2002. This resulted in an additional \$2.0M of funds available for direct mission work.

In addition, BN implemented a Six Sigma program that resulted in \$126K in cost savings for FY 2002 in the area of property control. The objectives of Six Sigma are to identify core processes, measure current performance and implement improvements that result in cost savings. Six Sigma is an on-going program to identify business practices that drive improved performance and ensure constant measurement, reassessment and renewal of products, services, processes and procedures. Six Sigma process improvement projects are submitted to NV for validation of cost savings when completed.

**FY 2003:** Due to the success in increasing funds available for direct mission work, NV is continuing to include an award fee measure that requires BN to maintain or reduce the ratio of indirect to direct costs in FY 2003 without negatively impacting service levels. In addition, BN continues to submit cost savings resulting from Six Sigma program process improvements. For FY 2003, NV is currently reviewing \$600K in hard cost savings relating to improvements in preventive maintenance processes.

## V. OTHER:

Details of costs included in the other category are as follows:

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
	(in 000's)	(in 000's)	(in 000's)	(in 000's)	(in 000's)
3161 Displaced Worker	508	405	338	112	12
General Insurance	296	339	315	422	415
Housing	233	335	363	216	371
Legal Settlements	399	191	98	8	77
Worker's Comp. Health	3,198	(221)			
Elk Hills Retirement	109	579	755	627	699
Excess Property Sale		(653)	(102)	(508)	(524)
Retro Worker's Comp*					478
Other Adjustments	1,634	(225)	9	144	496
Total	\$ 6,377	\$ 750	\$ 1,776	\$ 1,021	\$ 2,024

\* - This represents prior contractor worker's compensation claims for Johnston Atoll. Claims were \$345K last year and included in the Legal line item. This cost is considered more appropriate in the Other line item.

**OREMEF**

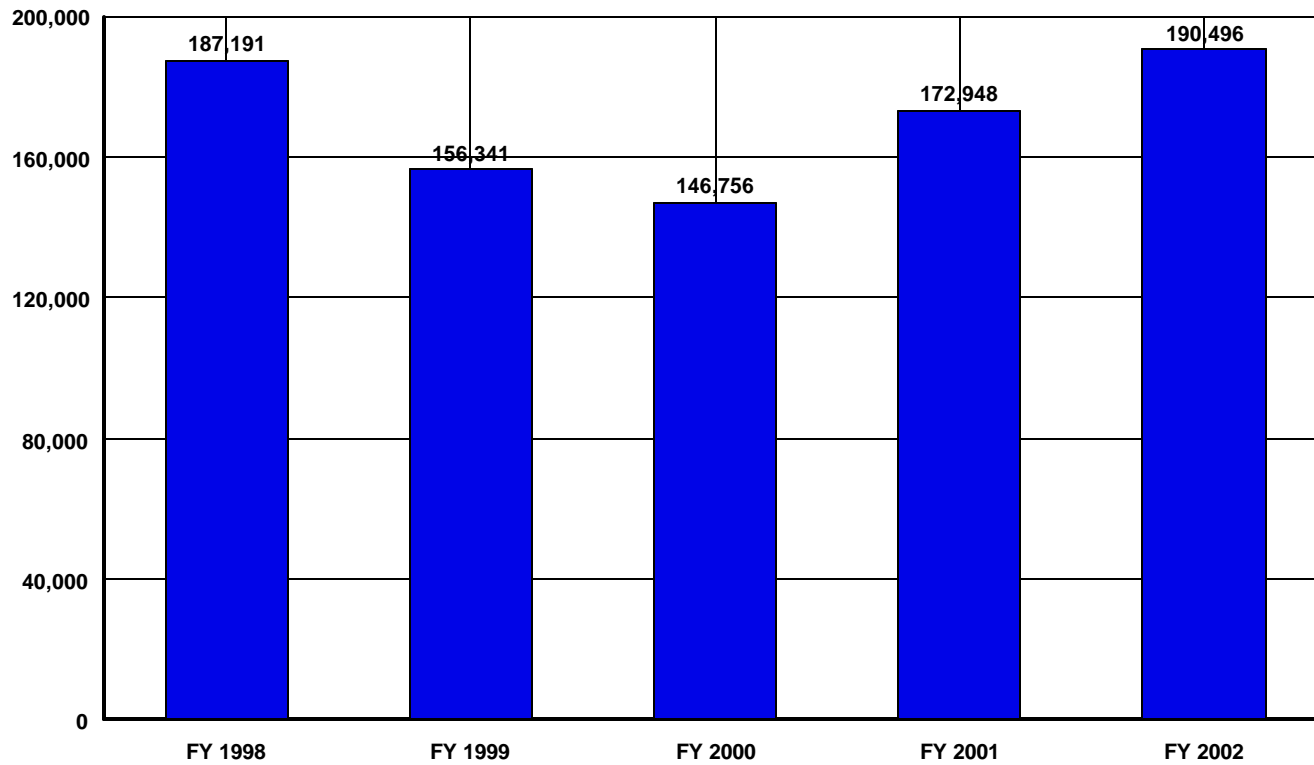
**Trends in Total Functional Support Cost Categories**

**FY 2002**

(\$ in 000's)

<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	10,404	4,780	4,220	2,546	3,683	-6,721	-64.6%
HUMAN RESOURCES	5,609	4,959	5,635	7,630	10,154	4,545	81.0%
CFO	9,331	6,459	5,687	5,073	4,478	-4,853	-52.0%
PROCUREMENT	5,560	4,060	5,240	6,096	7,039	1,479	26.6%
LEGAL	1,174	680	909	1,353	1,162	-12	-1.0%
CENTRAL ADMIN SERVICES	4,285	6,885	6,188	7,172	8,688	4,403	102.8%
PROGRAM/PROJECT CONTROL	2,225	3,607	2,662	5,718	5,520	3,295	148.1%
INFORMATION OUTREACH	1,230	2,047	1,924	2,304	2,124	894	72.7%
INFORMATION SERVICES	21,632	12,785	13,597	20,597	20,757	-875	-4.0%
OTHER	4,978	674	492	977	730	-4,248	-85.3%
<b>TOTAL GENERAL SUPPORT</b>	<b>66,428</b>	<b>46,936</b>	<b>46,554</b>	<b>59,466</b>	<b>64,335</b>	<b>-2,093</b>	<b>-3.2%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	3,348	7,286	6,289	4,725	5,091	1,743	52.1%
SAFETY AND HEALTH	22,307	25,760	27,851	44,309	48,561	26,254	117.7%
FACILITIES MANAGEMENT	7,206	1,885	898	911	1,266	-5,940	-82.4%
MAINTENANCE	23,130	20,349	13,446	12,623	12,559	-10,571	-45.7%
UTILITIES	23,643	16,305	13,858	12,160	14,195	-9,448	-40.0%
SAFEGUARDS AND SECURITY	10,413	10,617	12,964	12,007	15,643	5,230	50.2%
LOGISTICS SUPPORT	-84	2,392	1,728	2,471	2,592	2,676	3,185.7%
QUALITY ASSURANCE	5,346	4,397	3,378	4,751	5,188	-158	-3.0%
LABORATORY/TECHNICAL SUPPOR	7,751	1,664	2,365	1,330	991	-6,760	-87.2%
<b>TOTAL MISSION SUPPORT</b>	<b>103,060</b>	<b>90,655</b>	<b>82,777</b>	<b>95,287</b>	<b>106,086</b>	<b>3,026</b>	<b>2.9%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	16,347	18,985	17,346	19,933	19,324	2,977	18.2%
TAXES	1,356	-235	79	-1,738	751	-605	-44.6%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>17,703</b>	<b>18,750</b>	<b>17,425</b>	<b>18,195</b>	<b>20,075</b>	<b>2,372</b>	<b>13.4%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>187,191</b>	<b>156,341</b>	<b>146,756</b>	<b>172,948</b>	<b>190,496</b>	<b>3,305</b>	<b>1.8%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	323,369	253,602	264,547	299,851	309,803	-13,566	-4.2%
Capital Construction	15,880	8,748	15,623	27,400	36,077	20,197	127.2%
<b>TOTAL MISSION DIRECT</b>	<b>339,249</b>	<b>262,350</b>	<b>280,170</b>	<b>327,251</b>	<b>345,880</b>	<b>6,631</b>	<b>2.0%</b>
<b>Total Costs</b>	526,440	418,691	426,926	500,199	536,376	9,936	1.9%
<b>Total Costs w/o Construction</b>	510,560	409,943	411,303	472,799	500,299	-10,261	-2.0%
General Support % Total Costs	12.6%	11.2%	10.9%	11.9%	12.0%		
Mission Support % Total Costs	19.6%	21.7%	19.4%	19.0%	19.8%		
Site Specific % Total Costs	3.4%	4.5%	4.1%	3.6%	3.7%		
Total Support % Total Costs	35.6%	37.3%	34.4%	34.6%	35.5%		
Total Support % Total Costs w/o Co	36.7%	38.1%	35.7%	36.6%	38.1%		

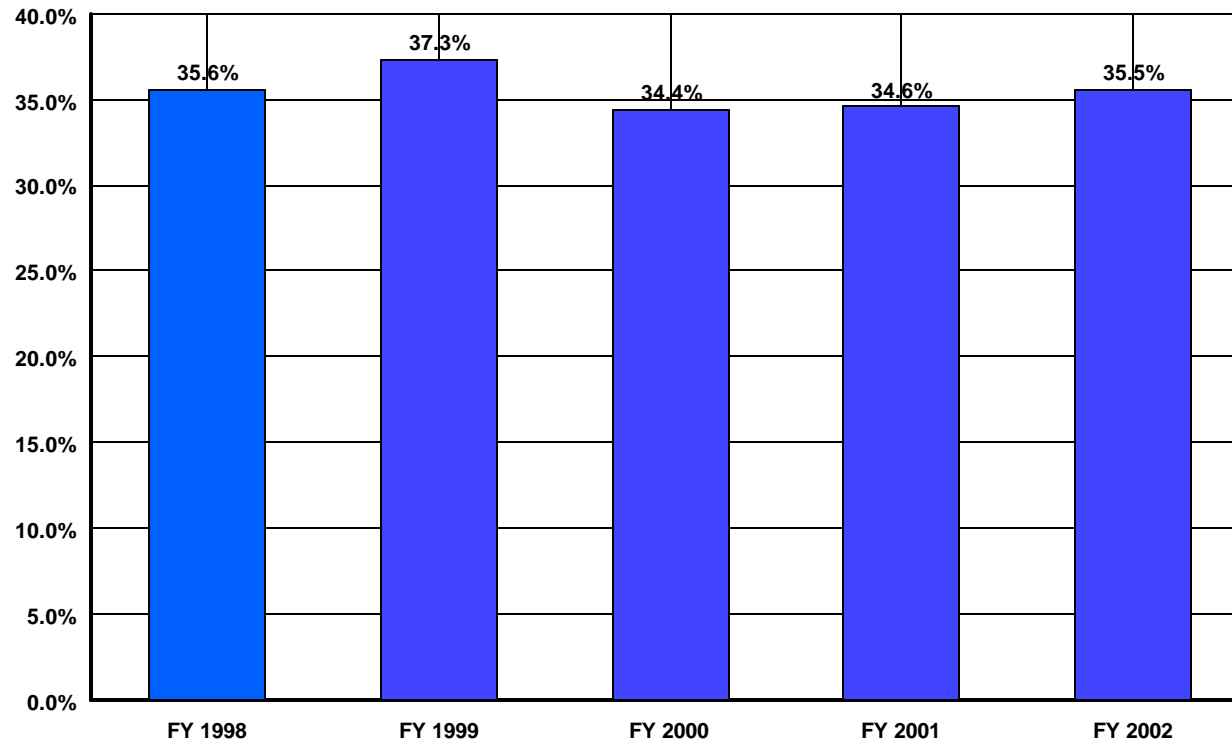
## Total Support Costs (000's) OREMEF – Bechtel Jacobs



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	187,191	156,341	146,756	172,948	190,496

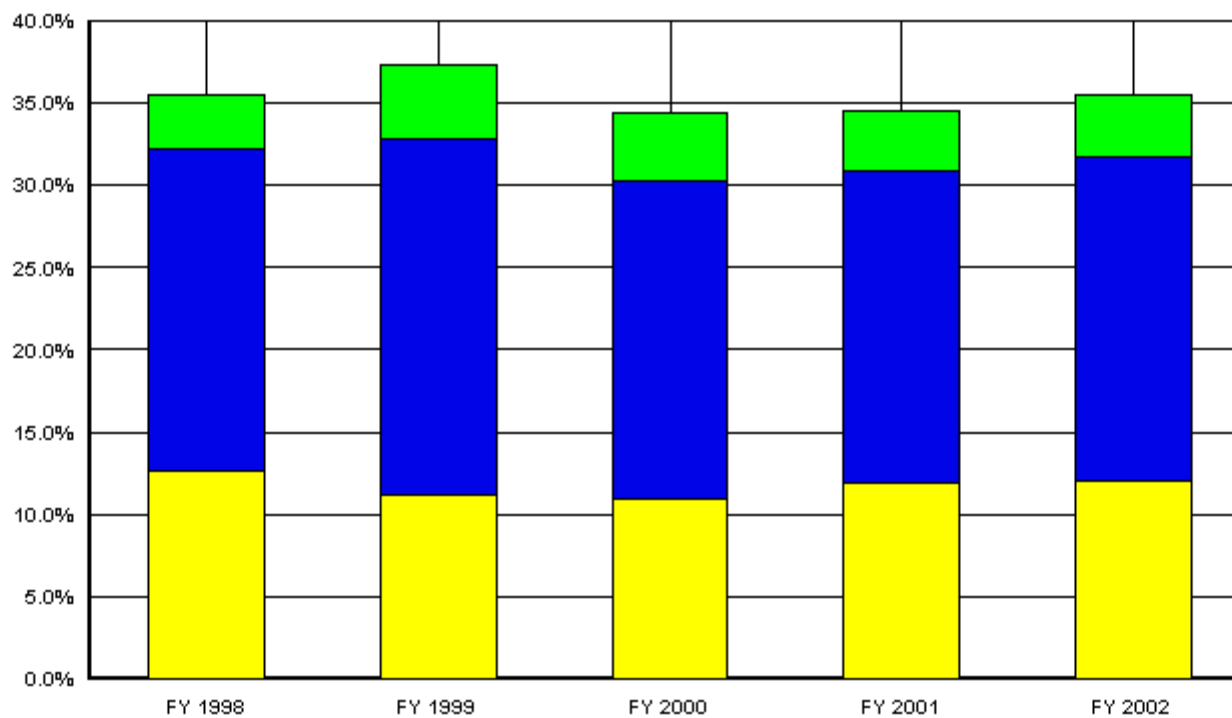


## Support Cost as a % of Total Cost OREMEF – Bechtel Jacobs



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	35.6%	37.3%	34.4%	34.6%	35.5%

**US Department of Energy  
Percent of Support Category to Total  
OREMEF**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	12.6%	11.2%	10.9%	11.9%	12.0%
<b>Mis Sup</b>	19.6%	21.7%	19.4%	19.0%	19.8%
<b>Site Specific</b>	3.4%	4.5%	4.1%	3.6%	3.7%

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**SITE PROFILE**  
**OREMEF – BECHTEL JACOBS COMPANY**

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**I. BACKGROUND**

Functional support costs for the East Tennessee Technology Park (ETTP) site represent a compilation of the support costs at the Paducah, Kentucky site; the Portsmouth, Ohio site; and the ETTP located in Oak Ridge, Tennessee. The mission is three-fold: environmental cleanup and waste management, management of depleted uranium hexafluoride, and reindustrialization of the ETTP. Physical characteristics of each site are as follows:

ETTP: Approximately 360 buildings covering 14 million square feet of space. Most buildings are over 30 years old and non-operational. Approximately 679 Bechtel Jacobs Company employees reside at the site with an additional 1,374 subcontractor and Community Reuse Organization of East Tennessee tenants also physically located on the site.

Portsmouth: DOE is responsible for the maintenance and upkeep on approximately 72 buildings on the Portsmouth site. Bechtel Jacobs Company has 130 employees at the site and 321 additional subcontractors.

Paducah: Approximately 135 buildings on 3,556 acres of land with 748 acres inside the security fence. Bechtel Jacobs Company has 152 employees at the site as well and 326 additional subcontractors.

On April 1, 1998, Bechtel Jacobs Company LLC, a Managing and Integrating (M&I) contractor, replaced Lockheed Martin Energy Systems as the managing contractor for the ETTP, Paducah, and Portsmouth sites. The FY 1998 cost data reflect cost information from both contractors. As of the end of FY 2000, approximately 85% of the total Bechtel Jacobs workscope had been subcontracted. The subcontractors may support the missions functionally, which would be reflected in the appropriate functional category, or fixed price subcontracts may be utilized for specific scopes of work and would be reflected in the mission direct category. Approximately 6% of the Bechtel Jacobs subcontracted workscope continues to be performed by BWXT Y-12 (formerly Lockheed Martin Energy Systems, Inc.) and UT-Battelle (formerly Lockheed Martin Energy Research Corporation). The United States Enrichment Corporation performs approximately 12% of the workscope at Paducah and Portsmouth.

**II. TRENDS**

After a two-year decrease, functional support cost increased in FY 2001 and FY 2002 primarily due to increased Environment, Safety and Health support required by the projects, information technology, support for network separation, worker's compensation, and safeguards and security. The trend of Total Support Costs as a percentage of Total

Site Costs fluctuated within 1% over the last three years indicating that mission direct cost and support cost are changing proportionately.

Major year-to-year anomalies include the following:

**Executive Direction:** Environmental Management and Enrichment Facility continued to pay a share of the Systems, Applications and Products implementation cost to Lockheed Martin during FY 1998. In addition, the cost of the Transition Team is also included in this category. The cost reduced to a more reasonable level in FY 1999, and reduced again in FY 2000, as a result of right-sizing the management structure to fit the organization and completion of one-time transition activities. FY 2001 reduction is due to organization changes that combined organizational elements and reduced the number of managers. The increase in FY 2002 is due to the implementation of the Six Sigma Initiative, a problem-solving methodology that uses a systematic approach to allow an organization to improve quality quickly and effectively.

**Human Resources:** Cost decreased slightly from FY 1998 as a result of no longer requiring additional support from the previous contractor. The increase in FY 2000 was due to changing the costing methodology for Worker's Compensation, which moved the cost from fringe to site overheads. The FY 2001 increase is due to the addition of six FTE's over the course of the year to support training and organizational development as well as increases in the amount of training taken by employees. Worker's Compensation costs account for the increase in FY 2002.

**Chief Financial Officer:** Employment levels in the CFO organization decreased by 16% during FY 1999, with further cost efficiencies in FY 2000 through FY 2002.

**Procurement:** Cost decreased in FY 1999 from FY 1998 due to a 10% reduction in Procurement employment levels during the fiscal year. However, due to the subcontracting effort, procurement costs increased in FY 2000 and FY 2001. With over 170 subcontracts to manage, incremental funding required additional procurement efforts in FY 2001, a trend that continued into FY 2002.

**Legal:** In FY 2000, Environment, Safety and Health investigations at Paducah and Portsmouth resulted in additional support in this area to respond to Freedom of Information Act requests. The increase in FY 2001 is due to the addition of four FTE's during the year to support environmental law, employment law, and management of legacy worker's compensation claims.

**Central Administrative Services:** The FY 2001 and FY 2002 increase is due to additional personnel hired to support increased records management requirements.

**Program/Project Planning & Control:** Increase in FY 2001 is due to a reorganization that shifted FTE's from executive direction to this functional category.

Information Services: Increases from FY 2000 through FY 2002 are due to continued network independence efforts and system upgrades.

Environmental: Cost in this category increased \$4.0m from FY 1998 to FY 1999. This is due to increased emphasis and required subcontractor oversight in the area of environmental compliance.

Safety and Health: Cost increased \$3.8m from FY 1998 due to increased emphasis and required subcontractor oversight in the safety and health area. Costs continue to increase during FY 2000 due to EH investigation support. FY 2001 and FY 2002 increases are due to continued heightened emphasis on safety and additional Health Physics support required by the projects.

Facilities Management: Cost in this category decreased \$5.5m in FY 1999 due to the ability to better identify the type of engineering. Since the category definition requires facility engineering, only facility engineering was included as well as some engineering management and the facilities management organizations.

Maintenance: Costs in this category increased by \$1.8M due to office moves required during FY 1998 necessitated by the change in contractor requiring former Lockheed Martin employees at other sites to move to ETTP and other moves within the site to locate employees with their new organizations. Since FY 1998, costs have decreased as subcontractors take over facilities, including the maintenance costs in their contracts.

Utilities: This category decreased by \$9M in FY 1998 because the responsibility for power and utility distribution ceased to be an ETTP responsibility on April 1, 1998. The employees associated with providing power and utilities were transferred to Y-12 (power) or OMI (utilities); therefore, costs reflected in this category reflect the reduction of this labor and show continued efficiencies in FY 1999, FY 2000, and FY 2001. FY 2002 increases are due to higher utilities costs.

Logistics Support: This category decreased by \$2.5M from FY 1997 to FY 1998. This was due in part to a cost decrease of \$1M plus and increase in credits received from scrap metal sales, property sales, and cash discounts earned. Cost returned to reasonable levels in FY 1999. The increase in FY 2001 and FY 2002 is due to reduced proceeds from property sales.

Quality Assurance: Increase in FY 2001 and FY 2002 is due to emphasis placed on procedures and assessments.

Laboratory/Technical Support: Reorganizations and personnel reductions, due to decreasing work scope, reduced costs in this category by \$4.3M in FY 1998. The cost reduction from FY 1998 in this category reflects the effect of subcontracting major scopes of work so that the analytical support cost is included in the cost of the subcontract.

Management/Award/Incentive Fee: This category increased six million dollars from FY 1997 to FY 1998. This increase is due to a high score received by Lockheed Martin Energy Systems for its performance in FY 1998-1. In addition, the new contractor, Bechtel Jacobs Company LLC, received a fixed fee for the second half of the fiscal year. The increase from FY 1998 was due to a change in the fee structure to a performance-based fee structure. The performance measures were largely tied to the subcontracting and workforce transition efforts where the goals were accomplished.

Taxes: Credit balance in FY 2001 reflects a \$2.3M credit received for pollution tax credits. Listed at the end of the file are the sales and use tax paid for the past three years. Bechtel Jacobs does not operate with any direct pay permits and does not separately identify this cost in the accounting system. FY 2002 balances include a \$130K assessment as a result of Tennessee sales and use tax audit.

Environmental Management (EM): Increase in EM costs in FY 2001 reflects the decision to move the uranium programs to EM, resulting in -0- costs for Nuclear Energy (NE).

The Bechtel Jacobs Company contract with DOE contains requirements that may cause the site's costs to appear out of line with other costs. While Bechtel Jacobs Company is committed to subcontracting a significant portion of the scope of work, the employees inherited from the previous contractor were transitioned to these subcontractors with substantially equivalent benefits as they had received prior to transition. This necessitates significant efforts of the part of the Human Resources, Procurement, Executive Management, Legal, and Chief Financial Officer functions. The Human Resource function has spent a great deal of time negotiating new benefits packages with new carriers because the existing carrier could not handle the requirements, which also resulted in buying out the contract with the old carrier. In addition, the Procurement Function has been required to add special clauses to each subcontract to ensure that these personnel requirements are met. The Chief Financial Officer function has been involved in setting up a separate payroll system in order to pay the subcontractors so that accurate labor data can be maintained for benefits purposes. Therefore, due to the above-mentioned circumstances, the FY 1998 and FY 1999 functional costs may not compare favorably with those of other sites. Note that the FY 2000 functional costs have improved as the Managing and Integrating (M&I) Contractor process matures. As mentioned earlier, FY 2001 and FY 2002 support costs as a percentage of total cost stayed fairly constant.

### **III. MAJOR COST SAVING INITIATIVES**

The major cost saving initiative was implemented on April 1, 1998, when the management of the Environmental Management and Enrichment Facilities scope at ETPP, Paducah, and Portsmouth was transitioned from a Management & Operating contractor to a Managing and Integrating (M&I) contractor. The operating concept of an M&I is to subcontract a majority of the scope of work. This will result in cost savings through the use of fixed price subcontracts. Bechtel Jacobs Company has committed to saving \$100M over the life of the contract. However, savings have amounted to \$450M,

exceeding the \$100M commitment. Other cost saving initiatives include the implementation of a cost model that is simple to implement, thereby saving processing and analysis costs. It is recognized that preciseness may be sacrificed for simplicity. Travel costs are also subject to cost savings by utilizing an outside travel agency to handle reservations and tickets. Employees may not use rental cars if they are staying in the same hotel as the meeting they are attending. The use of pagers and cellular phones has been reviewed and the numbers reduced. The hours that the computer helpline is available have also been reduced. The number of printers has been reduced, and better, faster printers were purchased to handle the increase throughput. The cafeteria was outsourced, which resulted in savings to site overhead. During FY 2001, Bechtel Jacobs began utilizing the Six Sigma program to assist in identifying and improving processes and to achieve cost savings. Approximately \$10M in savings has been achieved through this program.

#### **IV. OTHER**

The Other functional category includes the following for FY 2002:

Inclement Weather/Meetings	\$ 111,000
Reservation Management/DOE Directed Support	611,000
Site Office Support	8,000
Total	<u>\$ 730,000</u>

ORNL

FY 2002

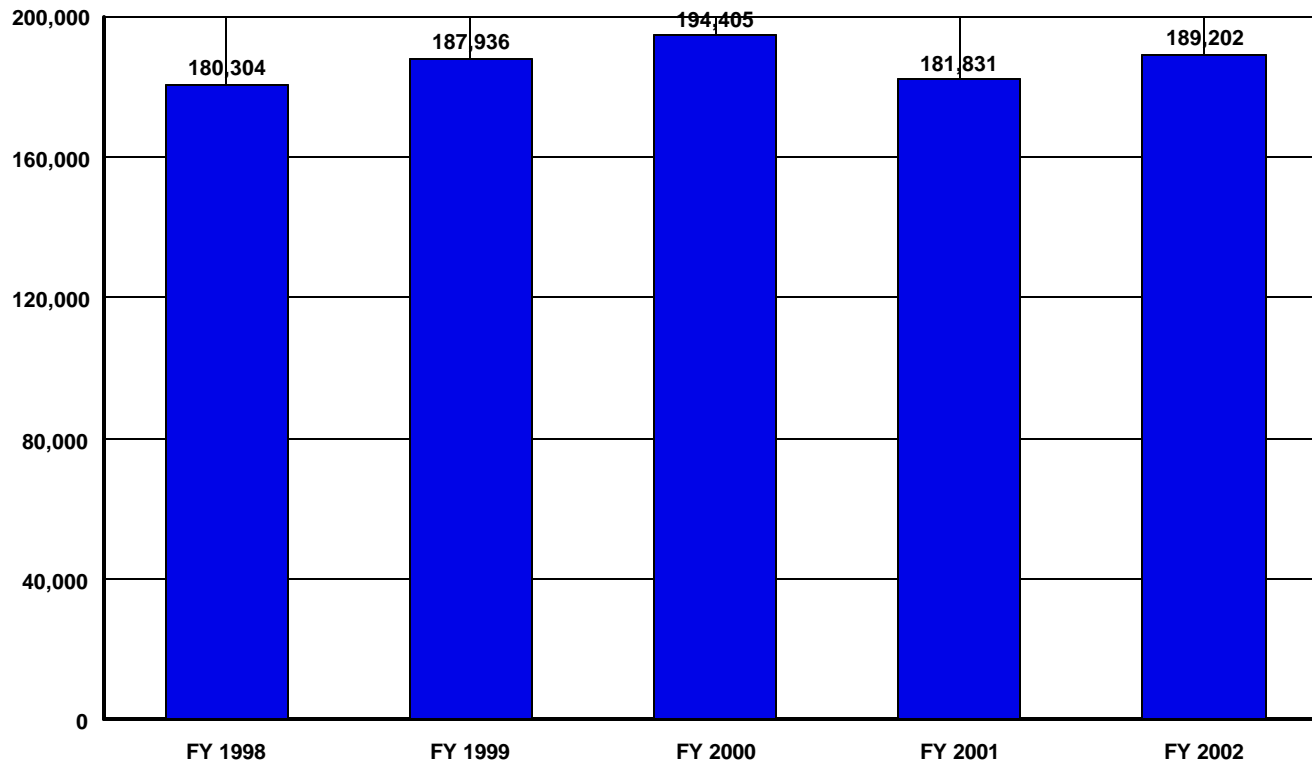
**Trends in Total Functional Support Cost Categories**

(\$ in 000's)

<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	4,775	4,365	5,870	7,861	7,873	3,098	64.9%
HUMAN RESOURCES	3,897	4,922	4,147	4,497	5,217	1,320	33.9%
CFO	5,543	6,344	4,021	1,202	4,502	-1,041	-18.8%
PROCUREMENT	3,642	2,383	2,263	3,359	2,738	-904	-24.8%
LEGAL	1,923	2,311	3,164	4,467	3,287	1,364	70.9%
CENTRAL ADMIN SERVICES	6,272	4,745	6,127	4,658	3,836	-2,436	-38.8%
PROGRAM/PROJECT CONTROL	2,139	2,461	2,349	211	571	-1,568	-73.3%
INFORMATION OUTREACH	1,955	1,958	3,115	3,335	4,906	2,951	150.9%
INFORMATION SERVICES	12,656	16,060	22,576	24,737	22,947	10,291	81.3%
OTHER	9,962	7,780	6,918	5,950	5,092	-4,870	-48.9%
<b>TOTAL GENERAL SUPPORT</b>	<b>52,764</b>	<b>53,329</b>	<b>60,550</b>	<b>60,277</b>	<b>60,969</b>	<b>8,205</b>	<b>15.6%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	4,103	6,669	5,646	5,061	5,198	1,095	26.7%
SAFETY AND HEALTH	23,852	21,686	24,796	22,792	21,734	-2,118	-8.9%
FACILITIES MANAGEMENT	2,529	3,682	6,517	9,423	11,361	8,832	349.2%
MAINTENANCE	40,026	53,466	51,749	46,345	46,864	6,838	17.1%
UTILITIES	8,058	8,071	9,995	13,441	12,468	4,410	54.7%
SAFEGUARDS AND SECURITY	14,943	7,357	7,628	1,125	2,003	-12,940	-86.6%
LOGISTICS SUPPORT	5,362	4,966	4,935	2,453	4,606	-756	-14.1%
QUALITY ASSURANCE	4,193	4,608	4,315	4,423	3,643	-550	-13.1%
LABORATORY/TECHNICAL SUPPOR	7,045	6,423	3,409	2,486	2,120	-4,925	-69.9%
<b>TOTAL MISSION SUPPORT</b>	<b>110,111</b>	<b>116,928</b>	<b>118,990</b>	<b>107,549</b>	<b>109,997</b>	<b>-114</b>	<b>-0.1%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	9,243	9,573	7,745	6,450	6,959	-2,284	-24.7%
TAXES	635	-695	-558	287	301	-334	-52.6%
LDRD / PDRD / SDRD	7,551	8,801	7,678	7,268	10,976	3,425	45.4%
<b>TOTAL SITE SPECIFIC</b>	<b>17,429</b>	<b>17,679</b>	<b>14,865</b>	<b>14,005</b>	<b>18,236</b>	<b>807</b>	<b>4.6%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>180,304</b>	<b>187,936</b>	<b>194,405</b>	<b>181,831</b>	<b>189,202</b>	<b>8,898</b>	<b>4.9%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	291,028	332,158	343,728	358,128	401,046	110,018	37.8%
Capital Construction	18,969	17,111	48,323	77,134	146,937	127,968	674.6%
<b>TOTAL MISSION DIRECT</b>	<b>309,997</b>	<b>349,269</b>	<b>392,051</b>	<b>435,262</b>	<b>547,983</b>	<b>237,986</b>	<b>76.8%</b>
<b>Total Costs</b>	<b>490,301</b>	<b>537,205</b>	<b>586,456</b>	<b>617,093</b>	<b>737,185</b>	<b>246,884</b>	<b>50.4%</b>
<b>Total Costs w/o Construction</b>	<b>471,332</b>	<b>520,094</b>	<b>538,133</b>	<b>539,959</b>	<b>590,248</b>	<b>118,916</b>	<b>25.2%</b>
General Support % Total Costs	10.8%	9.9%	10.3%	9.8%	8.3%		
Mission Support % Total Costs	22.5%	21.8%	20.3%	17.4%	14.9%		
Site Specific % Total Costs	3.6%	3.3%	2.5%	2.3%	2.5%		
Total Support % Total Costs	36.8%	35.0%	33.1%	29.5%	25.7%		
Total Support % Total Costs w/o Co	38.3%	36.1%	36.1%	33.7%	32.1%		

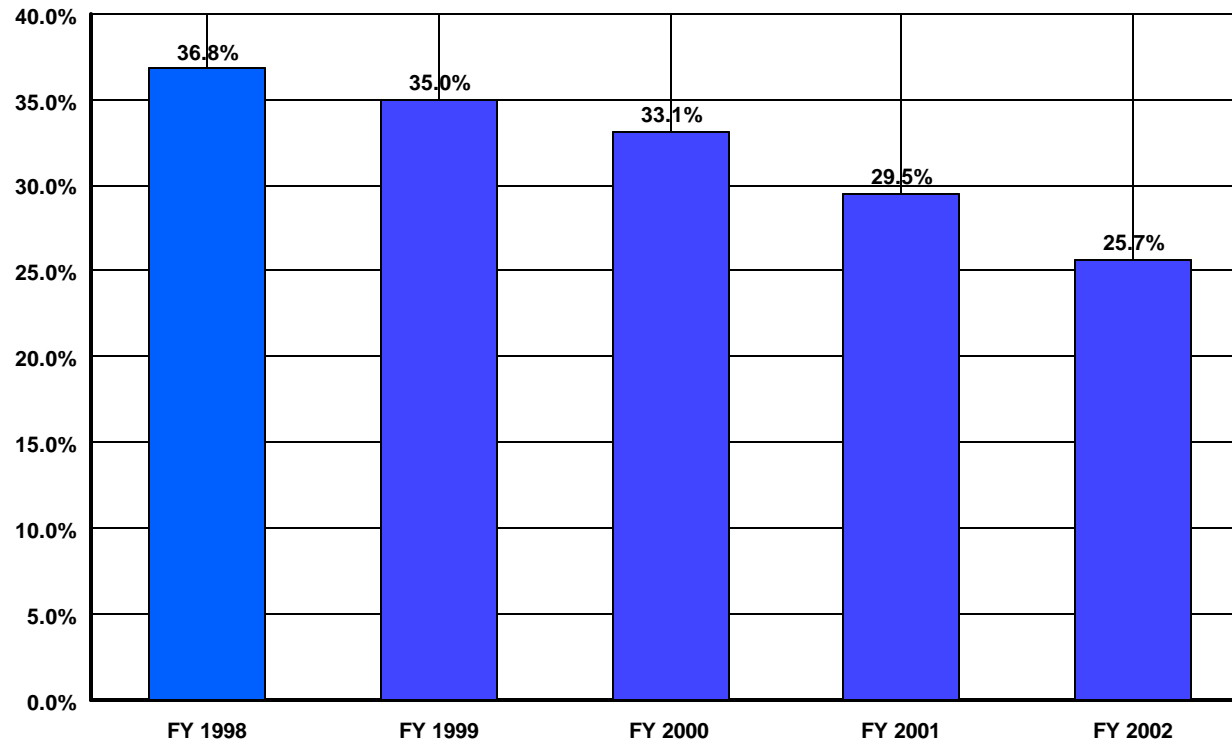


## Total Support Costs (000's) Oak Ridge National Lab – UT Battelle



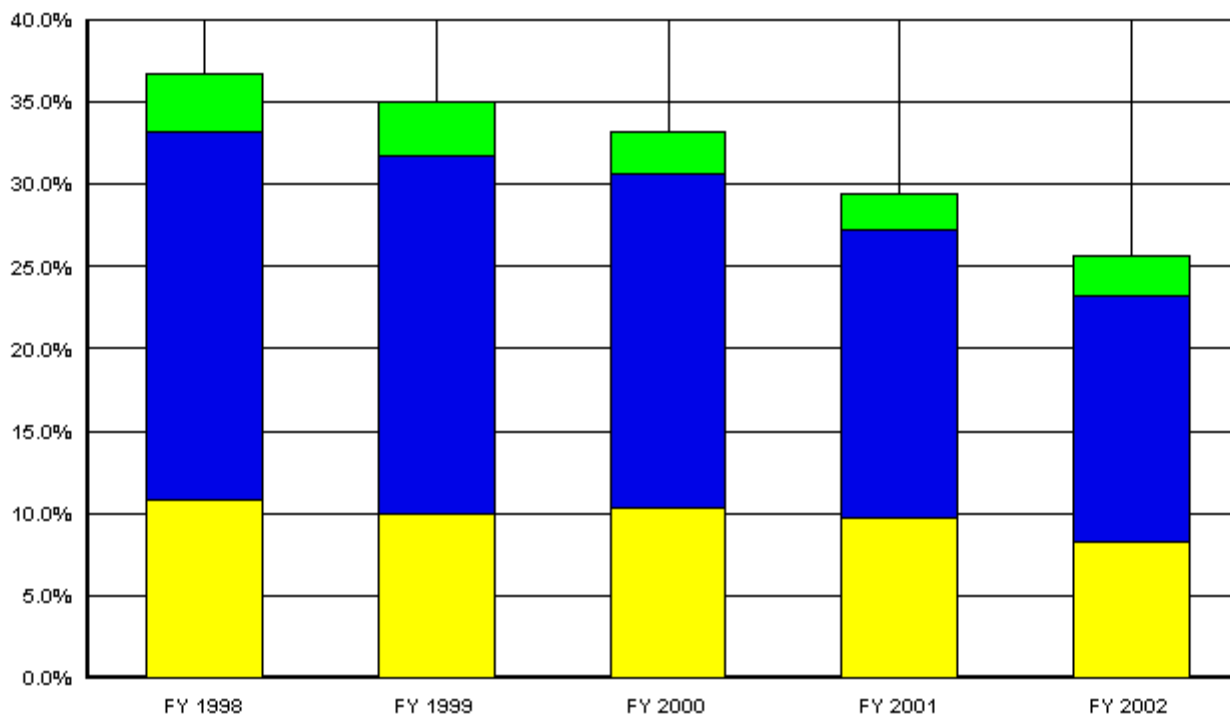
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	180,304	187,936	194,405	181,831	189,202

## Support Cost as a % of Total Cost Oak Ridge National Lab – UT Battelle



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	36.8%	35.0%	33.1%	29.5%	25.7%

**US Department of Energy  
Percent of Support Category to Total  
ORNL**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	10.8%	9.9%	10.3%	9.8%	8.3%
<b>Mis Sup</b>	22.5%	21.8%	20.3%	17.4%	14.9%
<b>Site Specific</b>	3.6%	3.3%	2.5%	2.3%	2.5%

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**SITE PROFILE**  
**OAK RIDGE NATIONAL LABORATORY – UT BATTELLE**

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**I. SITE CHARACTERISTICS**

ORNL is a multiprogram science and technology laboratory managed for the U.S. Department of Energy (DOE) by UT-Battelle, LLC. ORNL was established in 1943 as part of the Manhattan Project to pioneer a method for producing and separating plutonium for use in the development of the atomic bomb. The Graphite Reactor served as a pilot-scale plutonium production facility for much larger reactors built in Hanford, Washington. After World War II, material irradiation research was conducted at the Graphite Reactor. During the 1950s and 1960s, ORNL conducted research in several fields related to nuclear energy and built and operated several nuclear research reactors, in addition to performing important life sciences research. With the energy crises of the early 1970s and 1980s, ORNL's activities expanded to include multiprogram research and development in support of national DOE missions.

Major programs at ORNL include materials science and engineering, analytical and separations chemistry and chemical sciences, environmental sciences, fusion science and technology, instrumentation science and technology, nuclear physics and astrophysics with radioactive ion beams, neutron science, life sciences, high-performance computing, social sciences, energy-efficient technologies for buildings, biomass energy, fossil energy, nuclear technology and safety, environmental management science, environmental technology development, life-cycle analysis and health and environmental risk assessment.

ORNL has a staff of over 3,800 contractor employees. The ORNL main site encompasses approximately 1,100 acres in the Bethel and Melton valleys, approximately 10 miles southwest of the center of the city of Oak Ridge, Tennessee, with additional facilities located on the adjacent Copper Ridge. ORNL also occupies space at the Oak Ridge Y-12 Plant and leases some space off-site. The ORNL main site currently has 460 buildings, 82 trailers, with approximately 3.4 million square feet of building space.

**II. HIGHLIGHTS OF TRENDS**

Functional Support Costs have decreased over the period from FY 1995 to FY 2002 from a high of \$226.6M in FY 1995 and FY 1996 to \$189M in FY 2002. This decrease is due mainly to the shift of Environmental funding from the ORNL contract to the Bechtel Jacobs Company. Over this same time period the percentage of Functional Support costs to total costs has declined from 37% to 26%.

There is an increase in construction funding due to the Spallation Neutron Source (SNS) project. Costs for SNS peaked in FY02 and the project is scheduled for completion in 2006, with a total expenditure estimated at \$1.4B.

**Taxes:** The sales and use taxes for fiscal years 95 - 02 are as follows  
(in 000's):

FY 95: \$7,876	FY 97: \$6,466	FY 99: \$7,563	FY 01: \$7,457
FY 96: \$6,860	FY 98: \$7,618	FY 00: \$7,130	FY 02: \$8,368

In reviewing the tax information for trending purposes, we discovered that the reporting of tax was duplicated for years FY 95 and FY 96. The tax dollars were included in the material cost that was part of each of the other Support/Direct categories. These same tax dollars were also included in the "Taxes" category because they were part of an allocation from Central.

### **III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR**

In comparing the Functional Support Categories for FY 2002 to FY 2001 there are some increases that are related to growth in programmatic funding such as National Nuclear Security Administration, SNS construction, and various programs within Office of Science.

FY 2002 Functional Support to total costs is artificially low due to the increased construction line item amount that is related to SNS in Mission Direct. The line item construction related costs would continue for 1-2 years before we see them return to a normal level. However, while total costs between FY 2001 and FY 2002 increased 19.5%; Functional Support between FY 2001 and FY 2002 decreased 3.8%.

CFO – Increase of \$3,300K is normal when compared to FY 2001. However, in FY 2001 ORNL had credit (revenue) accounting entries that reduced the total costs in CFO.

Information Services – Decrease of \$1,789K is due to reduced costs associated with material and subcontract purchases.

Facilities Management – Increase of \$1,938K is due to costs associated with revitalization and Institutional General Plant Project.

Information/Outreach Activities – Increase of \$1,572K is due to costs related to educational programs, employee outreach programs, and media relations.

Logistic Support- Increase of \$2,153K is due to increased costs related to receiving warehousing and transportation.

LDRD- Increase of \$3,707K is due to the recognition of importance of this function.

### **IV. COST SAVINGS INITIATIVES**

"ORNL will drive down the cost of doing business, providing more resources for discretionary investments in capability development and infrastructure revitalization, while establishing the Laboratory as an employer of choice in the region and in the research community." Consistent with this goal the Laboratory has reduced core operational indirect costs by \$11.3M since FY 2000. In FY 2002, the indirect cost stack

was \$221M versus the Laboratory's goal of \$203M. However, working with the DOE Oak Ridge Operations, ORNL Site Office, the Laboratory made a conscious business decision to use additional overhead recovery, and thereby exceed the stack target, to make investments in the long-term best interest of the Laboratory and the government. Because of the serious legacy and infrastructure issues facing the Laboratory, management decided to make some incremental investments to address these issues sooner and therefore achieve a greater payback. Investments with long-term returns were made by entering in the Microsoft Enterprise Agreement, accelerating the cleanup of legacy waste and surplus materials, establishing a viable long-term operating model for our non-reactor nuclear facilities, and making infrastructure investments through the new IGPP pool. The Laboratory also implemented an Operations Improvement Program (OIP), which invests money in projects designed to reduce the overall cost of operations.

## **FY2000**

UT-Battelle, LLC began the management and operation of the Oak Ridge National Laboratory (ORNL) on April 1, 2000. When the contract was assumed, there was a significant unfavorable overhead variance. UT-Battelle immediately implemented corrective actions that resolved this problem. Because of this occurrence, UT-Battelle began a plan to reduce/control overhead costs which was implemented in FY2001.

## **FY2001 and FY 2002 Cost Savings Initiatives**

### **Overhead Reduction**

The Oak Ridge National Laboratory (ORNL) reduced overhead by \$13M in FY2001 and had an \$8M cost reduction initiative for FY2002. These 2 initiatives to reduce cost were across the board and each Level 1 manager was given a challenge to reduce their organizations indirect cost by up to 15% over the 2 years. While some groups were unable to meet these goals overall ORNL was able to reduce indirect cost while absorbing inflation. As a result from FY2002 to FY2003 ORNL's indirect cost is up ~\$13M or ~5.5% over 3 years while we have increased our spending on infrastructure some \$11M. A direct result of the cost cutting was that ORNL indirect staff was reduced by a total of 375 employees in FY00 and FY01 and the resulting saving have been redirected to address ORNL's infrastructure needs.

## **FY 2002 Operations Improvement Program (OIP)**

### **Chemical Management Center OIP Project**

The Chemical Management Center OIP Project provided a focal point for reducing the hazardous material footprint at the Laboratory. The FY02 funding was \$250K. Throughout the year,

- 670 items were transferred from locations where they were no longer needed to safe storage in the CMC,
- 2,082 items were transferred to new users,
- 541 items were deemed not suitable for reuse and processed as waste.

Through its brokering efforts, the CMC achieved a return on investment of 145.78%. This effort improved overall chemical safety at ORNL by removing unwanted chemicals from individuals' inventories, improving the accuracy of Hazardous Materials Inventory System and by providing a chemical removal and delivery service to ORNL.

### **The Facility Environmental Vulnerability Assessment Recommendations Implementation OIP Project**

The Facility Environmental Vulnerability Assessment Recommendations Implementation (FEVARI) OIP Project delivered on actions targeted to eliminate or mitigate environmental vulnerabilities identified in the Facility Environmental Vulnerability Assessment. During the year, the scope of FEVARI was expanded to include the elimination of legacy materials. The OIP project accomplished the following:

- Identified high priority single-pass cooling equipment replacement opportunities
- Completed priority contaminated vegetation removal and issued a white paper on Science and EM responsibilities for subsurface contamination, a Performance Evaluation Plan (PEP) item
- Completed and documented pilot facility process evaluations (FPE) and issued schedule for completing remaining FPE, a PEP item
- Verified process waste discharge reduction and generator compliance with UT-Battelle Waste Acceptance Criteria, a PEP item

With additional funding from Laboratory reserves, several identified targets of legacy material elimination were achieved:

- Established a new commercial disposal capability with shipment of 9,000 ft<sup>3</sup> of low level radioactive waste to Envirocare of Utah
- Processed 4 radioactive resin vessels through Duratek for disposal at Envirocare
- Processed 704 non-rad legacy gas cylinders for recycle / disposal and characterized 333 radioactive cylinders for processing and disposition
- Sent 9 tractor trailer loads of surplus equipment and furniture to property sales
- Sent 85 tons of scrap metal to recycle
- Dispositioned 1,500 ft<sup>3</sup> of non-contaminated materials at the Y-12 landfill
- Removed 2,500 ft<sup>3</sup> of contaminated vegetation from the main plant area for disposition by Bechtel Jacobs Company
- Identified approx. \$3 million in capital modifications that would eliminate 70-80 million gallons of once through cooling water from the process waste system

Total cost savings /avoidances were \$450K versus task costs of \$106K for a rate of return of 344%. Overall project costs savings / avoidances were \$450K versus the original OIP costs of \$400K for a rate of return of 111%.

Unquantified cost savings and avoidances were also achieved by removal of legacy materials from laboratory spaces and by increased confidence in generator compliance with process waste system acceptance criteria.

## **Full Participation Exercise**

OIP resources for the Full Participation Exercise task enabled the Laboratory to demonstrate to DOE that the Laboratory could meet the emergency response requirements of DOE 151.1A during a full-site exercise. The level of success also provided justification for the DOE ORNL Site to relocate the ORNL Emergency Operations Center (EOC) from K-1650 at ETTP to 4500S, T12. The relocation of the EOC reduced the number of emergency response assets by approximately 40% and the number of participants from about 300 to 160. Long-term cost benefits are obtained by locating the EOC on the X-10 site, by eliminating the dependency on another organization for Emergency Operations support, and by having the flexibility to deploy state-of-the-art technologies to improve response capabilities.

## **Y-12 Exit Strategy**

OIP resources for the Y-12 Exit Strategy task have successfully enabled the pathogen-free transfer of entire mutant mice colony from Y-12 to the new Laboratory for Functional and Comparative Genomics. The activities centered around the systematic identification and cryopreservation of the hundreds of mutant mice that has been housed at the Y-12 plant for 10's of years. Equally as important was the development of processes that will efficiently and cost effectively be used to re-establish the colony in the new pathogen-free facilities currently under construction on the X-10 campus.

The total cost for this initiative was \$3,000,000 (\$1,500,000 was costed in FY 2001 and \$1,500,000 costed in FY 2002). The cost savings/avoidance resulting from the initiative are estimated to total approximately \$520,000 annually while still residing in Building 9210 (cost savings with four less animal caretakers, one animal technician, animal feed/bedding, utilities and maintenance savings). More efficient cryopreservation and rederivation procedures will result in long-term cost savings through reduction of the numbers of legacy strains maintained alive. Increasing efficiency of cryopreservation of gametes rather than embryos, and movement toward molecular, *in vitro*, and *in silico* approaches will further reduce the requirement for large numbers of live mice for screening. In the future, more experiments using fewer mice per experiment will enhance our cost-effectiveness by decreasing the cost for a given experiment and broadening the field of experiments we can perform. It is estimated that utilities and maintenance will be reduced by about 50% (\$750,000/year). Reduced inventory of mice, more efficient preservation, and increased efficiency in mutant screening is estimated to save approximately \$350,000/year in labor. A net savings of about \$1.1 million will be saved on an annual basis.



PNNL

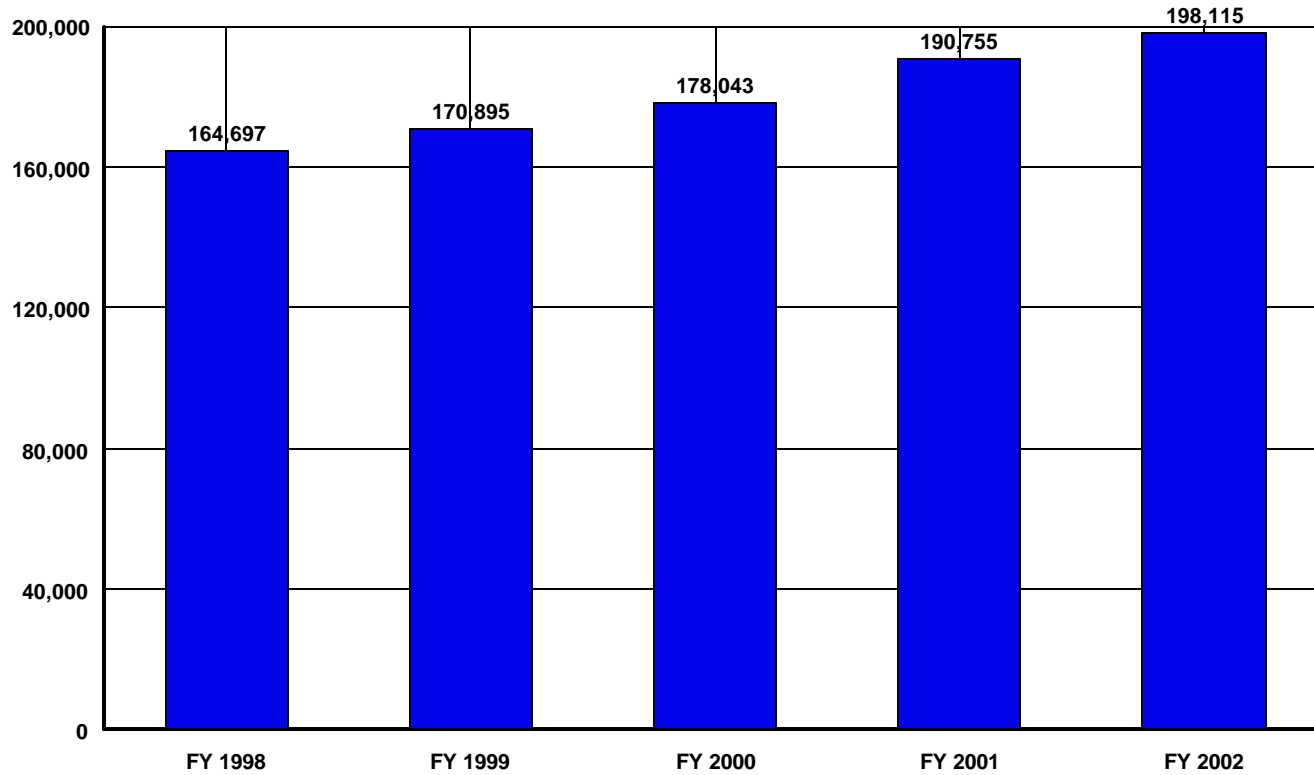
FY 2002

**Trends in Total Functional Support Cost Categories**

(\$ in 000's)

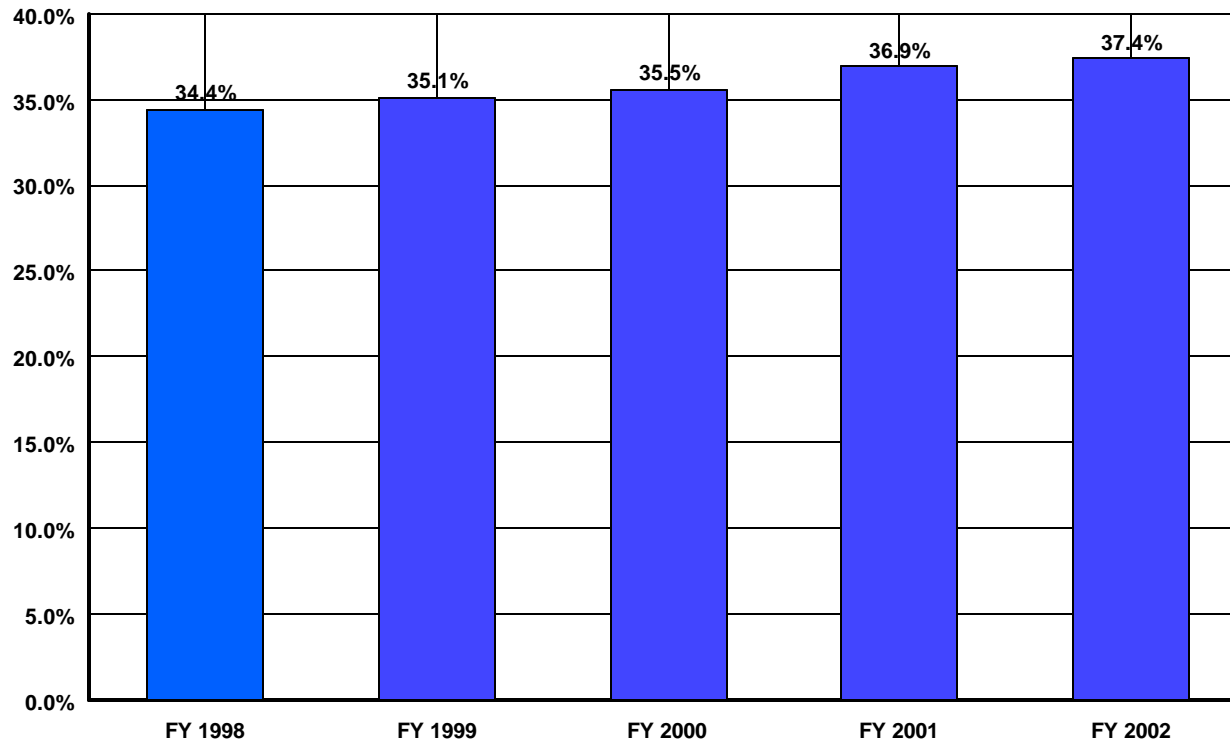
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	3,862	4,186	3,818	2,803	3,905	43	1.1%
HUMAN RESOURCES	3,893	4,635	4,622	4,815	4,740	847	21.8%
CFO	8,941	8,740	9,280	10,417	11,814	2,873	32.1%
PROCUREMENT	8,262	8,983	6,992	6,056	5,639	-2,623	-31.7%
LEGAL	1,519	1,571	1,805	1,843	1,393	-126	-8.3%
CENTRAL ADMIN SERVICES	3,573	3,714	3,666	3,553	3,919	346	9.7%
PROGRAM/PROJECT CONTROL	1,214	4,063	3,457	3,012	3,798	2,584	212.9%
INFORMATION OUTREACH	7,790	8,461	7,380	9,597	11,132	3,342	42.9%
INFORMATION SERVICES	16,793	18,614	21,339	23,215	21,524	4,731	28.2%
OTHER	19,906	19,379	20,589	20,491	21,162	1,256	6.3%
<b>TOTAL GENERAL SUPPORT</b>	<b>75,753</b>	<b>82,346</b>	<b>82,948</b>	<b>85,802</b>	<b>89,026</b>	<b>13,273</b>	<b>17.5%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	765	759	1,858	2,970	3,245	2,480	324.2%
SAFETY AND HEALTH	20,799	17,180	16,725	20,718	18,710	-2,089	-10.0%
FACILITIES MANAGEMENT	16,013	15,707	15,063	18,116	19,882	3,869	24.2%
MAINTENANCE	10,102	8,886	8,300	7,313	9,020	-1,082	-10.7%
UTILITIES	6,282	9,039	8,600	9,027	9,939	3,657	58.2%
SAFEGUARDS AND SECURITY	5,283	3,848	7,800	9,583	8,938	3,655	69.2%
LOGISTICS SUPPORT	2,034	1,577	1,075	1,287	1,558	-476	-23.4%
QUALITY ASSURANCE	2,058	3,938	6,153	6,638	3,969	1,911	92.9%
LABORATORY/TECHNICAL SUPPOR	3,441	5,703	5,747	6,389	8,161	4,720	137.2%
<b>TOTAL MISSION SUPPORT</b>	<b>66,777</b>	<b>66,637</b>	<b>71,321</b>	<b>82,041</b>	<b>83,422</b>	<b>16,645</b>	<b>24.9%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	9,095	9,088	10,517	11,756	11,186	2,091	23.0%
TAXES	3,419	2,955	3,448	669	2,192	-1,227	-35.9%
LDRD / PDRD / SDRD	9,653	9,869	9,809	10,487	12,289	2,636	27.3%
<b>TOTAL SITE SPECIFIC</b>	<b>22,167</b>	<b>21,912</b>	<b>23,774</b>	<b>22,912</b>	<b>25,667</b>	<b>3,500</b>	<b>15.8%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>164,697</b>	<b>170,895</b>	<b>178,043</b>	<b>190,755</b>	<b>198,115</b>	<b>33,418</b>	<b>20.3%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	299,383	304,638	315,815	313,608	322,232	22,849	7.6%
Capital Construction	14,557	11,913	7,218	12,715	10,066	-4,491	-30.9%
<b>TOTAL MISSION DIRECT</b>	<b>313,940</b>	<b>316,551</b>	<b>323,033</b>	<b>326,323</b>	<b>332,298</b>	<b>18,358</b>	<b>5.8%</b>
<b>Total Costs</b>	<b>478,637</b>	<b>487,446</b>	<b>501,076</b>	<b>517,078</b>	<b>530,413</b>	<b>51,776</b>	<b>10.8%</b>
<b>Total Costs w/o Construction</b>	<b>464,080</b>	<b>475,533</b>	<b>493,858</b>	<b>504,363</b>	<b>520,347</b>	<b>56,267</b>	<b>12.1%</b>
General Support % Total Costs	15.8%	16.9%	16.6%	16.6%	16.8%		
Mission Support % Total Costs	14.0%	13.7%	14.2%	15.9%	15.7%		
Site Specific % Total Costs	4.6%	4.5%	4.7%	4.4%	4.8%		
Total Support % Total Costs	34.4%	35.1%	35.5%	36.9%	37.4%		
Total Support % Total Costs w/o Co	35.5%	35.9%	36.1%	37.8%	38.1%		

## Total Support Costs (000's) Pacific Northwest National Lab – Batelle



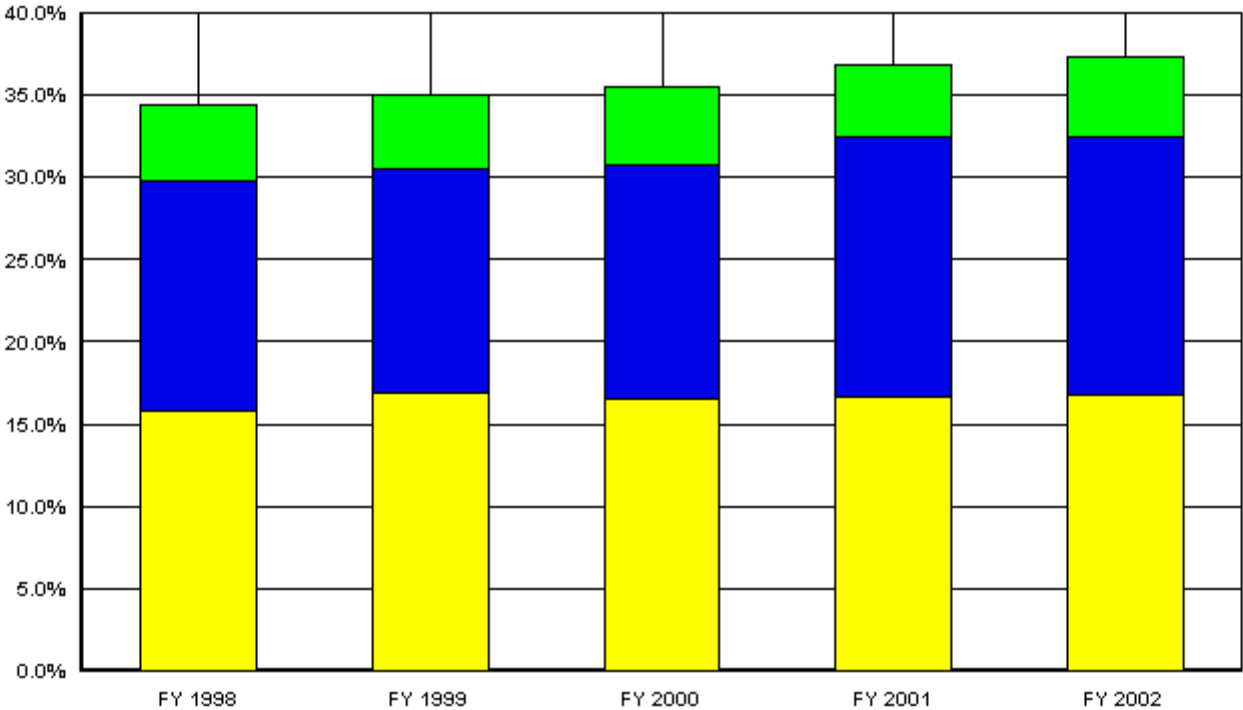
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	164,697	170,895	178,043	190,755	198,115

## Support Cost as a % of Total Cost Pacific Northwest National Lab–Batelle



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	34.4%	35.1%	35.5%	36.9%	37.4%

**US Department of Energy  
Percent of Support Category to Total  
PNNL**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	15.8%	16.9%	16.6%	16.6%	16.8%
<b>Mis Sup</b>	14.0%	13.7%	14.2%	15.9%	15.7%
<b>Site Specific</b>	4.6%	4.5%	4.7%	4.4%	4.8%

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**SITE PROFILE**  
**PACIFIC NORTHWEST NATIONAL LABORATORY –**  
**BATTELLE MEMORIAL INSTITUTE**

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**I. SITE CHARACTERISTICS**

**History:**

Battelle Memorial Institute operates the Pacific Northwest National Laboratory for DOE. In 1965, Battelle Memorial Institute assumed management and operation of the federal government's Hanford Laboratories in southeastern Washington State. At the same time, the research facility was separated from Hanford site operations and renamed the Pacific Northwest Laboratory. Battelle has invested greater than \$101M in private research facilities and equipment adjacent to the government laboratory.

**Mission:**

Pacific Northwest National Laboratory is a multi-program national laboratory that creates new knowledge and delivers solutions to science and technology challenges across the U.S. Department of Energy's science, national security, environmental quality, and energy resources missions. The Laboratory is an outgrowth of the R&D component of the Manhattan Project Hanford Works that focused on materials science, nuclear technology, and health studies. Strengths in chemical and molecular science, process science and engineering, computational and information science, environmental and climate science, energy systems science and engineering, materials science and engineering, and nuclear science and engineering underpin our research programs. We operate the Environmental Molecular Sciences Laboratory, a national scientific user facility with advanced resources for fundamental research on the physical, chemical and biological processes. Our biological science research focuses on the bio-molecular basis of health effects from environmental pollutants. We solve legacy environmental problems with cost-effective cleanup solutions and technologies that prevent pollution and minimize waste. Our scientists identify technology to characterize and mitigate the consequences of pollution, climate change, and other environmental impacts as the basis for sound policy decisions. We develop clean energy and industrial processes, lightweight materials and advanced power systems for transportation, and efficient building technologies for DOE's energy mission. We provide impactful and innovative solutions to prevent the proliferation of weapons of mass destruction, combat terrorism, promote nuclear safety, and protect critical infrastructure and information for DOE's national security mission. The Laboratory strives for excellence in management and safe operations, thereby enabling efficient and cost-effective research while protecting our workers, the public, and the environment. Our staff is broadly engaged in local economic development, education, and other community programs.

Consistent with our mission, a significant portion, of the Laboratory's work is in environmental science, environmental technology, or both. Further, our projects in

support of DOE's national security and energy missions often draw heavily upon capabilities we have developed in support of our environmental mission.

Some of the factors affecting the PNNL's functional cost profile include:

- PNNL is a multi-program laboratory with a diverse customer base of nearly every DOE program office and Work For Others.
- Also, one of the provisions of Battelle's contract with DOE is a unique agreement called a Use Permit. This agreement combines Battelle and government-owned facilities in a consolidated laboratory where Battelle can conduct work for DOE as well as other government agencies and private businesses on a cost-reimbursable basis. The physical resources of the consolidated laboratory are valued at approximately \$650 million.
- We actively occupy 98 buildings and another 29 buildings in standby mode.
- FY2002 year-end headcount was 3572.

## II. HIGHLIGHTS OF TRENDS

The trend in PNNL's total Functional Support Costs is:

Year	Total Functional Support Costs	Total Functional Support Costs as a % of Total Costs
1998	\$164,697	34.4%
1999	\$170,895	35.1%
2000	\$178,042	35.5%
2001	\$190,755	36.9%
2002	\$198,115	37.4%

## III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEARS

Updated Functional Support cost guidance requested a summary of what types of cost are included in each cost category, as well as an explanation of significant changes. Information below represents changes from FY 2001 to FY 2002.

### **Executive Direction:**

This category includes the Laboratory Director's Office, Strategic Planning, and Technology Development. Executive Direction cost is up 39% or \$1,102K due to a shift of an executive staff member previously categorized in Laboratory Technical Support and an addition of an executive staff position.

**Human Resources**

Includes cost associated with Human Resource activities associated with recruiting, wage and salary administration, EEO and diversity activities. Also, included in this category is benefits administration and educational programs providing undergraduate and graduate course work. Human Resources is down (1.5%) or \$75K, which is related to no significant change at this time.

**Chief Financial Officer**

Includes CFO Office cost less Corporate G&A. CFO cost includes activities associated with central accounting activities, funds control, cost accounting, financial systems management and budget control Chief Financial Officer cost is down (12%) or \$1,610K related to the shift in the Corporate G&A cost from CFO category to the Management/Award/Incentive Fee category within Functional Support Cost Report (FSCR) guidance.

**Procurement**

Includes cost from Contracting activities, Legal/Contracts, Acquisition Services, and Cost Price analysis. Procurement is down (6.9%) or \$417K, which is partially related to a new procurement software package and increased emphasis on PNNL's procurement process.

**Legal**

Includes Legal Office organizational Cost associated with legal counsel support. Legal cost has decreased 24.4% or \$450K due primarily to the decrease in the number of outside litigations.

**Central Administrative Services**

Includes cost related with Service & Equipment Centers, including the Duplicating Service Center, Hanford Technical Library, Technical Library Walk-In Services, and the Office Support Service Center. Central Administrative Support cost is up 10.3% or \$366K due to the re-categorization of the Office Support Services cost from the Direct Mission category into the Central Administrative Support category, consistent with the FSCR guidance.

**Program/Project Planning & Control**

Includes cost from Project Management Support Group and Quality/Performance Management Group. Program/Project Planning & Control cost is up 26% or \$786K due to a large reorganization of the Quality Directorate to better align job responsibilities and realize cost efficiencies. The Quality Assurance category reflects this \$786K reduction.

**Information/Outreach Activities**

Includes cost from Economic Development and Office of External Relations, which is associated with technology transfer activities, technical information management activities and employee outreach programs. Information/Outreach Activities cost increase of 15.9% or \$1,535K is related to the activities within the newly formed Business Competitive Intelligence group, the Economic Development group and the addition of a Communications Deputy Director in response to Laboratory growth.

**Information Services**

Includes cost from Information Sciences organization activities related to telecommunications, telephone network operations and interplant mail. Specific types of activities include the Jupiter Super Computer, Communication Workshops, Computer Service Center, Information Technology, and Starlight Service Center. Cost in this category is down 7.3% or \$1,691K, which is not related to one specific area.

**Other**

Includes costs that are not identified in another functional cost category. Cost in this category is up 3.2% or \$671K, which is not related to one specific area.

**Environmental**

Includes cost associated with environmental compliance and management for resolution of the site regulatory issues. Other activities include performance of air and water permitting coordination. Preparing of documentation required for monitoring and reporting hazardous waste and chemical information. Cost in this category is up 9.3% or \$725K, which is not related to one specific area.

**Safety & Health**

Includes cost associated with the safety and health programs, such as emergency preparedness, industrial hygiene, industrial safety, occupational medical services, nuclear safety, radiation protection, transportation safety and management oversight. Cost in this category is down 9.7% or \$2,008K, which is not related to one specific area.

**Facilities Management**

Includes cost associated with facilities and their ability to function effectively such as upgrades, facilities planning and condition determinations, rental of buildings and land. Cost in this category is up 9.7% or \$1,766K, which is not related to one specific area.

**Maintenance**

Includes costs associated with Facilities Operations and the costs associated with the requirements to sustain property, plant, and equipment in condition for suitable for it to be used for its designated purpose and include preventive, predictive and corrective maintenance. Maintenance cost increase of 22% or \$1,707K in FY02 is mostly related to the re-alignment of the Facility Projects & Engineering Services organization and operations related to integrated information activities.

**Utilities**

Includes cost associated with Buildings & Utilities associated with operating plants and equipment, contract level services for fuel, water and support needed to provide electric power, heat, and other elements. Utilities cost is up 10% or \$912K due to modest decreases over time associated with the buy downs related to the ESPC (Energy Savings Performance Contract).



### **Safeguards & Security**

Includes cost associated with the safeguards and security program to protect nuclear materials, classified information, and government property from theft, sabotage, espionage or other acts that may impact national security. Cost in this category is down (6.7%) or \$645K, variance is related to no significant change at this time,

### **Logistics Support**

Logistics cost is associated with shipping, receiving, transportation, the warehouse, property management and activities related to routine inventory. Logistics cost is up 21% or \$271K due to the slight increase in the vehicle pool, relocation service center and the excess management pool.

### **Quality Assurance**

Includes cost within Quality & Integrated Safety and Quality related to reliability and regulation or activities. Costs associated with quality engineering, quality assurance and operational readiness activities. Quality Assurance cost is down (40.2%) or \$2,669K due to a large reorganization of the Quality Directorate to better align job responsibilities and realize cost efficiencies, which included the elimination of the Quality Director's office. Also, \$1.125M of FY01 cost related to service & equipment centers was incorrectly coded to the Quality category. The cost should have been categorized within the Logistics category and has been corrected for FY02.

### **Laboratory/Technical Support**

Laboratory/Technical Support cost is associated with field investigations, and other scientific studies. Includes costs related to technical support activities such as electronics services. Cost in this category is up 27.7% \$1,772K mostly related to a shift to a Laboratory waste charge back model that moves these costs from mission direct.

### **Management/Award Incentive Fee**

Includes cost for Management/Award Incentive Fee category and Corporate G&A. Management/Award/Incentive Fee cost is up due to the shift in Corporate G&A cost from Chief Financial Officer to the Management/Award/Incentive Fee category.

### **Taxes**

Includes cost for the Tax category. Tax cost is up 43.9% or \$1,523K in FY02 compared to the previous year due to a tax credit that was realized in FY01.

### **LDRD**

These costs are associated with lab level research and development activities. Costs are up 17.2% or \$1,802 in FY02, representing an increased emphasis on the Laboratory's research and development activities in response to Laboratory growth.

## **IV. FY 2002 PNNL COST SAVINGS INITIATIVES**

- Achieved a \$1.0M cost savings out of an FY02 budget of \$9.8M through restructuring. The \$1.0M overhead cost reduction was mainly a result of combining the Facility Operations & Maintenance Management System and the

Facility Acquisition & Disposition Management System into one Management System. The objective of the consolidation was to enhance the functions and processes of the Management System in order to be more cost efficient. In addition to the consolidation in order to meet the \$1.0M challenge, the organization eliminated the proposed Building & Utility escalation of 3.25%.

- Excess Utilities budget reduced \$60K through early payment of the Energy Savings Performance Contract (ESPC) and other utility cost efficiencies. This financial benefit is a result of the ESPC buy-downs that have essentially decreased over time, but overall in FY02 the buy-down reduced Excess Utilities by \$60K.
- A realignment to better define the responsibilities within Quality resulted in a cost savings of \$525K out of an FY02 budget of \$3.9M. The cost savings was accomplished by eliminating the Quality Directorate position and realizing synergies by realigning the Quality activities into existing organizations.
- The purchase of the Peoplesoft Acquisition software resulted in a cost savings of \$460K. By purchasing the new software, PNNL was able to reduce the software maintenance and operation costs after the PD/IPAP systems were eliminated. The remaining savings was due to a combination of events. First, the elimination of a management position as well as other staff reductions. Finally, the Peoplesoft system also has generated savings due to improved input screens, lookup capabilities, an integrated system, and accesses to more informative recovery and analysis data.
- Achieved a \$400K savings by renegotiating travel agreements.

**Pantex**

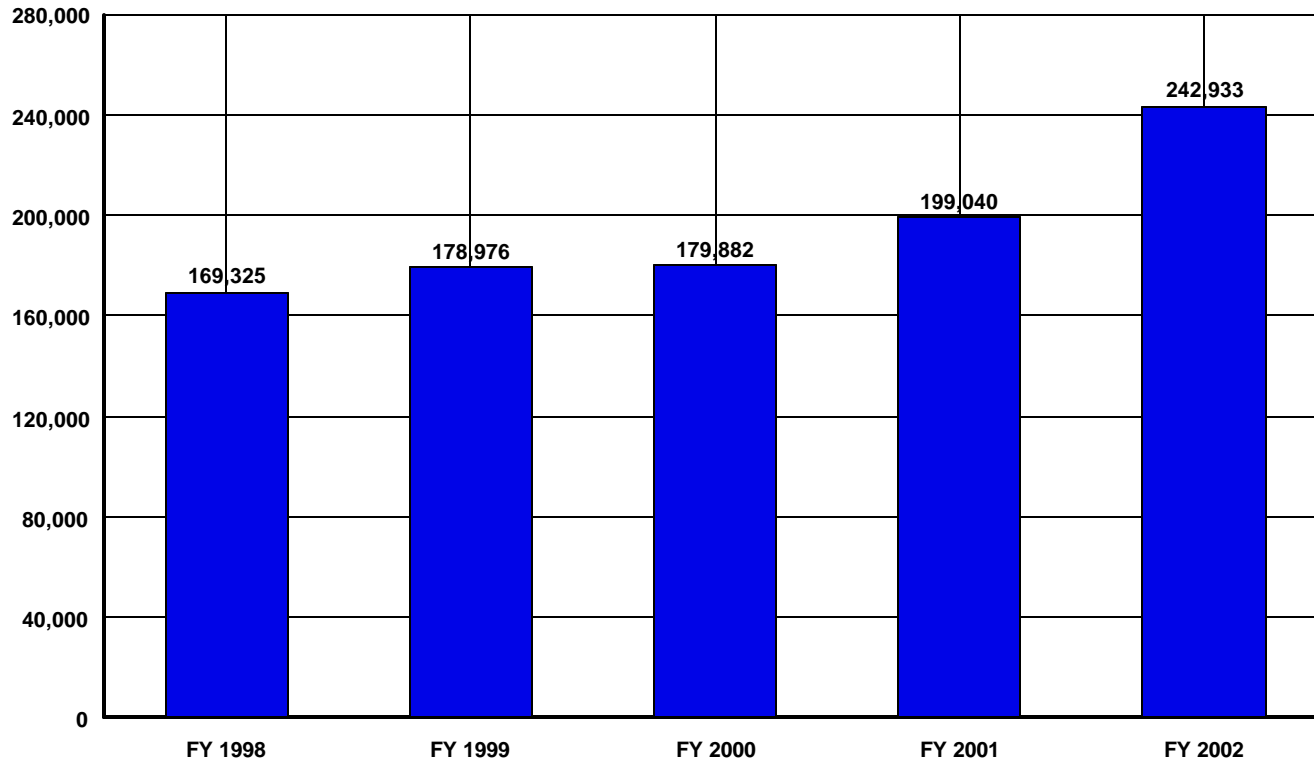
**FY 2002**

**Trends in Total Functional Support Cost Categories**

(\$ in 000's)

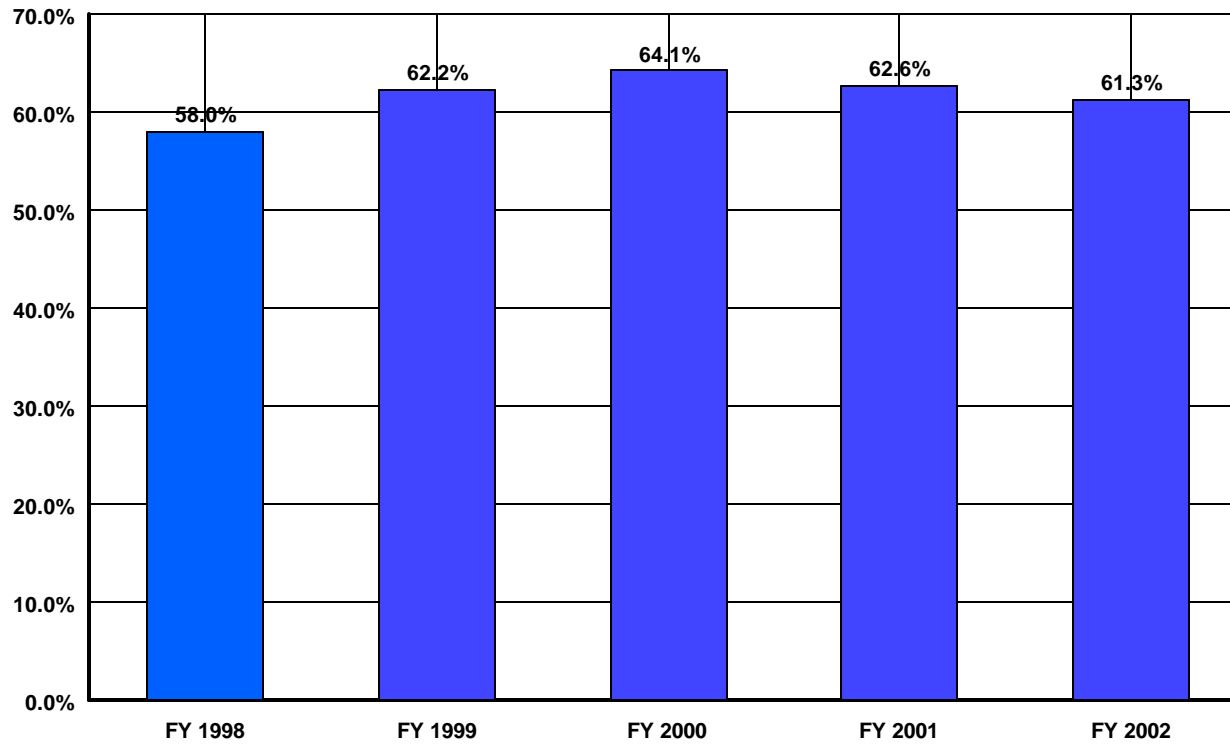
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	1,863	1,841	1,232	1,015	1,186	-677	-36.3%
HUMAN RESOURCES	5,038	5,019	4,863	4,525	5,847	809	16.1%
CFO	3,191	3,783	2,835	2,763	3,342	151	4.7%
PROCUREMENT	2,493	2,702	2,296	2,745	3,432	939	37.7%
LEGAL	1,205	1,145	1,342	1,014	1,033	-172	-14.3%
CENTRAL ADMIN SERVICES	3,403	2,838	2,767	2,848	3,452	49	1.4%
PROGRAM/PROJECT CONTROL	789	994	988	1,521	3,986	3,197	405.2%
INFORMATION OUTREACH	992	825	421	444	468	-524	-52.8%
INFORMATION SERVICES	13,548	8,230	7,621	8,819	13,080	-468	-3.5%
OTHER	3,324	254	194	5,593	1,340	-1,984	-59.7%
<b>TOTAL GENERAL SUPPORT</b>	<b>35,846</b>	<b>27,631</b>	<b>24,559</b>	<b>31,287</b>	<b>37,166</b>	<b>1,320</b>	<b>3.7%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	9,754	9,429	9,299	9,576	9,976	222	2.3%
SAFETY AND HEALTH	17,280	26,479	29,638	30,681	41,234	23,954	138.6%
FACILITIES MANAGEMENT	11,001	11,848	10,259	12,206	16,313	5,312	48.3%
MAINTENANCE	41,245	37,510	37,649	37,621	39,355	-1,890	-4.6%
UTILITIES	6,566	6,401	7,173	9,516	7,724	1,158	17.6%
SAFEGUARDS AND SECURITY	23,851	39,406	42,143	43,940	54,738	30,887	129.5%
LOGISTICS SUPPORT	5,732	4,547	3,953	7,188	6,591	859	15.0%
QUALITY ASSURANCE	1,765	1,232	1,202	2,520	3,194	1,429	81.0%
LABORATORY/TECHNICAL SUPPOR	0	0	0	0	0	0	0.0%
<b>TOTAL MISSION SUPPORT</b>	<b>117,194</b>	<b>136,852</b>	<b>141,316</b>	<b>153,248</b>	<b>179,125</b>	<b>61,931</b>	<b>52.8%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	16,219	14,220	13,438	13,898	21,674	5,455	33.6%
TAXES	66	273	569	607	961	895	1,356.1%
LDRD / PDRD / SDRD	0	0	0	0	4,007	4,007	100.0%
<b>TOTAL SITE SPECIFIC</b>	<b>16,285</b>	<b>14,493</b>	<b>14,007</b>	<b>14,505</b>	<b>26,642</b>	<b>10,357</b>	<b>63.6%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>169,325</b>	<b>178,976</b>	<b>179,882</b>	<b>199,040</b>	<b>242,933</b>	<b>73,608</b>	<b>43.5%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	103,766	92,787	92,602	104,797	130,298	26,532	25.6%
Capital Construction	18,940	15,794	7,950	14,021	23,355	4,415	23.3%
<b>TOTAL MISSION DIRECT</b>	<b>122,706</b>	<b>108,581</b>	<b>100,552</b>	<b>118,818</b>	<b>153,653</b>	<b>30,947</b>	<b>25.2%</b>
<b>Total Costs</b>	<b>292,031</b>	<b>287,557</b>	<b>280,434</b>	<b>317,858</b>	<b>396,586</b>	<b>104,555</b>	<b>35.8%</b>
<b>Total Costs w/o Construction</b>	<b>273,091</b>	<b>271,763</b>	<b>272,484</b>	<b>303,837</b>	<b>373,231</b>	<b>100,140</b>	<b>36.7%</b>
<b>General Support % Total Costs</b>	<b>12.3%</b>	<b>9.6%</b>	<b>8.8%</b>	<b>9.8%</b>	<b>9.4%</b>		
<b>Mission Support % Total Costs</b>	<b>40.1%</b>	<b>47.6%</b>	<b>50.4%</b>	<b>48.2%</b>	<b>45.2%</b>		
<b>Site Specific % Total Costs</b>	<b>5.6%</b>	<b>5.0%</b>	<b>5.0%</b>	<b>4.6%</b>	<b>6.7%</b>		
<b>Total Support % Total Costs</b>	<b>58.0%</b>	<b>62.2%</b>	<b>64.1%</b>	<b>62.6%</b>	<b>61.3%</b>		
<b>Total Support % Total Costs w/o Co</b>	<b>62.0%</b>	<b>65.9%</b>	<b>66.0%</b>	<b>65.5%</b>	<b>65.1%</b>		

## Total Support Costs (000's) Pantex - BWXT



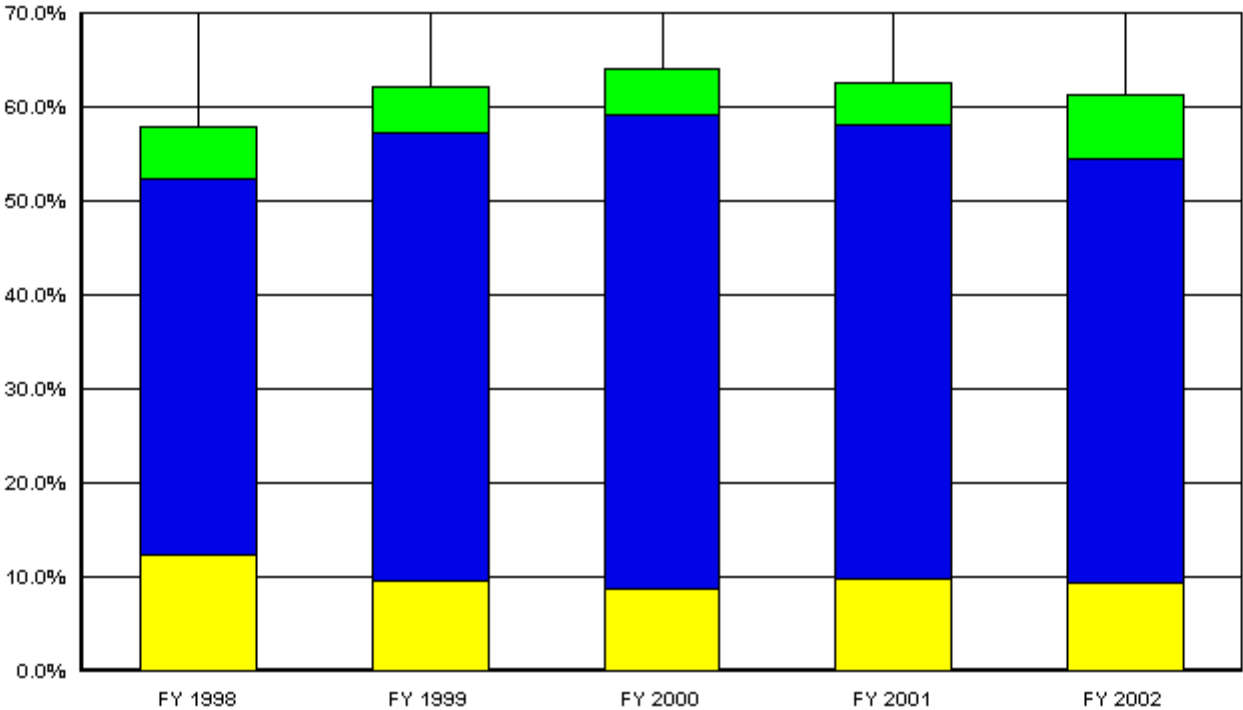
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	169,325	178,976	179,882	199,040	242,933

## Support Cost as a % of Total Cost Pantex - BWXT



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	58.0%	62.2%	64.1%	62.6%	61.3%

**US Department of Energy  
Percent of Support Category to Total  
Pantex**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	12.3%	9.6%	8.8%	9.8%	9.4%
<b>Mis Sup</b>	40.1%	47.6%	50.4%	48.2%	45.2%
<b>Site Specific</b>	5.6%	5.0%	5.0%	4.6%	6.7%

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**SITE PROFILE**  
**PANTEX - BWXT**

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**I. SITE CHARACTERISTICS:**

Pantex Plant is operated for the Department of Energy/National Nuclear Security Administration by BWXT Pantex. The site is located on 16,000 acres in Carson County northeast of Amarillo, Texas. It houses 697 buildings containing approximately 3 million square feet and employs over 3,000 people. Constructed by the U.S. Army in 1942 as a conventional bomb plant, Pantex was decommissioned after World War II and sold to Texas Tech University as excess government property. In 1951, the Atomic Energy Commission reclaimed 10,000 acres of the site for nuclear weapons work. The remaining 6,000 acres were reclaimed by 1989 and are leased from Texas Tech.

Pantex assumed responsibility for weapons maintenance and modification in the mid-1960s when plants that had been performing those tasks closed. With the closure of the AEC Burlington Plant in Iowa in 1975, Pantex became the nation's only assembly and disassembly point for nuclear weapons.

The Pantex Plant is charged with maintaining the safety, security and reliability of the nation's nuclear weapons stockpile and has five primary missions.

1. Evaluate, retrofit, and repair weapons in support of both life extension programs and certification of weapon safety and reliability;
2. Dismantle weapons that are surplus to the strategic stockpile;
3. Sanitize components from dismantled weapons;
4. Develop, test, and fabricate high explosive components; and
5. Provide interim storage and surveillance of plutonium pits.

Pantex is participating with other Defense plants and laboratories in the Enhanced Surveillance Program to better predict component and material lifetimes, a critical element of the Stockpile Life Extension Program. Pantex also participates in the Advanced Design and Production Technologies (ADAPT) Campaign to provide the manufacturing complex with advanced capabilities for designing, developing and certifying components and systems, and for producing, assembling, and delivering components and systems products.

All work at Pantex is carried out under these overarching priorities: the security of weapons and information, the safety and health of workers and the public, and the protection of the environment.

## II. HIGHLIGHTS OF TRENDS:

	<u>FY1998</u>	<u>FY1999</u>	<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>
General Support	\$35,846	\$27,631	\$24,559	\$31,287	\$37,166
Mission Support	117,194	136,852	141,316	153,248	179,125
Site Specific	<u>16,285</u>	<u>14,493</u>	<u>14,007</u>	<u>14,505</u>	<u>26,642</u>
Total Support	\$169,325	\$178,976	\$179,882	\$199,040	\$242,933
Total Site Costs	\$292,031	\$287,557	\$280,434	\$317,858	\$396,586
Total Functional Support Costs as % Of Total Site Costs	58%	62%	64%	63%	61%

### Major Anomalies:

#### General Support FY1998

Cost was inflated in FY1998 due to a Franchise Fee Liability in the amount of \$3 million and a big effort by Information Services to become Y2K compliant.

#### General Support FY1999 – FY2000

As a result of Voluntary Separation Incentive Program costs coming to an end and the absence of any large liabilities, FY1999 and FY2000 General Support costs experienced a decline.

#### General Support FY2001

General Support costs increased again in FY2001 due to unique occurrences that could not be avoided. A mid-year change in contractor required Senior Management from both BWXT Pantex and Mason & Hanger to work together for several months in an effort to transition the Pantex operating contract as efficiently and effectively as possible. As a result of the events of September 11<sup>th</sup>, Pantex was closed for 8 days with only essential personnel reporting to work, therefore the direct labor personnel reported their time as indirect cost for that time period.

#### General Support FY2002

During FY2002, Pantex initiated a more focused management approach. Many departments were restructured to provide for a more centralized management. In some instances, this moved what were previously classified as both mission support and mission direct costs to general support costs. These costs included the creation of the Planning, Scheduling & Integration (PSI) division, the centralization of the purchases of desk top computers as well as organizational structure changes in the IT department.

#### Mission Support FY1998 - FY2000

The increases from FY1998 through FY2000 reflect a change in planning/tracking strategy. Effort previously reported as Mission Direct, such as Security and Safety, can be isolated more easily and separated from the overall plant cost. The increase found in this area is offset by a decrease in Mission Direct. It should be noted that this is not intended to imply a decrease in Mission Direct work. In most cases, the effort reported for Mission Support categories is tied directly to a particular weapon program.



#### Mission Support FY2001

The ability to pull cost out and apply it to Functional Cost category increases each year as work is defined at lower and lower levels within our Work Authorization Control System. In addition to this trend; however, there were other occurrences in FY2001 that drove cost higher for this category than in years past. The increase in utilities cost experienced around the country inflated our utility cost by more than \$2 million. The September 11<sup>th</sup> attack drove Security costs up slightly through a heightened security stance (for the 19 days remaining in the year). The increases evident in other areas within Mission Support are a direct reflection of the increase in Mission work that Pantex was able to achieve for FY2001.

#### Mission Support FY2002

During FY2002, additional scope was added for three primary projects. 1) \$13 million for Safety & Health costs related to implementing the Authorization Basis Program. This is required in order for Pantex to be in compliance with Regulation 10CFR830 by April 2003. 2) \$9 million for heightened security costs for Security Police Officer labor. 3) \$5.8 million for facility improvements funded by Facilities and Infrastructure Recapitalization Program (FIRP) dollars. Had this additional scope not been added, Pantex would have decreased mission support costs by \$8 million after taking into account a 4% cost escalation rate.

#### Site Specific FY1998

The variances from year to year within the Site Specific category are a reflection of our Management/Award Fee/Incentive Fee. The number of incentivized projects increased in FY1998, resulting in an increase in fee earned by the plant.

#### Site Specific FY 2002

The fee earned by BWXT Pantex increased in FY2002 over FY2001 due to an increased fee base related to increased scope and an increase in performance against objectives.

#### Major Cost Drivers:

When comparing Pantex with other sites, it is important to note that the costs for the Safeguards and Security program at Pantex are directly related to the quantity, configuration and multiple locations of nuclear material, including Category 1A, on site. All security planning, analysis and program execution is driven by a strategy that is more resource intensive than at other sites.

Due to a change in contractor in February of FY2001, the organizational structure at the plant was changed. Departments were created, deleted and combined to fit Management's vision of how the work should be done. The result is a slightly different roll-up of cost in many of the individual categories within each section.

### **III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR**

The following functional support cost categories had changes greater than \$1million from FY2001 to FY2002. Below is a brief explanation of each change:

**Human Resources** – Increased by \$1.3 million due to various activities being centralized in the HR area. These additional costs were previously reported as mission support and mission direct costs, but were centralized to support the BWXT Pantex management initiative. They included MBA and Scientific educational programs, Ethics & Employee Concerns, Sick

Leave Administration, and Applicant Travel & Relocation Costs.

**Program/Project Planning** – Increased by \$2.5 million due to Program Management being established to plan, schedule, coordinate and manage plant projects. These additional costs were previously reported as mission support and mission direct costs, but were centralized to support the BWXT Pantex management initiative.

**Information Services** – Increased by \$4.2 million due to various activities being centralized in the IT area. These additional costs were previously reported as mission support and mission direct costs, but were centralized to support the BWXT Pantex management initiative. They include the centralization of desktop computer replacements (\$841k), Enterprise Software Agreement (\$447k), reclassification of telecommunication maintenance agreement (\$678k). The remainder of the increase is primarily related to organizational structure changes.

**Other** – Decreased by \$4.2 million. FY2001 included BWXT transition costs of \$2.3 million and plant shutdown costs during heightened security of \$3.1 million that were not included in FY2002. FY2002 contains transition costs of \$1.1 million as well as costs associated with DOE support of \$172k and the Worker Advocacy Office of \$125k.

**Safety & Health** – Increased by \$10.5 million due to additional scope for the implementation of the Authorization Basis Program. This program established the safety envelope for facility operation or activity and defines controls for the operation or activity. Regulation 10CFR830 requires that this be implemented by April 2003. Had this new scope not been added, costs would have decreased in FY2002.

**Facilities Management** – Increased by \$4.1 million due to increased scope for improvement projects completed in association with the FIRP funding received in FY2002. Had this new scope not been added, costs would have decreased in FY2002.

**Maintenance** – Increased \$1.7 million due to increased scope for maintenance projects completed in association with the FIRP funding received in FY2002. Had this new scope not been added, costs would have decreased in FY2002.

**Safeguards & Security** – Increased \$10.7 million due to increased scope for heightened security initiatives implemented in FY2002. These included protective forces costs as well as cyber security costs. Had this new scope not been added, costs would have decreased in FY2002.

**Mgmt/Award/Incentive Fee** – Increased \$7.7 million due to an increased fee base and an increase in performance against objectives.

Princeton

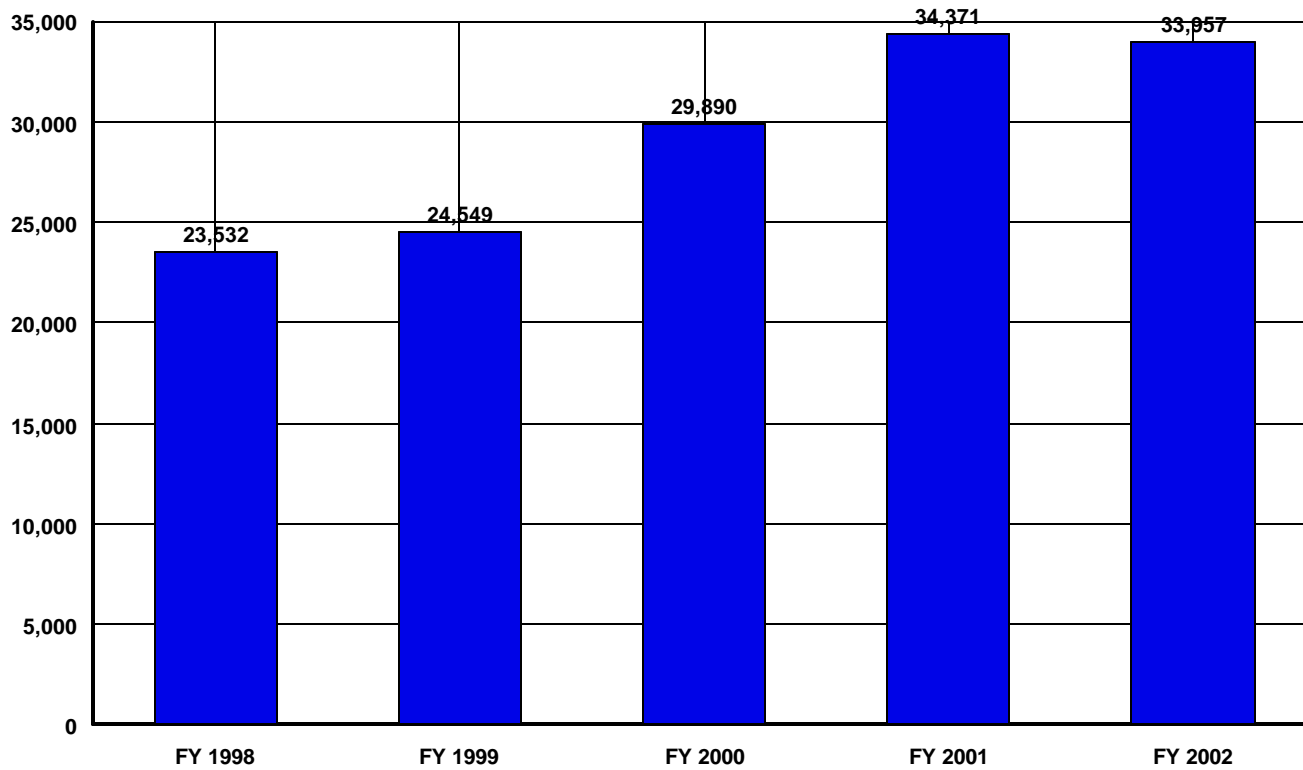
Trends in Total Functional Support Cost Categories

FY 2002

(\$ in 000's)

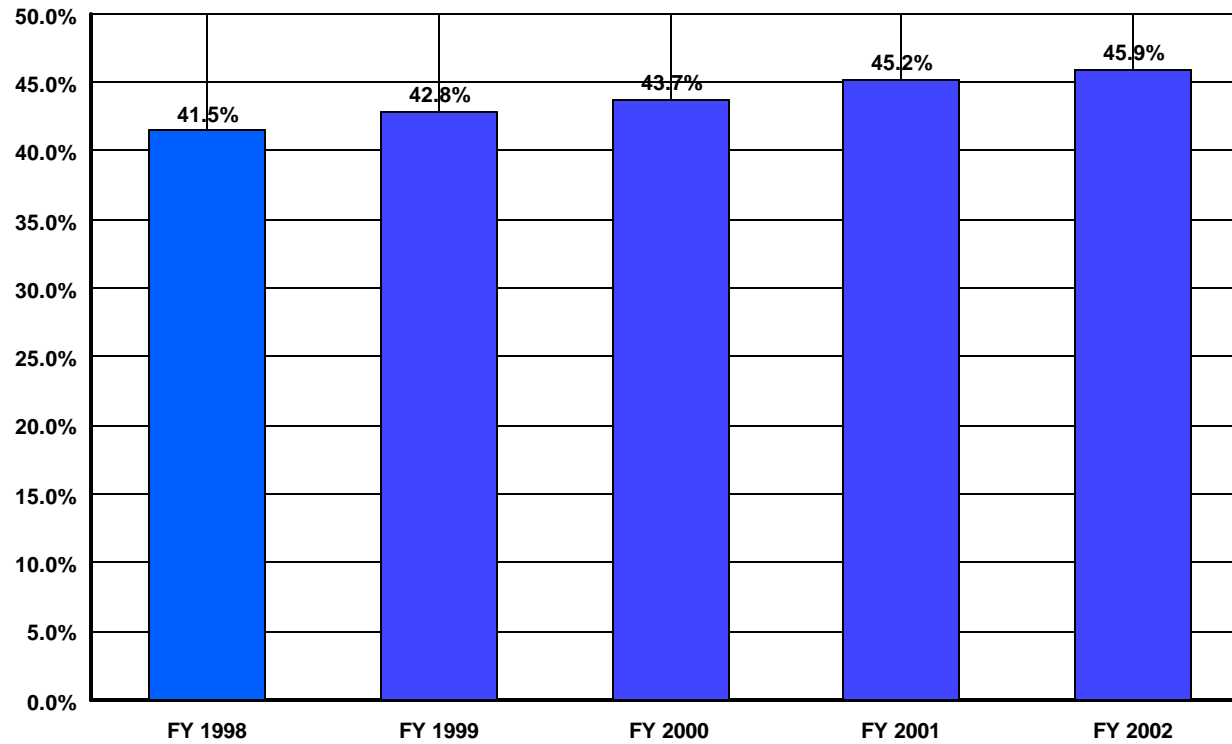
GENERAL SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
EXECUTIVE DIRECTION	972	840	814	757	786	-186	-19.1%
HUMAN RESOURCES	786	821	989	1,037	958	172	21.9%
CFO	1,025	1,007	1,176	1,225	1,294	269	26.2%
PROCUREMENT	471	483	551	601	655	184	39.1%
LEGAL	6	2	0	35	-78	-84	-1,400.0%
CENTRAL ADMIN SERVICES	158	176	193	232	173	15	9.5%
PROGRAM/PROJECT CONTROL	617	630	663	692	677	60	9.7%
INFORMATION OUTREACH	2,641	2,681	2,843	2,908	3,142	501	19.0%
INFORMATION SERVICES	2,285	2,543	2,695	3,155	3,322	1,037	45.4%
OTHER	-969	-1,156	-383	224	87	1,056	109.0%
<b>TOTAL GENERAL SUPPORT</b>	<b>7,992</b>	<b>8,027</b>	<b>9,541</b>	<b>10,866</b>	<b>11,016</b>	<b>3,024</b>	<b>37.8%</b>
MISSION SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
ENVIRONMENTAL	135	128	433	1,214	1,107	972	720.0%
SAFETY AND HEALTH	1,325	1,510	2,275	2,711	2,580	1,255	94.7%
FACILITIES MANAGEMENT	2,674	2,611	2,522	2,580	3,280	606	22.7%
MAINTENANCE	4,446	4,851	6,117	7,100	6,215	1,769	39.8%
UTILITIES	1,909	2,185	3,335	3,899	3,273	1,364	71.5%
SAFEGUARDS AND SECURITY	798	859	957	1,055	1,409	611	76.6%
LOGISTICS SUPPORT	637	664	772	760	844	207	32.5%
QUALITY ASSURANCE	385	386	445	518	497	112	29.1%
LABORATORY/TECHNICAL SUPPOR	831	918	1,083	1,258	1,126	295	35.5%
<b>TOTAL MISSION SUPPORT</b>	<b>13,140</b>	<b>14,112</b>	<b>17,939</b>	<b>21,095</b>	<b>20,331</b>	<b>7,191</b>	<b>54.7%</b>
SITE SPECIFIC	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
MANAGEMENT/INCENTIVE FEE	2,400	2,410	2,410	2,410	2,610	210	8.8%
TAXES	0	0	0	0	0	0	0.0%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>2,400</b>	<b>2,410</b>	<b>2,410</b>	<b>2,410</b>	<b>2,610</b>	<b>210</b>	<b>8.8%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>23,532</b>	<b>24,549</b>	<b>29,890</b>	<b>34,371</b>	<b>33,957</b>	<b>10,425</b>	<b>44.3%</b>
MISSION DIRECT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
Mission Direct Operation	25,078	26,018	31,447	35,997	34,727	9,649	38.5%
Capital Construction	8,135	6,767	7,008	5,729	5,220	-2,915	-35.8%
<b>TOTAL MISSION DIRECT</b>	<b>33,213</b>	<b>32,785</b>	<b>38,455</b>	<b>41,726</b>	<b>39,947</b>	<b>6,734</b>	<b>20.3%</b>
<b>Total Costs</b>	<b>56,745</b>	<b>57,334</b>	<b>68,345</b>	<b>76,097</b>	<b>73,904</b>	<b>17,159</b>	<b>30.2%</b>
<b>Total Costs w/o Construction</b>	<b>48,610</b>	<b>50,567</b>	<b>61,337</b>	<b>70,368</b>	<b>68,684</b>	<b>20,074</b>	<b>41.3%</b>
General Support % Total Costs	14.1%	14.0%	14.0%	14.3%	14.9%		
Mission Support % Total Costs	23.2%	24.6%	26.2%	27.7%	27.5%		
Site Specific % Total Costs	4.2%	4.2%	3.5%	3.2%	3.5%		
Total Support % Total Costs	41.5%	42.8%	43.7%	45.2%	45.9%		
Total Support % Total Costs w/o Co	48.4%	48.5%	48.7%	48.8%	49.4%		

## Total Support Costs (000's) Princeton Lab – Princeton University



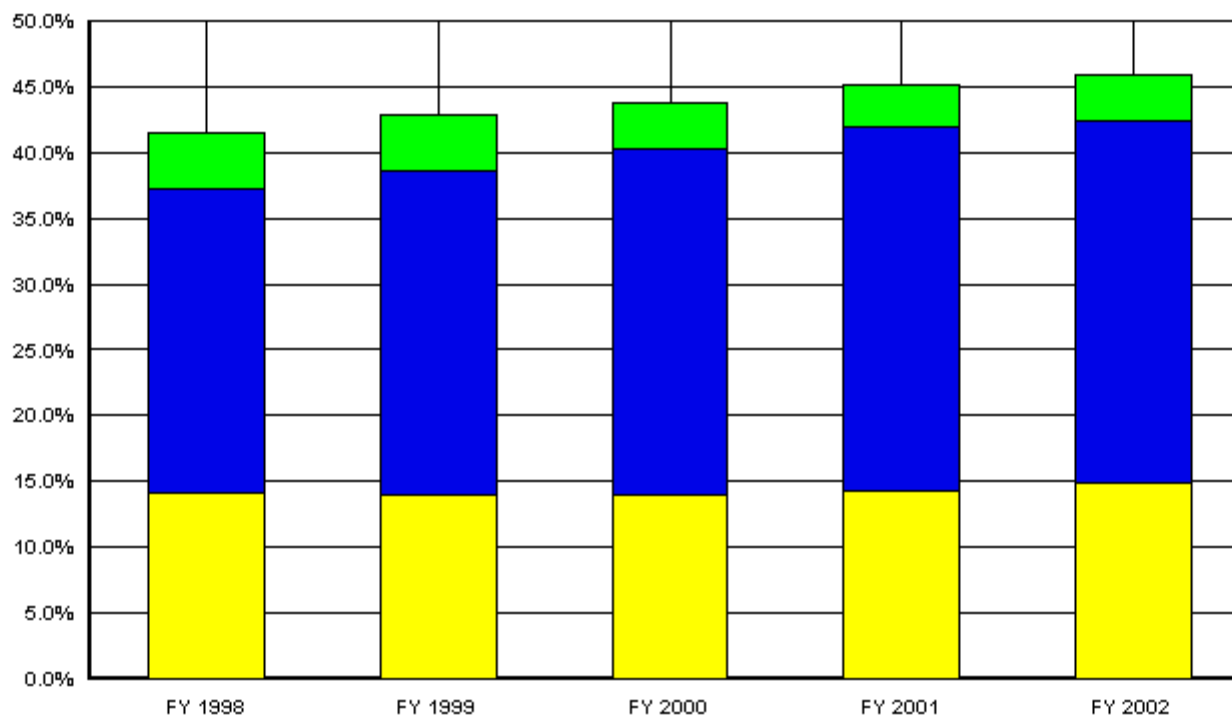
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	23,532	24,549	29,890	34,371	33,957

## Support Cost as a % of Total Cost Princeton Lab – Princeton University



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	41.5%	42.8%	43.7%	45.2%	45.9%

**US Department of Energy  
Percent of Support Category to Total  
Princeton**



Gen Sup
  Mis Sup
  Site Specific

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	14.1%	14.0%	14.0%	14.3%	14.9%
<b>Mis Sup</b>	23.2%	24.6%	26.2%	27.7%	27.5%
<b>Site Specific</b>	4.2%	4.2%	3.5%	3.2%	3.5%

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**SITE PROFILE**  
**PRINCETON PLASMA PHYSICS LABORATORY – PRINCETON UNIVERSITY**

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**I. BACKGROUND**

The Princeton Plasma Physics Laboratory (PPPL) is a Collaborative National Center for plasma and fusion science. Its primary mission is to develop the scientific understanding and key innovations which will lead to an attractive fusion energy source. This research program is carried out in close collaboration with other national and international institutions. Associated missions at PPPL include conducting world-class research along the broad frontier of plasma science and providing the highest quality of scientific education.

PPPL is managed by Princeton University. The Laboratory is sited on 88 acres of Princeton University's James Forrestal Campus, about four miles from the main campus. There are two sites at the Laboratory: C-Site that houses most of the Laboratory's workforce and the smaller experimental devices; and D-Site which is the site of the National Spherical Torus Experiment (NSTX) that began operations in FY 1999. D-Site was initially constructed for the Tokamak Fusion Test Reactor (TFTR) that ceased operations in FY 1997. TFTR was decommissioned between FY 2000 and FY 2002, on schedule and under budget.

PPPL's FY 2002 funding was approximately \$75 million, of which approximately \$70 million was provided from the Office of Fusion Energy Sciences, approximately \$3 million from other DOE programs (primarily Safeguards and Security), and approximately \$2 million from other federal agencies, non-federal sponsors and other DOE laboratories. The Laboratory costed approximately \$74 million during FY 2002. As of September 30, 2002, the number of regular employees at PPPL is approximately 395; not included are approximately 35 limited duration employees and 50 subcontractors, graduate students and visiting research staff.

**II. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEARS**

PPPL's total Functional Support Costs were relatively flat in FY 1998 and FY 1999, with significant increases in FY 2000 and FY 2001. Total Functional Support Costs were relatively flat in FY 2002, as compared to FY 2001. The overall increases in Functional Support Costs are directly in response to increases in Total Mission Direct Costs from FY 1999 to FY 2000, and again from FY 2000 to FY 2001. The increase in total Laboratory costs for this period is primarily due to the decontamination and decommission (D&D) of TFTR which began in FY 2000 and for which approximately \$10 million in funding was provided by Fusion Energy Sciences in FY 2000 and \$15 million in FY 2001. Total Mission Direct Costs are down slightly in FY 2002 compared to FY 2001, due principally to the completion of the TFTR D&D project. TFTR D&D costs decreased approximately \$2.7 million from FY 2001 to FY 2002.

In April 1997, experimental operations were terminated on the Tokamak Fusion Test Reactor. In FY 1997 \$2.6 million was accrued for restructuring costs relating to the reduction-in-force in June/July 1997 following the shutdown of TFTR. Actual restructuring costs were less than the costs accrued and appear as cost credits in the "Other" General Support category in subsequent years. In addition, this category includes credits for the reversal of termination costs accrued for subcontracts related to the TPX project that was cancelled in FY 1995. PPPL was able to negotiate lower termination costs than those forecasted and accrued in FY 1995.

Functional Support Costs increased by \$5.4 million from FY 1999 to FY 2000 and \$4.5 million from FY 2000 to FY 2001. (Excluding the impact of severance and contract termination costs/credits, Functional

Support Costs increased by \$4.5M and \$4.3M from FY 1999 to FY 2000 and from FY 2000 to FY 2001, respectively). The increase by Functional Support category is summarized below:

Total Functional Support Costs – FY 2000	\$29.9M
Total Functional Support Costs – FY 1999	<u>\$24.5M</u>
Increase	\$ 5.4M

Reconciliation

• Environmental/Safety & Health	1.1M
• Maintenance	1.3M
• Utilities	1.2M
• All Other	<u>1.8M</u>
Total	\$ 5.4M

Total Functional Support Costs – FY 2001	\$34.4M
Total Functional Support Costs – FY 2000	<u>\$29.9M</u>
Increase	\$ 4.5M

Reconciliation

• Environmental/Safety & Health	1.2M
• Maintenance	1.0M
• Information Services	.5M
• All Other	<u>1.8M</u>
Total	\$ 4.5M

The majority of these increases from FY 1999 to FY 2001, other than inflation, can be attributed to the following:

- The TFTR D&D activity increased the Laboratory's need for additional resources for support activities, primarily in the Environmental and Safety and Health categories. These additional resources account for the \$1.0 million increase in the Environmental/Safety and Health support costs from FY 1999 to FY 2000 and the \$1.1 million increase from FY 2000 to FY 2001.
- The NSTX project operated for a full year in FY 2000, as compared to half a year in FY 1999, contributing approximately \$0.9 million to the increase in costs for maintenance and utilities from FY 1999 to FY 2000. These costs increased an additional \$0.3 million from FY 2000 to FY 2001 due to operation of the neutral beam systems that began in FY2001 and significant coil repairs.
- Additional D-Site Caretaking activities (transformer repairs, breaker/cubicle modifications, and HVAC work) contributed approximately \$0.5 million to the increase in maintenance support costs from FY 2000 to FY 2001.
- FY 1999 utility costs include a credit adjustment from Public Service Enterprise Group of \$0.7 million.
- PPPL is upgrading its business computing systems, replacing its legacy systems with a state-of-the-art enterprise resource planning system. This project commenced in FY 2001. FY 2001 costs for Information Services include \$0.3 million for this effort.
- All Other: FY 1999 vs FY 2000
  - Includes \$.9M of cost reversals related to severance and contract termination costs included in FY 1999 that did not reoccur in FY 2000.
  - Includes \$.4M of inflation for all functional support categories except those specific categories mentioned above, for which the increase from FY 1999 to FY 2000 includes the cost of inflation.
- All Other: FY 2000 vs FY 2001
  - Includes \$.2M of cost reversals related to severance and contract termination costs included in FY 2000 that did not reoccur in FY 2001.



Includes \$1.0M of inflation for all functional support categories except those specific categories mentioned above, for which the increase from FY 2000 to FY 2001 includes the cost of inflation.

Total Functional Support Costs did not change between FY 2001 and FY 2002. However, there were significant changes among the categories within the Mission Support and Site Specific categories. The changes for the Mission Support Category are summarized below:

Mission Support Costs – FY 2002	\$ 20.3M
Mission Support Costs – FY 2001	<u>\$ 21.1M</u>
Decrease	\$ (0.8)M
Reconciliation	
• Facilities Management	\$ 0.7 M
• Maintenance	(0.9)M
• Utilities	(0.6)M
• Safeguards/Security	0.4 M
• All Other	<u>(0.4)M</u>
	\$ (0.8)M

The majority of changes shown above can be attributed to the following:

- Facilities Management includes a \$0.7 million increase in the Princeton University land lease.
- The \$0.4 million increase in Safeguards and Security costs is attributed to the additional security requirements undertaken by PPPL in response to the events of September 11.
- Maintenance costs in FY 2002 for TFTR Caretaking and NSTX decreased by \$0.5 million and \$0.3 million, respectively. Both TFTR Caretaking and NSTX experienced non-recurring maintenance costs in FY 2001 as noted previously.
- A \$0.2 million decrease in Utility costs can be attributed to reduced machine operations time for NSTX and an additional \$0.2 million decrease in Utility costs can be attributed to lower natural gas costs.
- In FY 2002, PPPL's benefits costs were lower than in FY 2001, resulting in a lower benefits rate that offset the impact of inflation.

The changes for the Site Specific Category are summarized below:

Site Specific Costs – FY 2002	\$ 2.6M
Site Specific Costs – FY 2001	<u>\$ 2.4M</u>
Increase	\$ 0.2M

This increase was due to the \$0.2 million increase in the Princeton University Management Allowance in FY 2002.

PPPL's Functional Support Costs as a percentage of Total Site Costs for FY 1998 – FY 2002 are as follows:

	General <u>Support</u>	General Support Excluding <u>Termination Costs</u>	Mission <u>Support</u>	Site <u>Specific</u>
FY 1998	14.1%	15.4%	23.2%	4.2%
FY 1999	14.0%	15.7%	24.6%	4.2%
FY 2000	14.0%	14.3%	26.2%	3.5%
FY 2001	14.3%	14.4%	27.7%	3.2%
FY 2002	14.9%	14.9%	27.5%	3.5%

Excluding termination and other non-recurring, restructuring-related costs, the percentage of General Support Costs to Total Costs remains relatively constant over this five-year period. There are two categories of General Support Costs. First, there are institutional administration costs, such as executive management, financial management, and human resources administration that are relatively flat, except for inflation, within a relatively wide range of activity levels at PPPL.

	<u>FY 98</u>	<u>FY 99</u>	<u>FY 00</u>	<u>FY 01</u>	<u>FY 02</u>
Inst. Admin. General Supp. Costs	\$3.4M	\$3.4M	\$3.6M	\$3.7M	\$3.7M
Total Costs	\$56.7M	\$57.3M	\$68.3M	\$76.1M	\$73.9M
Percentage	6.0%	5.9%	5.3%	4.9%	5.0%

Therefore, as the overall Laboratory activity level increased, driven by TFTR D&D, these activities, as expected, declined as a percentage of total cost.

The second category of General Support Costs is support activities. Support activities include procurement, information outreach, and information services. These activities provide direct support to the Laboratory's programs and, therefore, fluctuate in response to changes in PPPL's activity level due to the amount of services provided by these activities that are consumed by the Laboratory.

	<u>FY 98</u>	<u>FY 99</u>	<u>FY 00</u>	<u>FY 01</u>	<u>FY 02</u>
Other General Support Costs	\$5.6M	\$5.8M	\$6.3M	\$6.9M	\$7.3M
Total Costs	\$56.7M	\$57.3M	\$68.3M	\$76.1M	\$73.9M
Percentage	9.9%	10.1%	9.2%	9.1%	9.9%

Mission Support Costs include both infrastructure costs and costs that are determined by PPPL's experimental program, such as electricity costs for operating experimental devices. Therefore, the percentage of Mission Support Costs to total costs may fluctuate from one fiscal year to the next primarily as a result of the nature of the research program being conducted in each fiscal year. Mission Support Costs increased by \$3.8 million from FY 1999 to FY 2000, and by \$3.2 million from FY 2000 to FY 2001. This upward trend was due primarily to the increases in costs for safety and health, maintenance and utilities as discussed above. Mission Support Costs decreased by \$0.8M from FY 2001 to FY 2002 for reasons noted previously.

The Mission Direct costs reflect the transfer of Waste Management activities from Environmental Management (EM) to the Office of Science (SC) in FY 2001. Although Safeguards and Security became a direct funded program in FY 2001, these costs are reported in the S&S mission support category.

### III. COST SAVINGS INITIATIVES

Specific initiatives implemented during FY 1995 – FY 2002 have resulted in support cost savings of \$4.9 million are as follows:

- Leveraging of Princeton University resources to benefit Laboratory operations – development of an improved time reporting system for biweekly and hourly staff and implementation of a PeopleSoft human resource system
- Aggressive Make or Buy analyses – PPPL performed comprehensive “Make or Buy” analyses for twelve functional areas during the past five years resulting in lower costs/improved services in four functional areas
- Implementation of a credit card procurement system
- Implementation of an electronic time reporting system for all Laboratory staff
- Increased use of computerization to eliminate routine manual tasks
- Elimination of low-value/no-value-added tasks

- Streamlining internal processes in order to reduce costs while continuing to satisfy DOE requirements
- Aggressive/imaginative management of travel costs, resulted in savings of \$220,000 in FY 2002. Examples are:
  - Contracts were negotiated with airlines to provide reduced fares on specific city pairs
  - Extra effort has been made in using “alternative” sources to purchase airline tickets (i.e. consolidators) reducing the costs of last minute trips
  - Group travel has been arranged, wherever feasible, resulting in cost savings
  - Implemented initiative to utilize video conferencing facilities where possible to reduce travel costs

Rocky Flats

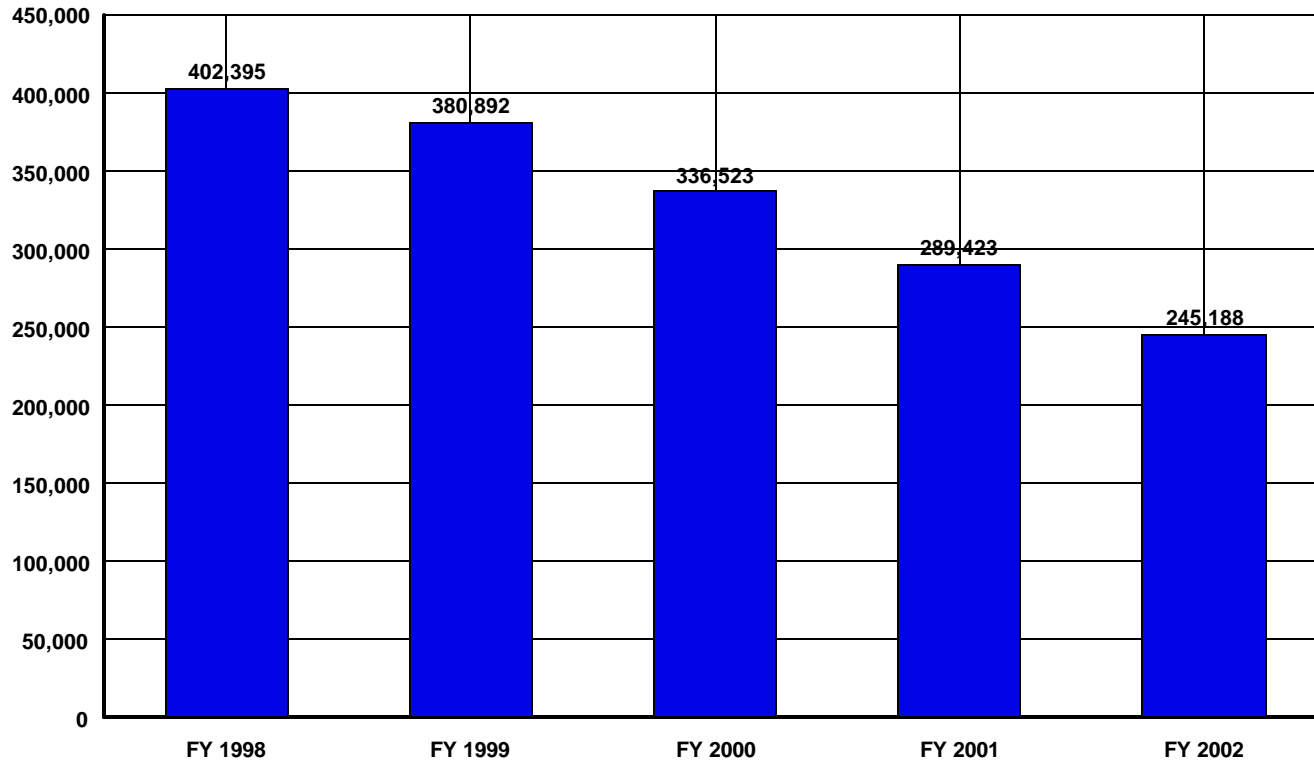
Trends in Total Functional Support Cost Categories

FY 2002

(\$ in 000's)

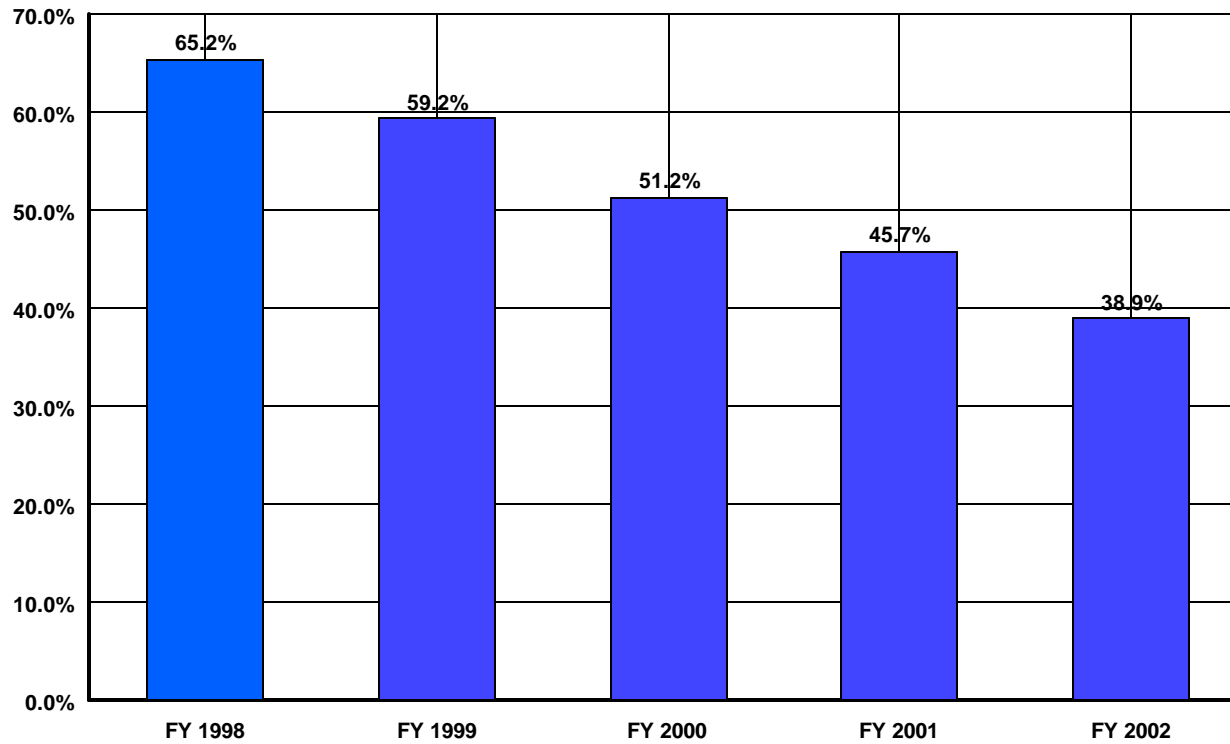
GENERAL SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
EXECUTIVE DIRECTION	6,129	5,105	8,554	3,910	915	-5,214	-85.1%
HUMAN RESOURCES	7,266	7,634	7,988	3,493	1,674	-5,592	-77.0%
CFO	22,148	15,512	6,033	9,935	4,474	-17,674	-79.8%
PROCUREMENT	4,675	2,900	2,375	3,291	2,372	-2,303	-49.3%
LEGAL	1,434	1,583	875	1,160	1,336	-98	-6.8%
CENTRAL ADMIN SERVICES	4,022	4,864	3,970	3,397	5,277	1,255	31.2%
PROGRAM/PROJECT CONTROL	15,498	18,448	6,569	6,562	4,329	-11,169	-72.1%
INFORMATION OUTREACH	1,892	1,427	1,549	1,618	2,189	297	15.7%
INFORMATION SERVICES	16,432	22,571	17,920	15,830	13,785	-2,647	-16.1%
OTHER	13,905	9,193	22,149	10,317	10,146	-3,759	-27.0%
<b>TOTAL GENERAL SUPPORT</b>	<b>93,401</b>	<b>89,237</b>	<b>77,982</b>	<b>59,513</b>	<b>46,497</b>	<b>-46,904</b>	<b>-50.2%</b>
MISSION SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
ENVIRONMENTAL	17,382	18,743	13,181	14,902	13,740	-3,642	-21.0%
SAFETY AND HEALTH	68,227	64,869	38,735	47,149	42,207	-26,020	-38.1%
FACILITIES MANAGEMENT	62,425	62,747	32,496	32,462	15,420	-47,005	-75.3%
MAINTENANCE	32,274	31,101	31,257	33,587	32,712	438	1.4%
UTILITIES	13,255	11,429	10,902	9,840	10,289	-2,966	-22.4%
SAFEGUARDS AND SECURITY	37,055	38,181	39,217	44,055	42,845	5,790	15.6%
LOGISTICS SUPPORT	7,891	9,202	9,645	9,118	5,043	-2,848	-36.1%
QUALITY ASSURANCE	7,689	6,564	2,942	1,455	2,035	-5,654	-73.5%
LABORATORY/TECHNICAL SUPPOR	16,676	12,801	19,190	13,376	9,543	-7,133	-42.8%
<b>TOTAL MISSION SUPPORT</b>	<b>262,874</b>	<b>255,637</b>	<b>197,565</b>	<b>205,944</b>	<b>173,834</b>	<b>-89,040</b>	<b>-33.9%</b>
SITE SPECIFIC	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
MANAGEMENT/INCENTIVE FEE	44,880	35,087	60,934	23,966	24,857	-20,023	-44.6%
TAXES	1,240	931	42	0	0	-1,240	-100.0%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>46,120</b>	<b>36,018</b>	<b>60,976</b>	<b>23,966</b>	<b>24,857</b>	<b>-21,263</b>	<b>-46.1%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>402,395</b>	<b>380,892</b>	<b>336,523</b>	<b>289,423</b>	<b>245,188</b>	<b>-157,207</b>	<b>-39.1%</b>
MISSION DIRECT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
Mission Direct Operation	175,292	239,273	310,012	341,741	383,681	208,389	118.9%
Capital Construction	39,044	22,708	10,279	2,173	2,214	-36,830	-94.3%
<b>TOTAL MISSION DIRECT</b>	<b>214,336</b>	<b>261,981</b>	<b>320,291</b>	<b>343,914</b>	<b>385,895</b>	<b>171,559</b>	<b>80.0%</b>
<b>Total Costs</b>	<b>616,731</b>	<b>642,873</b>	<b>656,814</b>	<b>633,337</b>	<b>631,083</b>	<b>14,352</b>	<b>2.3%</b>
<b>Total Costs w/o Construction</b>	<b>577,687</b>	<b>620,165</b>	<b>646,535</b>	<b>631,164</b>	<b>628,869</b>	<b>51,182</b>	<b>8.9%</b>
General Support % Total Costs	15.1%	13.9%	11.9%	9.4%	7.4%		
Mission Support % Total Costs	42.6%	39.8%	30.1%	32.5%	27.5%		
Site Specific % Total Costs	7.5%	5.6%	9.3%	3.8%	3.9%		
Total Support % Total Costs	65.2%	59.2%	51.2%	45.7%	38.9%		
Total Support % Total Costs w/o Co	69.7%	61.4%	52.1%	45.9%	39.0%		

## Total Support Costs (000's) Rocky Flats – Kaiser Hill



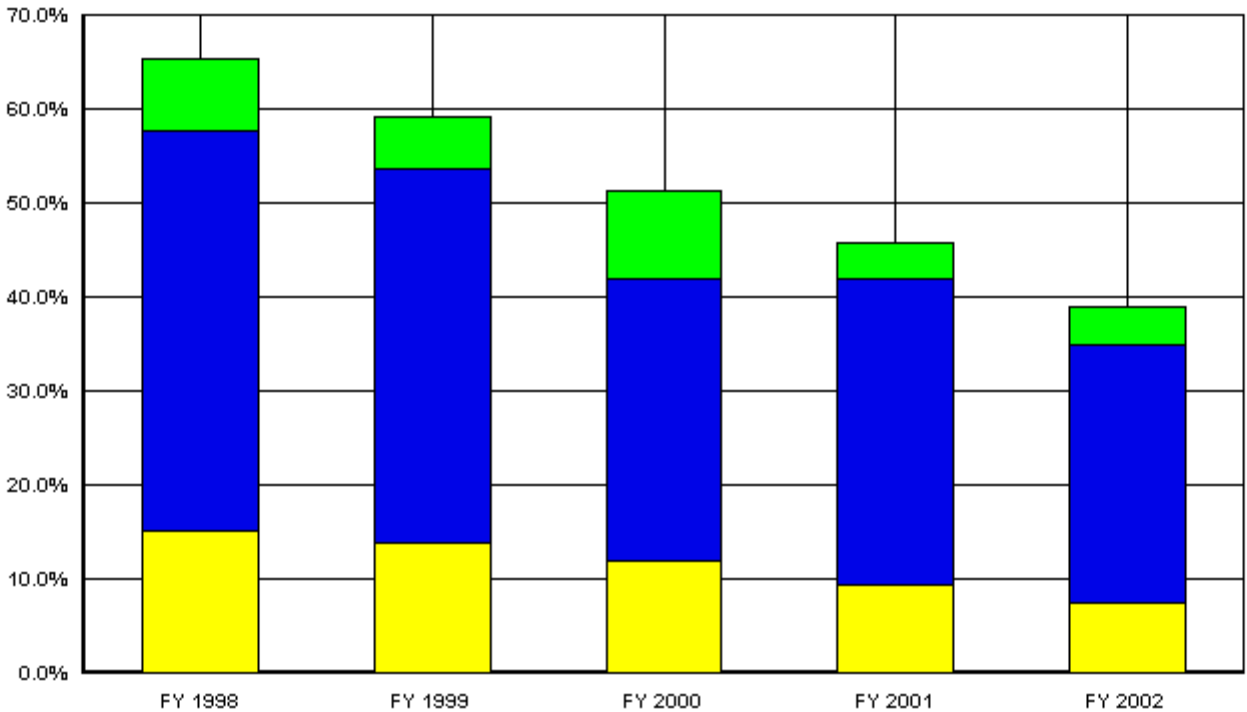
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	402,395	380,892	336,523	289,423	245,188

## Support Cost as a % of Total Cost Rocky Flats – Kaiser Hill



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	65.2%	59.2%	51.2%	45.7%	38.9%

**US Department of Energy  
Percent of Support Category to Total  
Rocky Flats**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	15.1%	13.9%	11.9%	9.4%	7.4%
<b>Mis Sup</b>	42.6%	39.8%	30.1%	32.5%	27.5%
<b>Site Specific</b>	7.5%	5.6%	9.3%	3.8%	3.9%

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**SITE PROFILE**  
**ROCKY FLATS – KAISER HILL**

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**I. SITE CHARACTERISTICS**

The Rocky Flats Environmental Technology Site (RFETS) is a former nuclear weapons production site that is now in the process of environmental cleanup and closure. The 6300-acre site, 15 miles from downtown Denver, was originally constructed in the 1950's to manufacture nuclear weapons components. Plutonium manufacturing operations were suspended in 1989 due to safety and environmental concerns, and then terminated in early 1992. In 1995 the DOE released a report that identified five RFETS facilities (Buildings 771, 776, 779, 707, and 371) on a list of the fourteen most dangerous facilities within the entire DOE complex regarding environmental, safety, and health vulnerabilities.

The Site Contractor for RFETS, Kaiser-Hill Company, L.L.C. (Kaiser-Hill), assumed site management in July 1995. Kaiser-Hill was awarded a new closure contract in February 2000. This new closure contract provides for Kaiser-Hill to achieve Site closure safely, and to close the Site by December 2006 at a cost of \$3.963 billion. Kaiser-Hill's Team, with approximately 5000 employees and subcontractors, is converting the legacy weapons production waste materials into forms that can be shipped offsite, and is deactivating, decommissioning and dismantling facilities. Since 1995 extraordinary increases have been achieved in waste shipments, plutonium components shipments, plutonium solutions processing, plutonium oxide and residue stabilization, beryllium shipments, chemical disposal, and property and document disposition. The site now has a single mission – the Site Closure Project, which is planned for accomplishment by 2006. During the past year, the Site has experienced noteworthy acceleration of closure activities.

**II. HIGHLIGHTS OF TRENDS**

**Components of Functional Costs at RFETS**

Dollars in Millions

	<u>FY95</u>	<u>FY96</u>	<u>FY97</u>	<u>FY98</u>	<u>FY99</u>	<u>FY00</u>	<u>FY01</u>	<u>FY02</u>
	<u>Actual</u>	<u>Actual</u>	<u>Actual</u>	<u>Actual</u>	<u>Actual</u>	<u>Actual</u>	<u>Actual</u>	<u>Actual</u>
Functional Support:								
General Support	144.0	116.1	91.9	93.4	89.2	78.0	59.5	46.5
Mission Support	312.6	251.1	279.1	262.8	255.6	197.6	205.9	173.8
Site Specific	<u>15.0</u>	<u>52.4</u>	<u>52.1</u>	<u>46.0</u>	<u>36.0</u>	<u>61.0</u>	<u>24.0</u>	<u>24.9</u>
Subtotal	471.6	419.6	423.1	402.3	380.9	336.5	289.4	245.2
% of Total	71.6%	74.5%	73.3%	66.1%	59.2%	51.2%	45.7%	38.9%
Mission Direct:								
% of Total	28.4%	25.5%	26.7%	33.9%	40.8%	48.8%	54.3%	61.1%
Total Site Cost	<u>658.3</u>	<u>563.2</u>	<u>577.1</u>	<u>608.5</u>	<u>642.9</u>	<u>656.8</u>	<u>633.3</u>	<u>631.1</u>



## Analysis of Functional Costs at RFETS

The acceleration of closure activities at Rocky Flats is seen in the increase in the amount of mission direct costs and the corresponding decrease in support costs, as waste and special nuclear materials are shipped, and facilities are deactivated, decommissioned and demolished.

We believe functional costs at Rocky Flats compare favorably to those at other sites.

### Composition of the “Other” Functional Cost Category

The following activities are included in the “Other” functional category:

	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02
<u>Actual Costs in “Other” (\$M):</u>								
Workforce Restructuring Costs	43.5	26.9	8.3	7.7	3.2	2.1	2.7	5.1
Contractor Controlled Insurance	2.7	6.5	2.7	5.8	6.0	4.3	7.6	4.2
Accrual for Contract Close Out	0.0	0.0	0.0	0.0	0.0	15.7	0.0	0.0
Prev. Contractor Govt Rating Plan*	0.0	0.0	1.1	0.4	0.0	0.0	0.0	0.0
Total Other	46.2	33.4	12.1	13.9	9.2	22.1	10.3	9.3

\*These legacy Workers Comp costs were included in Mission Support and Mission Direct as allocations in FY97 and FY98. In FY 99 these costs follow labor costs to the appropriate categories.

### III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR

**General Support** – This category captures the corporate infrastructure required to manage the site operations from a business perspective. The Site Contractor, Kaiser-Hill, and its major subcontractors’ management requirements are included in this category. This infrastructure is driven by both the type of contractual relationship that Kaiser-Hill has with DOE (FAR based) and by the objectives of the Site Closure Project (management systems supporting the project objectives). Between FY95 and FY02 a \$97.5 million reduction in annual General Support costs has been achieved, primarily by running the site like a business using commercial practices, challenging costs, outsourcing services, and re-engineering numerous business practices. Between FY01 and FY02 the significant changes were: a) Executive Direction decreased \$3 million as projected due to efficiencies planned and realized, b) CFO decreased \$5.5 million as FY01 saw lost time associated with the September 11<sup>th</sup> terrorist attacks (the CFO work breakdown structure element was used to capture these lost time costs), and c) Human Resources decreased \$1.8 million as projected due to efficiencies planned and realized.

**Mission Support** – This category captures the programmatic infrastructure required to accomplish the Site Closure Project mission objective. The primary driver for the scope of work included in Mission Support is the maintenance of the safety and security envelope for each of the site facilities. This infrastructure is required to be large during the early years of the Closure Project due to the age of the facilities and the configuration of the nuclear waste, including operations management, process and facility maintenance, compliance surveillance, technical

support, and development of building authorization bases. Between FY95 and FY02 a \$139 million reduction in annual Mission Support Costs has been achieved. Between FY01 and FY02 the most significant changes were in Facilities Management. This category decreased by \$17 million as more facilities were deactivated, decommissioned and demolished.

**Site Specific** - This category includes the site use taxes, and the Base and Performance Incentive Fee for Kaiser-Hill and its major subcontractors. The new Kaiser-Hill contract is based on safe closure of the site by December 2006, at a cost of \$3.963 billion. Safe closure prior to December 2006, or at a cost of less than \$3.963 billion will result in Kaiser-Hill earning more fee. In FY02 Kaiser-Hill was paid \$892 thousand more in fee than in FY01.

**Mission Direct** – This category includes only the specific direct work activities that stabilize nuclear material, move and ship waste, tear down facilities, and clean the site. Between FY01 and FY02 the \$42 million increase is a result of increased waste shipments off site, stabilization of plutonium metals and oxides, deactivation of nuclear buildings, and dismantlement and decommissioning of non-nuclear buildings. The past year saw an acceleration of direct mission work over that planned.

#### IV. COST SAVINGS INITIATIVES

##### **Cost Efficiencies implemented by Kaiser-Hill since FY95**

From 1995 to 2002 \$182 million in total Functional Support cost reductions were achieved, as shown in the above Functional Cost summary. This is a result of formal Cost Reduction and Re-engineering initiatives; implementation of management and business systems designed specifically to support the Site Closure Project; and negotiation and implementation of the new closure contract. Work activities progressed at a more accelerated pace than planned under the new closure contract. The most significant savings were in:

- Chief Financial Officer – Staff reductions as process streamlined and a new financial system implemented
- Central Administrative Services – Subcontracting and outsourcing document control activities, and elimination of cafeterias and other services
- Information/Outreach – Improved stakeholder communication
- Information Services – Subcontracted computer operations and services, and migration to the client server environment
- Environmental – Reduced effluent sampling and monitoring, and clean-up of contaminated areas
- Safety & Health – Streamlined radiological controls and protection procedures, graded approach to building Authorization Basis, removal of hazardous chemicals and materials from the site
- Facilities Management and Maintenance – Implementation of a new union labor agreement, improved property management, implementation of commercial maintenance practices, reduction in the site mortgage “footprint”, demolition of numerous storage tanks and facilities
- Safeguards & Security – Closure of numerous Material Access Areas, automation of site and protected areas access, shipment of classified materials off site, significant staff reductions
- Logistics – Removal of significant quantities of excess property and scrap metal

- Quality Assurance – Streamlined site-wide procedures, and integrated the independent assessment programs across the site.

Sandia

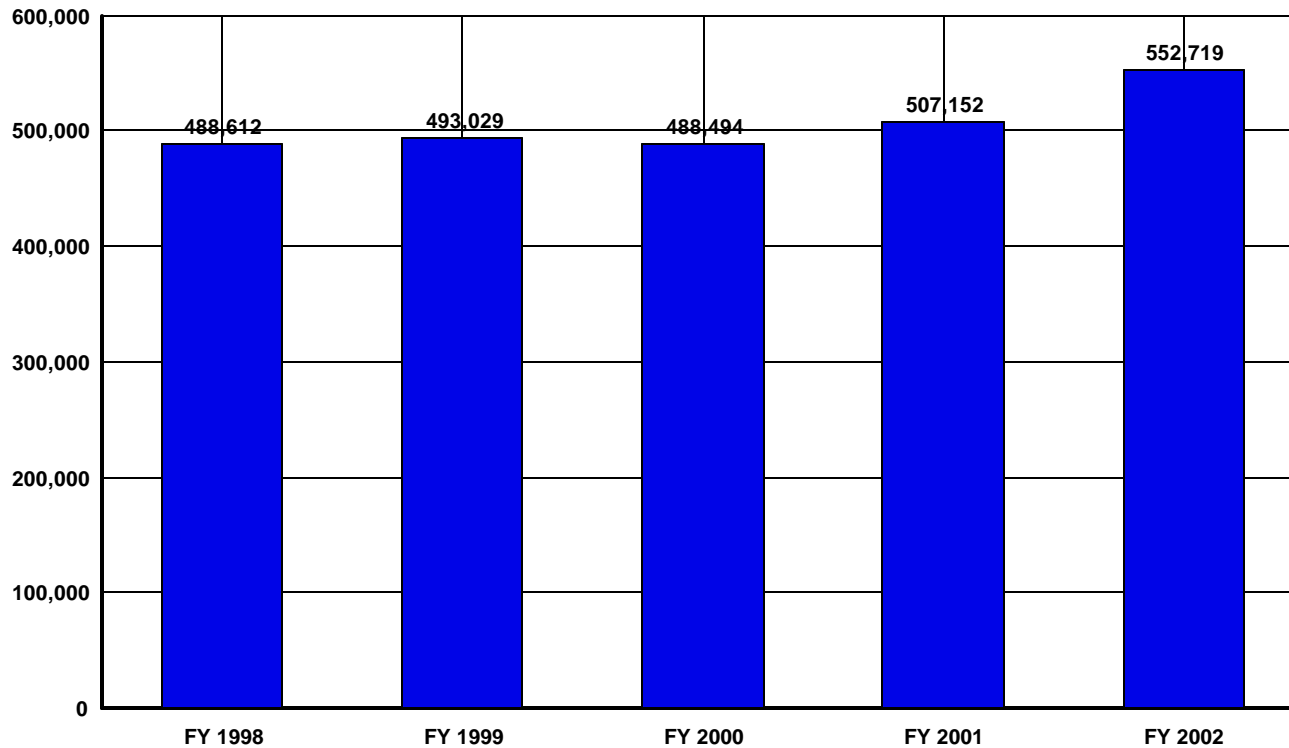
**Trends in Total Functional Support Cost Categories**

**FY 2002**

(\$ in 000's)

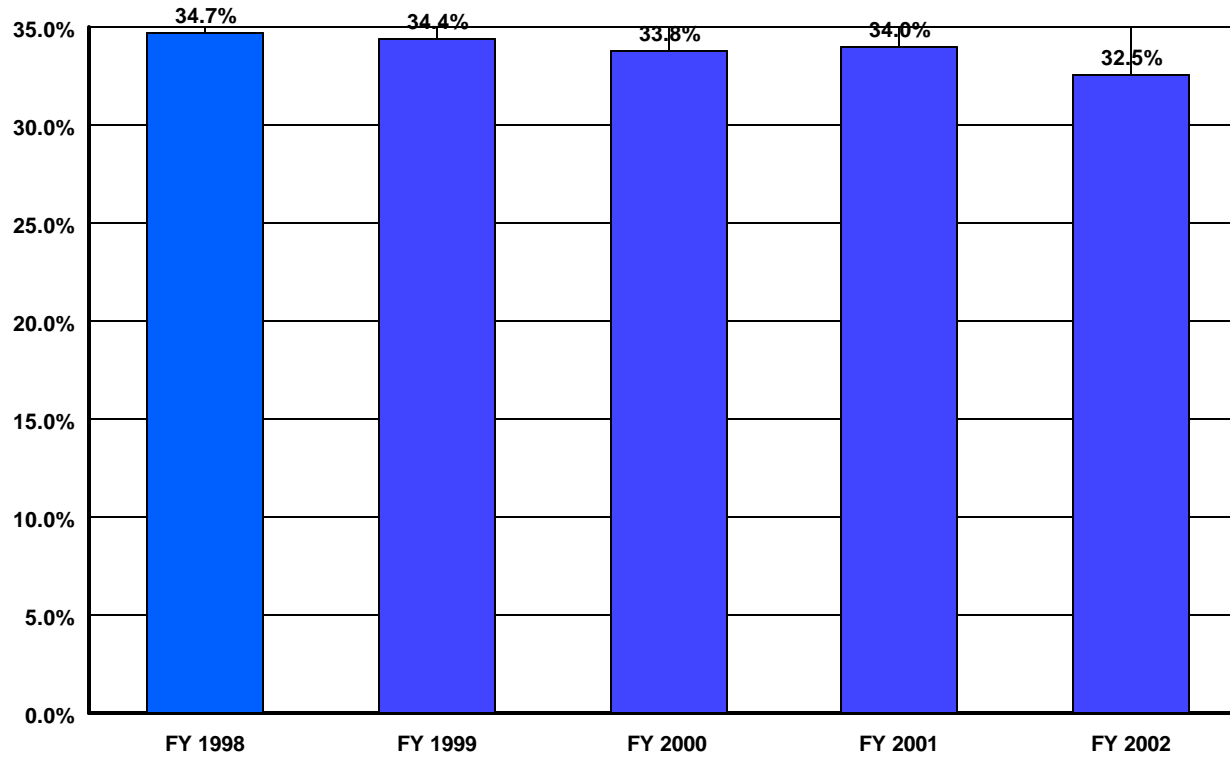
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	14,435	17,252	18,071	19,759	24,464	10,029	69.5%
HUMAN RESOURCES	18,341	17,958	21,044	24,356	27,061	8,720	47.5%
CFO	9,415	8,636	9,785	10,384	12,388	2,973	31.6%
PROCUREMENT	12,435	12,900	12,099	11,650	10,096	-2,339	-18.8%
LEGAL	4,591	5,460	5,557	5,385	5,640	1,049	22.8%
CENTRAL ADMIN SERVICES	12,419	11,416	14,211	13,997	14,208	1,789	14.4%
PROGRAM/PROJECT CONTROL	22,231	21,338	14,902	6,788	2,320	-19,911	-89.6%
INFORMATION OUTREACH	13,878	13,107	12,590	13,359	13,209	-669	-4.8%
INFORMATION SERVICES	92,949	88,507	94,440	81,025	94,905	1,956	2.1%
OTHER	11,568	17,431	6,305	2,918	713	-10,855	-93.8%
<b>TOTAL GENERAL SUPPORT</b>	<b>212,262</b>	<b>214,005</b>	<b>209,004</b>	<b>189,621</b>	<b>205,004</b>	<b>-7,258</b>	<b>-3.4%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	14,326	3,011	1,928	1,014	1,362	-12,964	-90.5%
SAFETY AND HEALTH	30,008	32,739	32,427	29,772	32,040	2,032	6.8%
FACILITIES MANAGEMENT	22,886	21,043	46,143	60,077	71,259	48,373	211.4%
MAINTENANCE	43,108	51,914	29,540	30,605	32,406	-10,702	-24.8%
UTILITIES	20,455	20,036	18,422	21,793	21,157	702	3.4%
SAFEGUARDS AND SECURITY	24,551	27,825	32,363	33,111	31,564	7,013	28.6%
LOGISTICS SUPPORT	9,182	9,135	11,405	12,683	14,181	4,999	54.4%
QUALITY ASSURANCE	319	-1	0	0	0	-319	-100.0%
LABORATORY/TECHNICAL SUPPOR	0	0	0	0	0	0	0.0%
<b>TOTAL MISSION SUPPORT</b>	<b>164,835</b>	<b>165,702</b>	<b>172,228</b>	<b>189,055</b>	<b>203,969</b>	<b>39,134</b>	<b>23.7%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	15,747	17,122	17,078	16,788	18,367	2,620	16.6%
TAXES	44,071	44,998	47,442	51,168	53,958	9,887	22.4%
LDRD / PDRD / SDRD	51,697	51,202	42,742	60,520	71,421	19,724	38.2%
<b>TOTAL SITE SPECIFIC</b>	<b>111,515</b>	<b>113,322</b>	<b>107,262</b>	<b>128,476</b>	<b>143,746</b>	<b>32,231</b>	<b>28.9%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>488,612</b>	<b>493,029</b>	<b>488,494</b>	<b>507,152</b>	<b>552,719</b>	<b>64,107</b>	<b>13.1%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	856,131	869,885	872,149	909,630	1,051,636	195,505	22.8%
Capital Construction	62,949	71,652	84,943	75,723	94,291	31,342	49.8%
<b>TOTAL MISSION DIRECT</b>	<b>919,080</b>	<b>941,537</b>	<b>957,092</b>	<b>985,353</b>	<b>1,145,927</b>	<b>226,847</b>	<b>24.7%</b>
<b>Total Costs</b>	<b>1,407,692</b>	<b>1,434,566</b>	<b>1,445,586</b>	<b>1,492,505</b>	<b>1,698,646</b>	<b>290,954</b>	<b>20.7%</b>
<b>Total Costs w/o Construction</b>	<b>1,344,743</b>	<b>1,362,914</b>	<b>1,360,643</b>	<b>1,416,782</b>	<b>1,604,355</b>	<b>259,612</b>	<b>19.3%</b>
General Support % Total Costs	15.1%	14.9%	14.5%	12.7%	12.1%		
Mission Support % Total Costs	11.7%	11.6%	11.9%	12.7%	12.0%		
Site Specific % Total Costs	7.9%	7.9%	7.4%	8.6%	8.5%		
Total Support % Total Costs	34.7%	34.4%	33.8%	34.0%	32.5%		
Total Support % Total Costs w/o Co	36.3%	36.2%	35.9%	35.8%	34.5%		

## Total Support Costs (000's) Sandia National Lab – Lockheed Martin



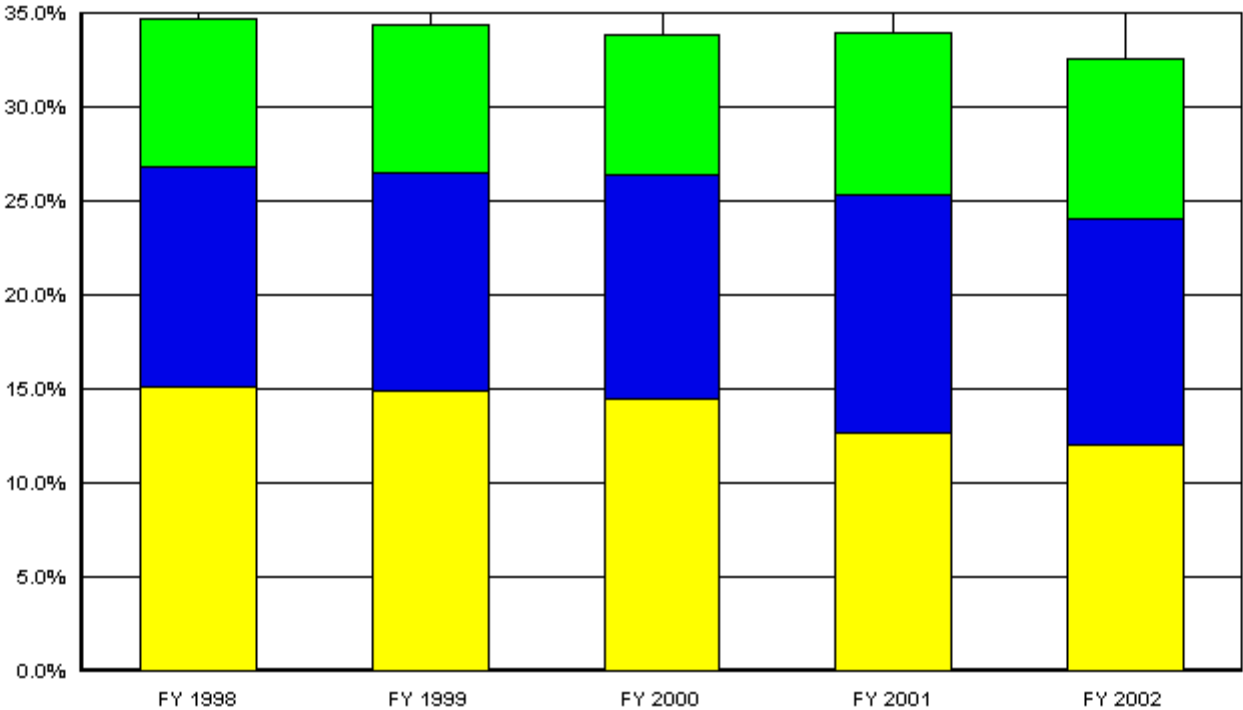
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	488,612	493,029	488,494	507,152	552,719

## Support Cost as a % of Total Cost Sandia National Lab – Lockheed Martin



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	34.7%	34.4%	33.8%	34.0%	32.5%

**US Department of Energy  
Percent of Support Category to Total  
Sandia**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	15.1%	14.9%	14.5%	12.7%	12.1%
<b>Mis Sup</b>	11.7%	11.6%	11.9%	12.7%	12.0%
<b>Site Specific</b>	7.9%	7.9%	7.4%	8.6%	8.5%

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**SITE PROFILE**  
**SANDIA NATIONAL LABORATORY – LOCKHEED MARTIN**

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**I. SITE CHARACTERISTICS**

About Sandia

Sandia is a National Security Laboratory operated for the U.S. Department of Energy by the Sandia Corporation, a Lockheed Martin Company. We design all non-nuclear components for the nation's nuclear weapons, perform a wide variety of energy research and development projects, and work on assignments that respond to national security threats -- both military and economic. We encourage and seek partnerships with appropriate U.S. industry and government groups to collaborate on emerging technologies that support our mission.

Mission Statement

Sandia National Laboratories provides scientific and engineering solutions to meet national needs in nuclear weapons and related defense systems, energy security, and environmental integrity, and to address emerging national challenges for both government and industry. As a Department of Energy National Laboratory, Sandia works in partnership with universities and industry to enhance the security, prosperity, and well being of the nation.

Attributes of SNL – FY02 approximations

4 major sites (Albuquerque, NM; Livermore, CA; Tonopah Test Range, NV; Kauai Test Range, HI)

Acres of land – 344,732

Number of buildings – 794

Building square footage – 6,211,346

Number of buildings leased – 35

Leased building square footage – 214,000

Employees – 8,042

On-Site Contractors – 2,876

**II. HIGHLIGHTS OF TRENDS**

The table below illustrates the trend analysis for FY98-02:

	FY98	FY99	FY00	FY01	FY02
Total Functional Support Costs	\$489M	\$493M	\$488M	\$507M	\$553M
Total Functional Support Costs as % of Total Site Costs	34.71%	34.37%	33.79%	33.98%	32.54%



In FY00 Sandia National Laboratories fully implemented a Commercial-Off-The-Shelf (COTS) software package (Oracle). During the implementation process, all functional cost elements were re-visited according to the existing functional cost documentation. Under Oracle, projects were consolidated and re-aligned for business management purposes. In FY01 & FY02, we continued to make adjustments and implemented a significant COTS upgrade. As a result, certain elements may be presented differently.

### **III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR**

#### Executive Direction

The \$4,407K increase in Executive Direction is primarily due to the implementation of the Integrated Enabling Services initiative and increased costs in executive management offices.

#### Human Resources

The \$3,004K increase in Human Resource is primarily due to relocation costs associated with the significant increase in new hires and increased costs associated with our human resource information system.

#### Chief Financial Officer

The \$2,005K increase in Chief Financial Officer is primarily due to corporate travel agent transaction fees now being charged to us.

#### Procurement

The \$1,554K decrease in Procurement is due to decreased costs associated with corporate contracts and policy management.

#### Program/Project Planning & Control

The \$4,468K decrease in Program/Project Planning & Control reflects a continuation of the trend from FY99 to FY01.

#### Information Services

The \$13,880K increase in Information Services is due to increased costs associated with universal connectivity activities for our COTS software package (Oracle) and new enterprise software licenses purchased.

#### Other

The \$2,205K decrease in Other is primarily due to reduced costs associated with upgrades for our COTS software package (Oracle).

#### Facilities Management

The \$11,183K increase in Facilities Management is primarily due to increased work load for space modifications and management of new construction projects.

Logistics Support

The \$1,499K increase in Logistics Support is primarily due to increased costs associated with rising procurement activity.

LDRD

The \$10,902K increase in LDRD is due to an increase in total Sandia costs.

Other

The table below itemizes the amount in the Other functional cost category:

Program/Project	Amount
Oracle Trans/upgrade (INV)	934,324.82
Brain Imaging (UNM)	(8,942.41)
Contract Variance	(703,051.39)
Administration	448,489.68
Miscellaneous	42,518.51
Total	713,339.21

Savannah River

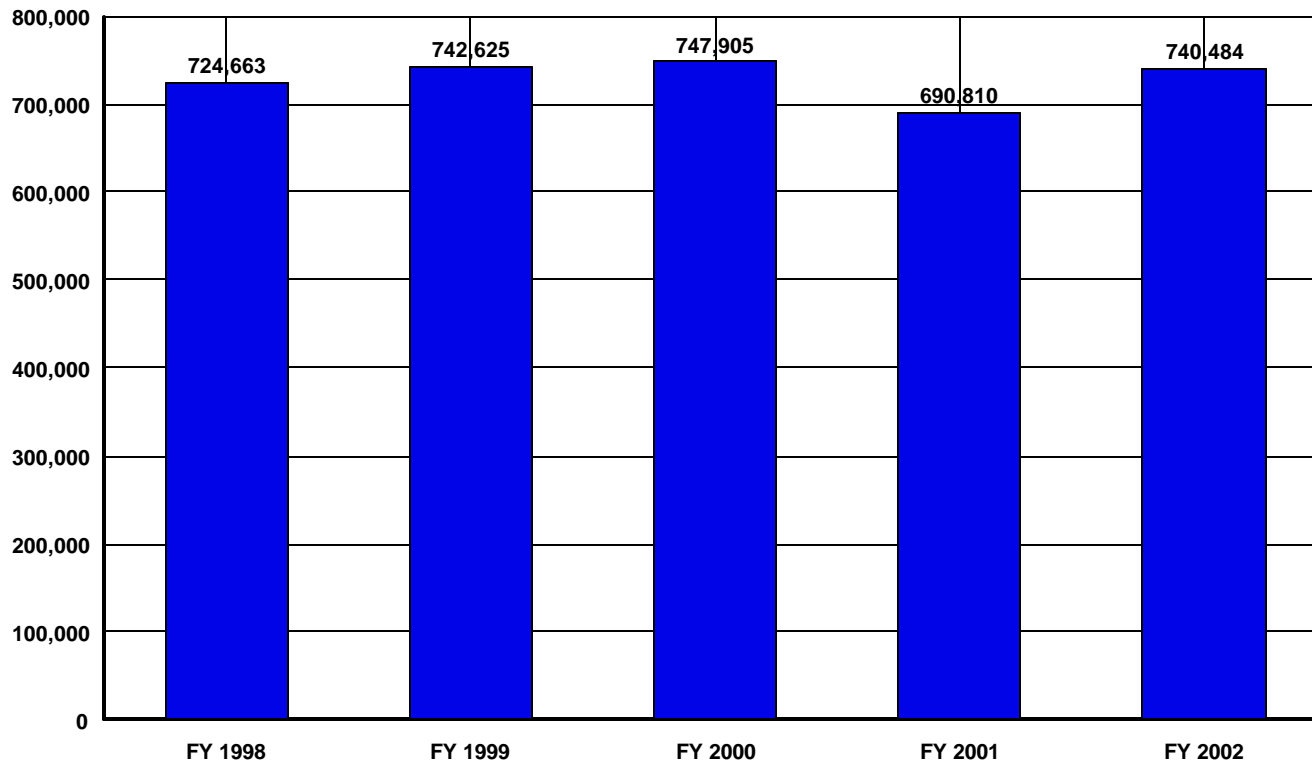
Trends in Total Functional Support Cost Categories

FY 2002

(\$ in 000's)

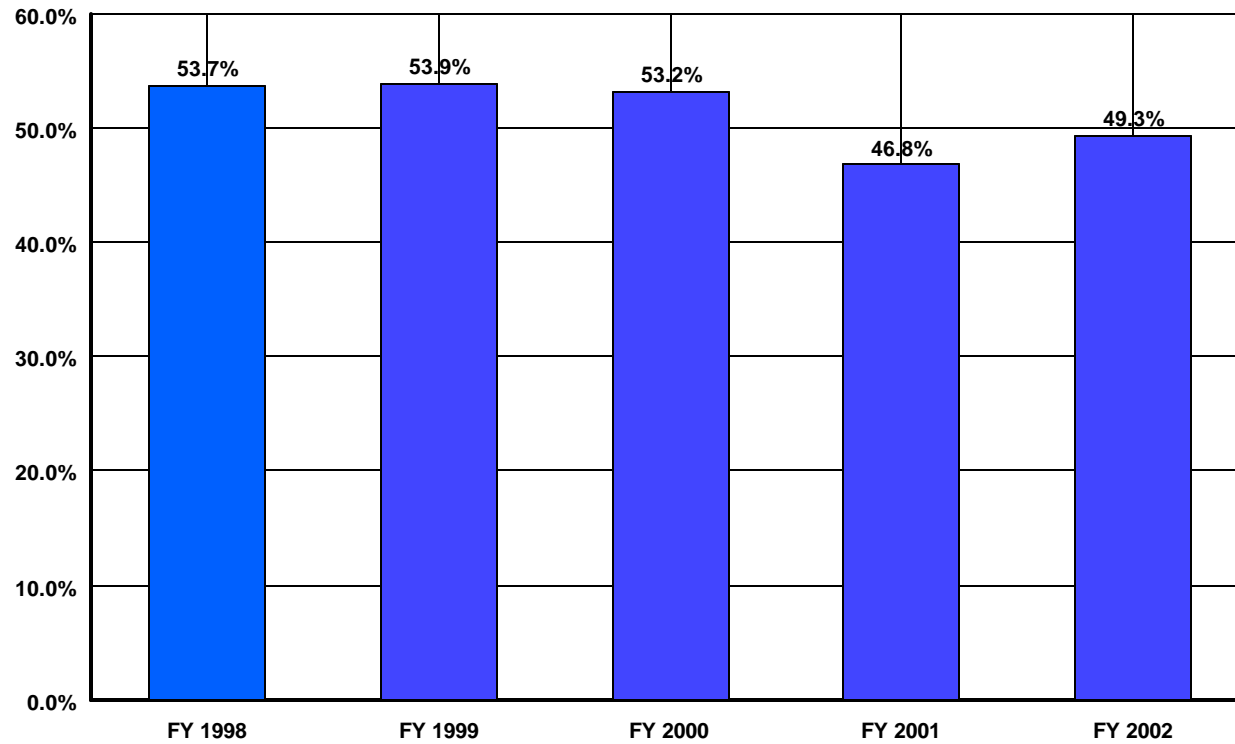
GENERAL SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
EXECUTIVE DIRECTION	5,986	6,054	6,473	7,039	8,186	2,200	36.8%
HUMAN RESOURCES	14,867	13,298	13,942	13,096	13,051	-1,816	-12.2%
CFO	13,497	13,760	13,648	13,306	13,379	-118	-0.9%
PROCUREMENT	12,601	13,111	12,501	13,299	13,719	1,118	8.9%
LEGAL	4,031	11,662	8,470	5,742	4,205	174	4.3%
CENTRAL ADMIN SERVICES	17,606	18,942	18,058	17,793	18,334	728	4.1%
PROGRAM/PROJECT CONTROL	30,044	33,491	32,563	35,743	37,681	7,637	25.4%
INFORMATION OUTREACH	5,462	4,978	5,094	5,344	5,381	-81	-1.5%
INFORMATION SERVICES	79,863	76,814	74,037	55,758	56,040	-23,823	-29.8%
OTHER	786	824	5,489	-8	3,014	2,228	283.5%
<b>TOTAL GENERAL SUPPORT</b>	<b>184,743</b>	<b>192,934</b>	<b>190,275</b>	<b>167,112</b>	<b>172,990</b>	<b>-11,753</b>	<b>-6.4%</b>
MISSION SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
ENVIRONMENTAL	18,892	20,384	25,477	26,126	26,430	7,538	39.9%
SAFETY AND HEALTH	94,785	98,618	107,777	116,805	125,613	30,828	32.5%
FACILITIES MANAGEMENT	37,235	37,581	37,276	33,894	35,288	-1,947	-5.2%
MAINTENANCE	159,907	158,292	148,882	105,434	109,168	-50,739	-31.7%
UTILITIES	51,540	42,552	41,799	42,828	43,359	-8,181	-15.9%
SAFEGUARDS AND SECURITY	51,135	52,623	60,495	64,791	74,830	23,695	46.3%
LOGISTICS SUPPORT	17,418	15,176	17,240	19,665	21,957	4,539	26.1%
QUALITY ASSURANCE	28,473	30,643	28,544	27,658	25,788	-2,685	-9.4%
LABORATORY/TECHNICAL SUPPOR	23,323	23,342	23,578	24,632	26,870	3,547	15.2%
<b>TOTAL MISSION SUPPORT</b>	<b>482,708</b>	<b>479,211</b>	<b>491,068</b>	<b>461,833</b>	<b>489,303</b>	<b>6,595</b>	<b>1.4%</b>
SITE SPECIFIC	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
MANAGEMENT/INCENTIVE FEE	55,736	68,754	64,819	61,894	78,191	22,455	40.3%
TAXES	1,476	1,726	1,743	-29	0	-1,476	-100.0%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>57,212</b>	<b>70,480</b>	<b>66,562</b>	<b>61,865</b>	<b>78,191</b>	<b>20,979</b>	<b>36.7%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>724,663</b>	<b>742,625</b>	<b>747,905</b>	<b>690,810</b>	<b>740,484</b>	<b>15,821</b>	<b>2.2%</b>
MISSION DIRECT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
Mission Direct Operation	486,779	491,292	506,026	589,551	579,539	92,760	19.1%
Capital Construction	137,734	144,811	152,395	196,684	183,300	45,566	33.1%
<b>TOTAL MISSION DIRECT</b>	<b>624,513</b>	<b>636,103</b>	<b>658,421</b>	<b>786,235</b>	<b>762,839</b>	<b>138,326</b>	<b>22.1%</b>
<b>Total Costs</b>	<b>1,349,176</b>	<b>1,378,728</b>	<b>1,406,326</b>	<b>1,477,045</b>	<b>1,503,323</b>	<b>154,147</b>	<b>11.4%</b>
<b>Total Costs w/o Construction</b>	<b>1,211,442</b>	<b>1,233,917</b>	<b>1,253,931</b>	<b>1,280,361</b>	<b>1,320,023</b>	<b>108,581</b>	<b>9.0%</b>
General Support % Total Costs	13.7%	14.0%	13.5%	11.3%	11.5%		
Mission Support % Total Costs	35.8%	34.8%	34.9%	31.3%	32.5%		
Site Specific % Total Costs	4.2%	5.1%	4.7%	4.2%	5.2%		
Total Support % Total Costs	53.7%	53.9%	53.2%	46.8%	49.3%		
Total Support % Total Costs w/o Co	59.8%	60.2%	59.6%	54.0%	56.1%		

## Total Support Costs (000's) Savannah River – Westinghouse & Wackenhut



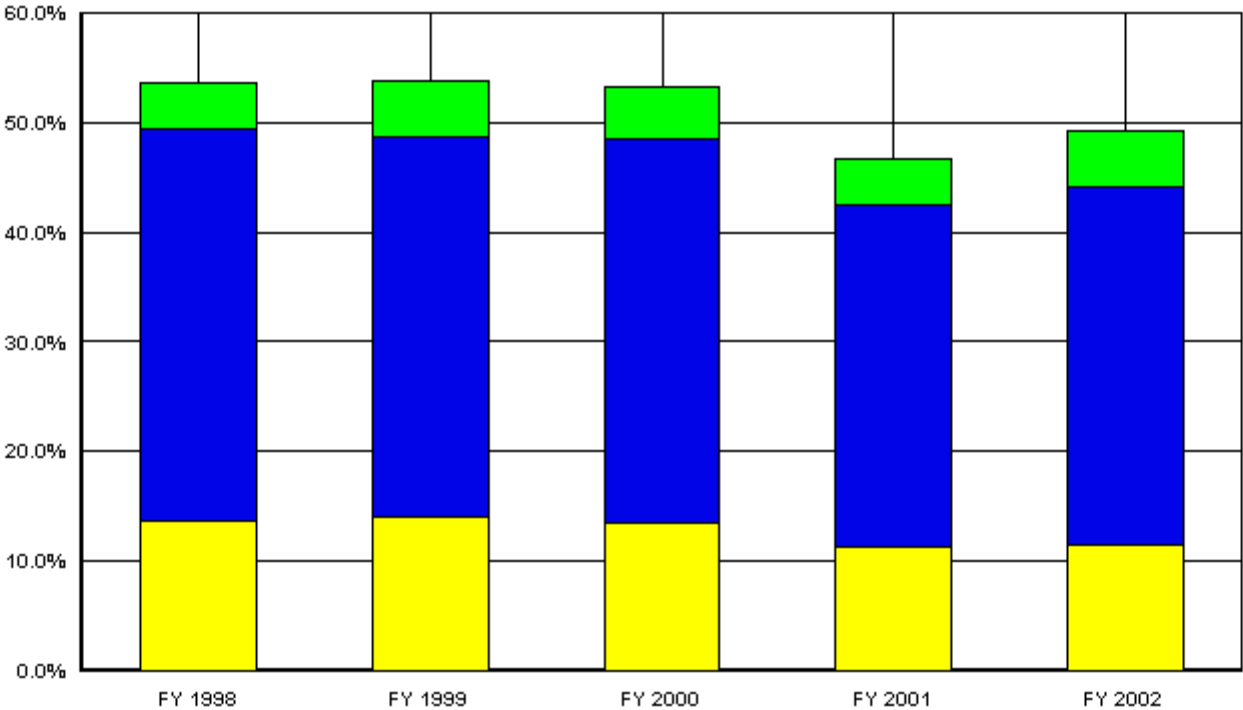
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	724,663	742,625	747,905	690,810	740,484

## Support Cost as a % of Total Cost Savannah River – Westinghouse & Wackenhut



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	53.7%	53.9%	53.2%	46.8%	49.3%

**US Department of Energy  
Percent of Support Category to Total  
Savannah River**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	13.7%	14.0%	13.5%	11.3%	11.5%
<b>Mis Sup</b>	35.8%	34.8%	34.9%	31.3%	32.5%
<b>Site Specific</b>	4.2%	5.1%	4.7%	4.2%	5.2%

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**SITE PROFILE**  
**SAVANNAH RIVER – WESTINGHOUSE AND WACKENHUT**

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**I. SITE CHARACTERISTICS**

The Savannah River Site (SRS) continues to focus on the following stewardship and mission areas:

- Nuclear Weapons Stockpile Stewardship
- Nuclear Materials Stewardship
- Environmental Stewardship

While the changing world has caused a downsizing of the site's original defense mission, the new vision of SRS is to be a modernized DOE site, recognized for performance and excellence in support of our national security and as a responsible steward of the environment. We will continue to provide tritium recycling and storage, while constructing and operating a new facility for the extraction of tritium to support the nuclear weapons stockpile. We will also construct and operate several new facilities to store and dispose of surplus plutonium as part of the nation's nuclear nonproliferation efforts.

Currently, the major focus of SRS is on environmental cleanup. A vision for accelerated cleanup has been developed and is part of the current Performance Management Plan (PMP) which outlines specific actions that are being taken to accelerate the cleanup program. This includes application of innovative cleanup reform approaches to accelerate both cleanup and risk reduction, reduce the life cycle costs of the EM program and enhance Homeland Security.

The complex covers 198,344 acres, or 310 square miles in three counties in South Carolina, bordering the Savannah River. The SRS is an operating site, currently maintaining operations in nineteen (19) Class 2 Nuclear Facilities. The site was constructed during the early 1950's to produce basic materials used in nuclear weapons, primarily tritium and plutonium-239. Five reactors were built to produce nuclear materials by irradiating target materials with neutrons. Also built were support facilities including two chemical separations plants, a heavy water extraction plant, a nuclear fuel and target fabrication facility and waste management facilities. SRS's major customer base includes Environmental Management (EM), Defense Programs (DP), National Nuclear Security Administration (NNSA), as well as work for other Federal agencies.

As of FY02 year-end, 13,492 full time equivalent (FTEs) personnel were employed on site. This included 11,894 FTEs for Westinghouse Savannah River Company (WSRC) and 851 Wackenhut Services, Incorporated (WSI) FTEs.

Current Line Item activity includes the following:

- Tritium Extraction Facility (TEF) – will provide for extraction capabilities for both the Commercial Light Water Reactor and Accelerated Production of Tritium concepts. (Line Item 98-D-125)
- FB Line Plutonium Packaging and Stabilization project – will provide thermal stabilization and packaging capability in 221-FB Line to meet DOE-STD-3013. The project includes replacement of existing furnaces with higher temperature furnaces, installation of an outer can welder and leak detector, and associated modification and/or upgrades to existing support equipment, systems and services. These modifications and upgrades will be minimum essential necessary to support thermal stabilization and packaging processing including, but not necessarily limited to, safeguards and security, ventilation, cooling, fire detection, nuclear incident monitoring, and material storage.
- Chlorofluorocarbon HVAC/Chiller Retrofit – provides for the elimination of the use of ozone-depleting chlorofluorocarbon and hydrochlorofluorocarbon-22 to ensure compliance with the EPA Clean Air Act. (Line Item 96-D-471)
- Tank Farm Support Services – provides upgrades to replace existing buried service piping with new below and above ground piping to tanks 25-28, 33-34, 44-47 and the 242-16F evaporator. (Line Item 99-D-402)
- Highly Enriched Uranium Blend Down – provides for the blending down of highly enriched uranium to low-enriched uranium and recovering its economic value by using it as a fuel in power reactors. This is in support of a Memorandum of Understanding between DOE and the Tennessee Valley Authority. (Line Item 01-D-407)
- Tritium Facility Modernization and Consolidation – provides for the relocation of several process systems and functions from Building 232-H to other locations in the Tritium Facility. This serves to reduce the footprint while enhancing several of the processes. (Line Item 98-D-123)
- High-Level Waste Removal from Filled Waste Tanks – provides for the removal of high-level waste inventory from underground storage tanks, to include equipment and infrastructure required as necessary for specific tanks. (Line Item 93-D-187)

## **II. HIGHLIGHTS OF TRENDS**

The SRS Functional Support Cost Report combines costs for both WSRC and WSI into an integrated report. Total Functional Support Costs for WSRC for FY98 to FY02 declined by \$5.2M, however, with WSI included the support costs reflected an increase of \$16.8M or 2.2% as a result of the emphasis on security after the 9/11 incident. On a positive trend, Mission Direct and Capital/Construction both increased by \$95M and \$45M respectively. This recognizes the emphasis on Mission with increases in funding.

Since FY98, WSRC has continuously applied refinements to our categorization process, and recasts have been implemented as appropriate. Overall, the FY02 Actuals are in line with projections provided in the FY 2001 Functional Cost deliverable. In FY02,



significant cost savings were achieved due to the maintenance re-engineering effort that began in FY00. These savings exceeded the initial expectation and produced a reduction in total Functional Support costs of \$20.5M from FY00 to FY02. The following trend analysis is based on the recast changes:

### General Support

The overall change from FY98 to FY02 was an \$11.8M decrease or 6.4% to General Support, resulting from our continued emphasis on cost effectiveness. This decrease was partially offset by changes in the other functional categories. The following information explains the significant changes over the trend period:

1. There is an increase in Executive Direction (+\$2M) due to the implementation of the Six-Sigma program. This program was implemented in FY02 to assist in cost savings initiatives and is the main driver for the 37% increase.
2. There is an overall downward trend in Human Resources (-\$1.9M) or 12% due to reengineering efforts and staffing reductions.
3. Program/Project Planning & Control (+\$7.6M) increased from FY98 to FY02. The 25% increase is a result of continued refinement in the classification of costs. In FY01, approximately \$3.4M was classified as project controls with a corresponding reduction to Mission Direct. The functional category ranges from approximately 2.2% to 2.5% of the total site budget from FY98 to FY02.
4. Information Services (-\$24M) FY98-FY02 trend shows a significant reduction of 30% which includes higher cost associated with the Y2K effort in FY98 and FY99. However, the Replacement Telephone System (RTS) lease term ended in FY00, thereby reflecting lower costs for FY01. The Core Application Replacement System (CARS) project kicked off its first phase to replace the Payroll/Human Resources mainframe application, which partially offset the overall reduction.
5. Other (+\$2.2M) increased due to inventory write off and workforce restructuring costs. Workforce restructuring costs are an anomaly, which contributes to the trend. Specific information is provided at the end of this profile.

### Mission Support

Mission Support reflected an upward trend of \$6.6M or 1.4%. There were major decreases in several categories that partially offset the overall increase. The following information explains the significant changes for the trend period:

1. Environmental (+\$7.5M) increased 40% as a result of more focus on federal and state required environmental compliance and monitoring.
2. Safety and Health (+\$31M) In FY00, the site implemented the multi-skilled technician (MST) program. This program was designed to re-train operators,

maintenance, and electrical mechanical employees as limited radcon technicians to reduce maintenance costs. This contributed to the increase in this functional category. In addition, increased efforts on environmental clean up and disposition have increased the number of Radcon inspectors required to support these activities. This resulted in a 33% increase to this functional category.

3. Maintenance (-\$51M) reflected a significant reduction of 32% to maintenance activities primarily due to the MST program referenced above and additional reengineering efforts.
4. Utilities (-\$8.2M) reflected a 16% decrease resulting from the privatization of the power facilities along with reengineering efforts to transition from nuclear to commercially based operations
5. Safeguards and Security (+\$24M) reflected a 46% increase, primarily due to the increased security emphasis since the 9/11 incident.

#### Site Specific

Management/Award/Incentive Fee (+\$22M) increased 40%. WSRC has a contract with multi-year Performance Based Initiatives (PBIs). The earnings profile is established during the contract negotiations, and provides for fluctuations in earnings based on the annual value of the PBIs.

### **III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR**

#### General Support

The overall change from the prior year resulted in a \$6M or 4% increase to General Support. Most of the changes in the functional categories are small and due to normal escalation. The following information explains the significant changes from the prior year's costs:

1. Program/Project Planning and Control – (+\$1.9M) increase from FY01 to FY02. In FY02, the site implemented a Disciplined Conduct of Operations (DCOP) approach to resolve some project execution and schedule problems as well as improve analysis and projections. This represents a 5% increase from the prior year, although the percentage to total site costs is still relatively small (2.5% vs. 2.6%).
2. Legal – (-\$1.6M) the 27% decrease from FY01 to FY02 is due to resolution of settlements for a major class action lawsuit.
3. Other – (+ \$3M) increase is primarily due to the workforce restructuring involuntary separation program which occurred during FY02. Specific information is outlined at the end of this profile.

## Mission Support

Mission Support from FY01 to FY02 reflects a \$27M increase. Following are explanations for specific categories with significant changes:

1. Safety and Health FY01-FY02: (+\$9M) –. Increased efforts on environmental clean up and disposition activities have increased the number of Radcon inspectors required to support these activities accounting for approximately \$4M.
2. Safeguards and Security - The 15% increase (+\$10M) is primarily due to the increased emphasis on security after the 9/11 incident and for the media destruction and sanitization program.

## Site Specific

Management/Award Incentive Fee (+\$16M). WSRC's contract establishes an earning profile based on multi-year Performance Based Initiatives (PBIs). The increase from FY01 is based on the negotiated PBI profile.

## **IV. COST SAVINGS INITIATIVES**

The Site continues to implement cost-effective commercial practices to the fullest extent possible in the non-nuclear business and technical support areas. These reductions have been able to be obtained through programs like: Individuals Developing Effective Alternative Solutions (IDEAS), Productivity and Cost Effectiveness (PACE), and Cost Reduction Implementation Team (CRIT).

In FY00, some of the cost savings/efficiency initiatives completed included:

1. Reengineered the Publications and Media Services (P&MS) section of the Management Services Department to establish a commodity management approach of providing P&MS service to SRS. This outcome gave P&MS the capability to be the exclusive supplier of publications services for the site. In addition, the *SRS Publications Library and Services Strategic Plan* was implemented to reduce staffing levels in the SRS Publications Library and Service Department while maintaining and improving services and resources. Savings in FY00 were \$976,460.
2. Through a number of Procurement initiatives, considerable cost savings have been realized. A major effort was entered into by consolidating all field procurement engineering groups (9) and material access centers (11) under a single management authority and reorganizing to establish groups of Material Specialists and Specification Specialists. This consolidation resulted in greater efficiency, higher quality products and lower costs. Further, Procurement negotiated an innovative and imaginative SRS photocopier contract to achieve considerable cost savings through leasing photocopiers instead of purchasing.

	<u>2000</u>	<u>2001</u>
Savings	\$2,158,245	\$1,870,347

3. Procurement implemented an integrated and modified Commercial Grade Dedication (CGD) process that resulted in multi-year cost savings. This process promoted purchasing materials based on lot versus individual sampling and emphasized the use of level 1 suppliers for new products. Additionally, Procurement and Materials Management Department led an initiative, with participation as appropriate by Engineering, Maintenance and Operations personnel, which identified candidate commercially-purchased coatings/paints and valves, which resulted in a standardization of these items, and a reduction of the number of similar items stocked. Savings resulted from lower inventory costs and reduced item costs, with additional benefits accruing from reduced training and maintenance costs due to fewer products in inventory.

	<u>2000</u>	<u>2001</u>	<u>2002</u>
Savings	\$171,500	\$730,000	\$1,000,000
Cost	\$171,500		
Avoidance			

In FY02, some of the cost savings/efficiency initiatives completed included:

1. WSRC established CRIT which was responsible for supporting the PACE which institutionalizes the cost effectiveness imperative throughout every organization, process, and procedure with which the company is involved at the SRS. Each year, specific initiatives that hold the potential for productivity gains and/or cost savings are developed and refined. Mutually agreeable savings goals then are established through discussions with DOE. PACE initiatives must be completed without jeopardizing safety, critical work scopes, or performance schedules. For FY 02, a site wide goal of \$118,955K in PACE savings was established including \$12M for overhead organizations. Throughout the year, \$111,634K in PACE savings was realized. This includes Six-Sigma initiatives.
2. The americium and curium (AM/CM) high-level waste (HLW) disposition program is to transfer AM/CM material from F Canyon to HLW for inclusion in Defense Waste Processing Facility (DWPF) Sludge Batch 3 and eventual vitrification. The program includes physical modifications to F canyon and HLW equipment to provide a reliable transfer route for the material.
3. The Six Sigma process improvement methodology was used to identify ways to reduce the cost resulting from analyzing samples that were pulled periodically to support the Corrosion Control Program for the 49 active HLW liquid storage tanks located at the SRS. To reduce the analytical costs, improvements were identified in two areas. First, the analytical effort associated with each sample analysis was reduced by over 50 percent and second, the number of samples the program required to be pulled was reduced by 50 percent. The net reduction in

analytical effort was 77 percent. The total cost reduction for the High Level Waste Division is \$5.82 million and for the supporting divisions involved \$3.22 million. The reduction in the number of samples pulled will also make operators available to perform an additional 7,084 hours of work (\$304,612). Cost savings for these improvements are for fiscal years 2002 through 2007.

4. The Six-Sigma process was used to evaluate the current process of processing Engineering and Safety Documents inside the Engineering and Operations Document Control (EODC) organization, which is responsible for the management of active records, and the processing of engineering documents and procedures. The results have been documented in the PACE program. The report describes the work performed and the tools utilized while applying the Six Sigma process (MAIC – Measure, Analyze, Improve and Control) during the period of September 2001 to May 2002. In addition, the report outlines the recommendations that the department optimize the path of vendor documents by reducing the time spent physically handling the documents. The report recommends the reduction of hard copy request from the customer which includes more usage of the current Document Control Register WEB (DCRWEB). Another recommendation is to reduce the amount of verification of documents in the department and establish an equal and less frequent inspection method to achieve the same function. The implementation of these recommendations will result in a hard dollar saving in four departments - Procurement, Document Control, Project Engineering and Construction and High Level Waste.

WSRC continues to pursue cost effectiveness initiatives in an effort to balance site needs with shrinking budgets. Some of these initiatives are in the operation areas and have the potential to drive mission direct costs down, which may have a negative impact on the functional support cost ratio. However, continued success in reducing functional support costs is dependent upon delivering necessary support activities in the most cost-effective manner and effort continues in this arena. A sample of the anticipated cost saving initiatives for FY03 follows:

1. In FY03 the site is implementing a closure approach for Safe Mission Essential requirements. Safe Mission Essential is defined as the practice of specifying requirements, design attributes, and operating strategies that result in safe and successful DOE mission accomplishment at minimum life-cycle cost. Mission Accomplishment is assured by focusing efforts on the specific mission(s) directed by Department of Energy - Savannah River (DOE-SR) and NNSA. This includes establishing design parameters based on reasonably expected versus conservative system/materials performance; balancing initial project costs and long-term operating costs. For example, considering life-cycle cost, as appropriate, for each activity; using existing (vs. new) facilities, systems, equipment, and materials to the extent that such use is safe and cost-effective; and identifying and eliminating low-value and non-value-added activities.

2. In CY 02, SRS conducted reviews of all major facilities to define Surveillance and Maintenance (S&M) activities that were either not required by a source document, or were being conducted at a frequency in excess of the source requirement. The process, outlined in *DOE's Requirements Based Surveillance and Maintenance (RBSM) Review Guide*, was developed by the National Facilities Deactivation Initiative (NFDI), a partnership between DOE field offices, and the DOE EM Office of Integration (EM-20). Consistent with the Safe Mission Essential philosophy, the RBSM reports provide facility management with recommendations to reduce their S&M costs and to transfer resources to mission related work. Implementation of the RBSM recommendations should result in FY03 cost savings.
3. Corporate Sizing. WSRC utilizes commercial and non-nuclear benchmarking as well as corporate sizing to define the level of support. WSRC uses LMI, The Hackett Survey, and senior management reviews to ensure that organizations are "right sized." The expectation is that this will drive significant reductions to support costs that will allow for increase in Accelerated Cleanup Activities.
4. In FY02 there was an initiative to reduce the Document Control Service Cost of processing engineering and safety documents to the High Level Waste Division. Implementation of the Six-Sigma approach used by the High Level Waste Division to reduce the cost of the Document Controls services is planned sitewide for FY03, as this is deemed applicable for the site.

## V. Other

	<u>FY95</u>	<u>FY96</u>	<u>FY97</u>	<u>FY98</u>	<u>FY99</u>	<u>FY00</u>	<u>FY01</u>	<u>FY02</u>
Workforce Restructuring	63,000	3,240	16,985	0	423	730	487	2,875
Insurance	0	0	267	52	360	42	37	0
Savings Awards due to Terminated Employees	0	0	0	676	0	0	0	0
Legal Settlements	0	0	273	0	0	57	-314	0
Overhead costs								23
Inventory Writeoff	<u>8,107</u>	<u>0</u>	<u>960</u>	<u>0</u>	<u>0</u>	<u>4,606</u>	<u>-212</u>	<u>120</u>
<b>Total WSRC</b>	71,107	3,240	18,485	728	783	5,435	-2	3,019
Workforce Restructuring	2,788	706	-109	-18	0	0	0	0
Legal	3,254	0	0	0	0	0	0	0
Insurance	<u>24</u>	<u>41</u>	<u>26</u>	<u>76</u>	<u>41</u>	<u>54</u>	<u>-6</u>	<u>-5</u>
<b>Total WSI</b>	6,066	747	-83	58	41	54	-6	-5
<b>Total OTHER</b>	77,173	3,987	18,402	786	824	5,489	-8	3,014

Stanford

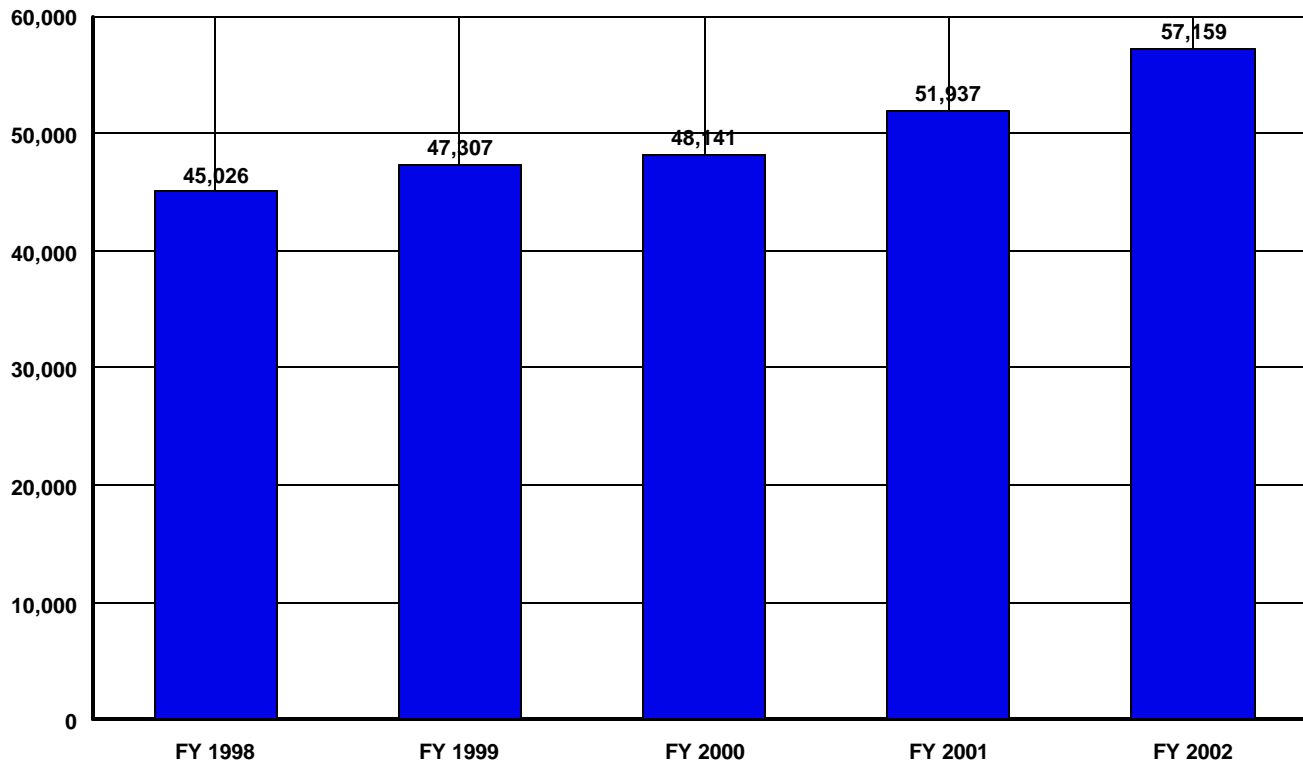
FY 2002

Trends in Total Functional Support Cost Categories

(\$ in 000's)

GENERAL SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
EXECUTIVE DIRECTION	2,123	2,477	2,678	2,955	2,910	787	37.1%
HUMAN RESOURCES	1,723	1,824	1,809	1,982	2,330	607	35.2%
CFO	3,864	3,501	3,693	3,503	3,555	-309	-8.0%
PROCUREMENT	2,042	2,007	2,041	1,918	2,053	11	0.5%
LEGAL	85	88	90	94	98	13	15.3%
CENTRAL ADMIN SERVICES	551	655	817	736	927	376	68.2%
PROGRAM/PROJECT CONTROL	910	918	1,133	1,171	1,293	383	42.1%
INFORMATION OUTREACH	1,948	1,840	2,011	2,082	2,841	893	45.8%
INFORMATION SERVICES	5,189	6,577	5,861	6,702	6,773	1,584	30.5%
OTHER	1,800	2,400	2,746	2,825	2,955	1,155	64.2%
<b>TOTAL GENERAL SUPPORT</b>	<b>20,235</b>	<b>22,287</b>	<b>22,879</b>	<b>23,968</b>	<b>25,735</b>	<b>5,500</b>	<b>27.2%</b>
MISSION SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
ENVIRONMENTAL	2,166	2,298	2,333	2,718	2,163	-3	-0.1%
SAFETY AND HEALTH	4,647	4,809	5,088	5,205	5,802	1,155	24.9%
FACILITIES MANAGEMENT	1,099	1,296	1,531	2,134	2,312	1,213	110.4%
MAINTENANCE	5,091	6,615	6,099	5,976	6,374	1,283	25.2%
UTILITIES	8,823	6,977	6,925	8,189	10,619	1,796	20.4%
SAFEGUARDS AND SECURITY	1,214	1,222	1,437	1,690	1,859	645	53.1%
LOGISTICS SUPPORT	1,590	1,596	1,726	1,895	2,086	496	31.2%
QUALITY ASSURANCE	161	207	123	162	209	48	29.8%
LABORATORY/TECHNICAL SUPPOR	0	0	0	0	0	0	0.0%
<b>TOTAL MISSION SUPPORT</b>	<b>24,791</b>	<b>25,020</b>	<b>25,262</b>	<b>27,969</b>	<b>31,424</b>	<b>6,633</b>	<b>26.8%</b>
SITE SPECIFIC	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
MANAGEMENT/INCENTIVE FEE	0	0	0	0	0	0	0.0%
TAXES	0	0	0	0	0	0	0.0%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>45,026</b>	<b>47,307</b>	<b>48,141</b>	<b>51,937</b>	<b>57,159</b>	<b>12,133</b>	<b>26.9%</b>
MISSION DIRECT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
Mission Direct Operation	92,687	103,693	107,705	116,322	131,775	39,088	42.2%
Capital Construction	45,087	24,233	26,814	41,414	46,418	1,331	3.0%
<b>TOTAL MISSION DIRECT</b>	<b>137,774</b>	<b>127,926</b>	<b>134,519</b>	<b>157,736</b>	<b>178,193</b>	<b>40,419</b>	<b>29.3%</b>
<b>Total Costs</b>	<b>182,800</b>	<b>175,233</b>	<b>182,660</b>	<b>209,673</b>	<b>235,352</b>	<b>52,552</b>	<b>28.7%</b>
<b>Total Costs w/o Construction</b>	<b>137,713</b>	<b>151,000</b>	<b>155,846</b>	<b>168,259</b>	<b>188,934</b>	<b>51,221</b>	<b>37.2%</b>
General Support % Total Costs	11.1%	12.7%	12.5%	11.4%	10.9%		
Mission Support % Total Costs	13.6%	14.3%	13.8%	13.3%	13.4%		
Site Specific % Total Costs	0.0%	0.0%	0.0%	0.0%	0.0%		
Total Support % Total Costs	24.6%	27.0%	26.4%	24.8%	24.3%		
Total Support % Total Costs w/o Co	32.7%	31.3%	30.9%	30.9%	30.3%		

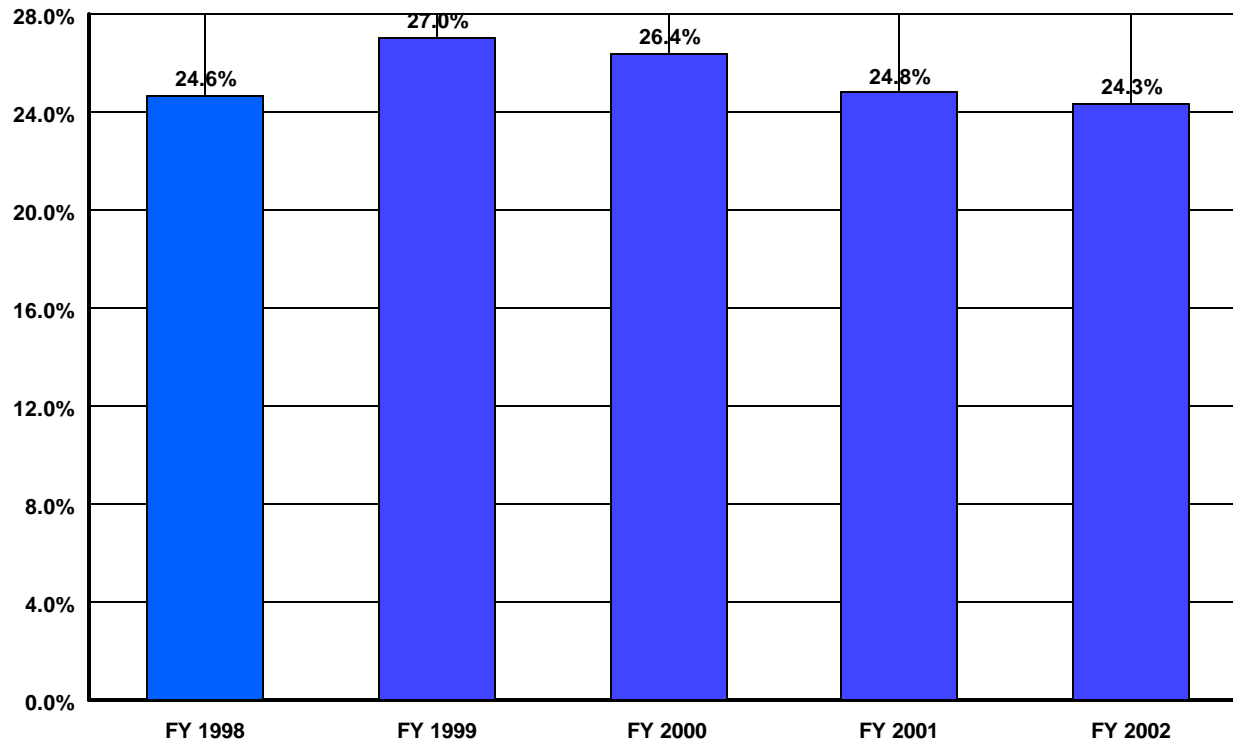
## Total Support Cost (000's) Stanford Linear Accelerator Center-Stanford



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	45,026	47,307	48,141	51,937	57,159

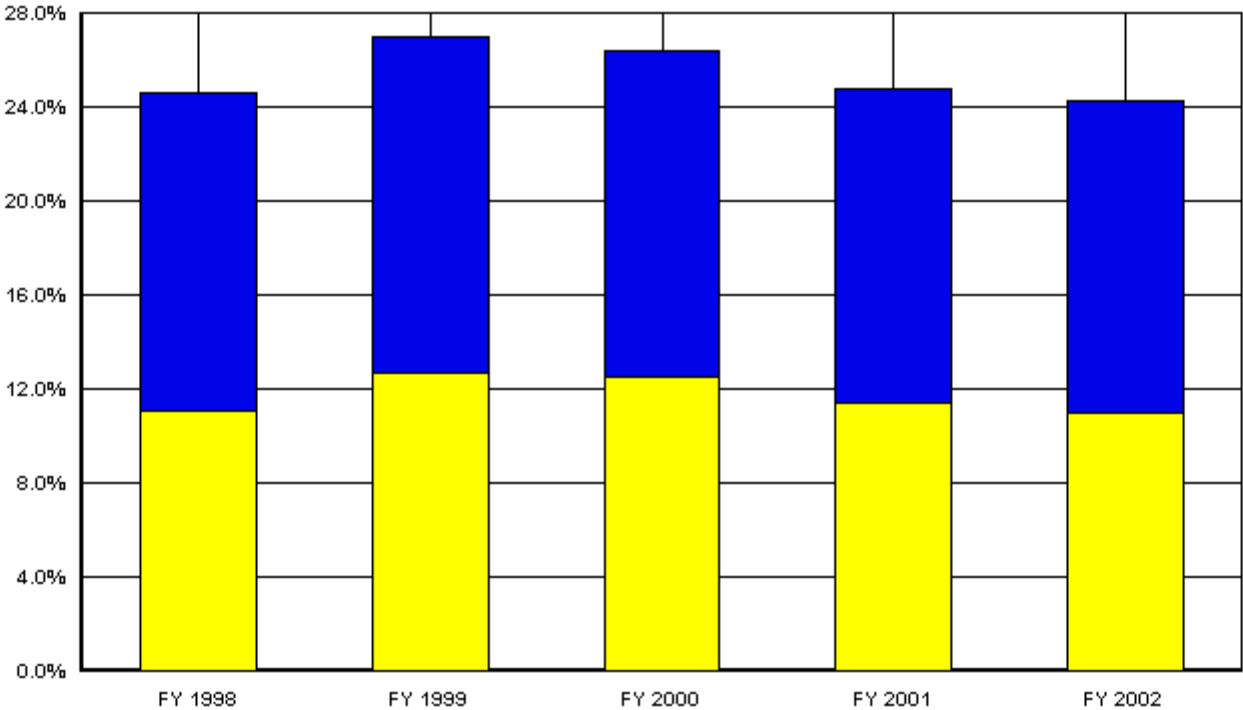


## Support Cost as a % of Total Cost Stanford Linear Accelerator Center-Stanford



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	24.6%	27.0%	26.4%	24.8%	24.3%

**US Department of Energy  
Percent of Support Category to Total  
Stanford**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	11.1%	12.7%	12.5%	11.4%	10.9%
<b>Mis Sup</b>	13.6%	14.3%	13.8%	13.3%	13.4%
<b>Site Specific</b>	0.0%	0.0%	0.0%	0.0%	0.0%

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**SITE PROFILE**  
**STANFORD LINEAR ACCELERATOR CENTER – STANFORD UNIVERSITY**

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## **I. SITE CHARACTERISTICS**

The Stanford Linear Accelerator Center was founded in 1962 as a national user facility for high-energy physics using electron beams in a two-mile linear accelerator. SLAC is a single program laboratory dedicated to research in high-energy physics, accelerator physics, and in allied fields that can make use of its synchrotron radiation facilities. It is a major center of support for U.S. physics research and for training next generation scientists. 1300 users from around the world participate in the high-energy physics program. 1700 scientists from universities, industry, and other research institutions are active in the synchrotron radiation program. SLAC is operated for the DOE by Stanford University under a Management and Operating Contract.

SLAC is located on the San Francisco Peninsula in Menlo Park, California, west of the main Stanford campus. The SLAC site occupies 426 acres leased by DOE from Stanford University. There are about 350 buildings and structures on site. In FY2002 SLAC had a staff of about 1530.

SLAC's major facilities are world-class and include:

- The world's largest linear accelerator, delivering 50 billion volts (50 GeV) electron (including polarized electron) and positron beams.
- The B Factory, a state-of-the-art asymmetric electron-positron collider and associated particle detector for the production and research of B mesons
- A 3 GeV electron storage ring (SPEAR) for production of ultraviolet and x-ray for use in synchrotron radiation research
- A large concrete shielded building for experiments with stationary targets
- Two major accelerator physics R&D facilities to test subsystems and features of future accelerators

### Mission Activities

The DOE Office of Science provides almost all of SLAC's funding.

SLAC is the leader in design and construction of linear accelerators and storage rings that deliver intense, energetic, and extremely bright beams of electrons and photons for use in particle physics, material science, molecular biology, environmental science, medicine, and other scientific research fields.

The program mission can be summarized as follows:

- Perform and support world-class research in high-energy physics, particle astrophysics and disciplines using synchrotron radiation.

- Provide accelerators, detectors, instrumentation, and support for national and international research programs in particle physics and scientific disciplines that use synchrotron radiation.
- Advance the art of accelerators, and accelerator-related technologies and devices through the development of new sources of high-energy particles and synchrotron radiation, plus new techniques for their scientific utilization.
- Transfer practical knowledge and innovative technology to the private sector.
- Contribute to the education of the next generation of scientists and engineers, and to the scientific awareness of the public.

## II. HIGHLIGHTS OF TRENDS

<i>Thousands of Dollars</i>		<b>Fiscal Year</b>					<b>FY98 to FY02</b>		<b>FY01 to FY02</b>	
<b>FSCR</b>	<b>Support</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>\$ Chg</b>	<b>% Chg</b>	<b>\$ Chg</b>	<b>% Chg</b>
Functional Support	General Support	20,235	22,286	22,879	23,968	25,734	5,499	27%	1,766	7%
	Mission Support	24,791	25,020	25,264	27,968	31,426	6,635	27%	3,458	12%
Functional Support Total		45,026	47,306	48,143	51,936	57,160	12,134	27%	5,224	10%
Direct	Mission Direct	92,687	103,693	107,705	116,322	131,774	39,087	42%	15,453	13%
	Capital/Construction	45,087	24,233	26,814	41,414	46,418	1,331	3%	5,004	12%
Grand Total		182,800	175,232	182,662	209,672	235,353	52,553	29%	25,681	12%

Functional Support  
as a % of Total Cost

	24.6%	27.0%	26.4%	24.8%	24.3%
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Although Functional Support Cost has increased 27% between FY98 and FY02 and 10% between FY01 and FY02, the ratio between Functional Support Cost and Total Site Cost has been decreasing since FY00. As in the past, SLAC has aggressively managed to control its Functional Support Cost and has successfully kept its growth below that of the Total Direct Costs. The Mission Direct Operating Cost has had some growth (42%) over the five-year period. The Capital/Construction Direct Cost decreased in FY99 due to the completion of the B Factory line-item construction project, but has been increasing since FY99 as a result of the Research Office Building construction and the SPEAR3 and GLAST capital equipment projects.

Almost half of the Functional Support Cost increase in the last year was due to electrical power cost which was \$9.8M in FY02, an increase of \$2.4M (32%) from FY01. More than 90% of the electrical power consumption is "process" power for the operation of the experimental facilities. The increase in FY02 was primarily a result of the California energy crisis in 2001. The electrical power cost is expected to continue to increase in the future partly because of expected rate increases, and partly because of increased electrical power requirements as a

result of the B Factory luminosity upgrades and the SPEAR3 upgrade. The first phase of the B Factory luminosity upgrade was completed in November 2002; the current estimate for FY03 is \$11.2M. SLAC's electrical power is purchased through a consortium of the three Bay Area DOE laboratories, LLNL, LBNL and SLAC, centrally managed by the DOE Oakland Operations Office. The arrangement has been beneficial in lowering the power costs to the three DOE laboratories.

The other half of the Functional Support Cost increase in FY02 was due to escalation, which had been the primary factor for increased costs in prior years.

About 40% of the Functional Support Cost comes from three functions – Utilities, Information Services, and Maintenance, at percentages of 19%, 12% and 11% respectively in FY02. Other than Utilities which have been on an upward spiral because of electrical power, the year-to-year fluctuations in Information Services and Maintenance are more related to one-time activities, such as requirements related to desk-top computing and local area networks (Information Services), and specific maintenance and infrastructure projects (Maintenance).

### III. ANALYSIS OF SIGNIFICANT CHANGES IN FUNCTIONAL SUPPORT COSTS FROM PRIOR YEAR

Category 2, Human Resources: These costs include all costs associated with recruiting, employment, compensation, personnel records, central training and development services, and employee relations. The \$348K increase from FY01 to FY02 was due to filling of vacated positions and the establishment of the Ashley Fellowship for career development of employees.

Category 6, Central Administration Services: This category includes SLAC Library costs, the cost of copiers, and cafeteria operations. Increases of \$191K from FY01 to FY02 are due to the recategorization, from Mission Direct – Science, of \$130K for scientific journal subscriptions for the Library, and purchase of replacement copiers.

Category 8, Information Outreach: This category includes those costs associated with media communication, public information and relations, outreach programs, scientific information dissemination, technical information management, and technology transfer. The increase between FY01 and FY02 was primarily due to the setup and staffing for the new Office of Communications, which was formed to bring various related functions together to improve communications to the public and within the Laboratory. In FY2002 there were also some one-time costs associated with the Open House for the 40<sup>th</sup> Anniversary of SLAC. Of the \$759K increase, about \$250K of costs were recategorized from Executive Direction.

Category 10, Other: The only costs captured in this category are the Stanford University Indirect Costs which are negotiated by DOE. Costs in FY98 were \$600K lower because of an adjustment resulting from over-accruals in prior years.

<i>Dollars in Thousands</i>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
Stanford University Indirect Costs	\$ 2,400	\$ 1,800	\$ 2,400	\$ 2,746	\$ 2,825	\$ 2,955

Category 11, Environment: This category includes the costs associated with environmental protection and waste management. Activities include effluent controls, environmental monitoring, surveillance, permitting, pollution prevention, waste characterization and disposal, and waste minimization. Costs decreased \$554K from FY01 to FY02 for several reasons: a) a lower volume of hazardous waste generated from various construction projects, and more stringent characterization of waste led to lower costs for disposal; b) funding withheld by DOE-Oakland to pay directly for SLAC's low-level radioactive waste disposal; and c) a multi-year project to correct storm drain connections ended in FY02.

Category 12, Safety & Health: This category includes costs for fire protection, occupational medical services, work smart program, emergency preparedness, industrial safety, industrial hygiene, radiation protection, and dosimetry program. Cost increased \$597K between FY01 and FY02 primarily due to increased costs of fire protection, and implementation costs associated with a new dosimeter system to reduce future ongoing operational costs.

Category 15, Utilities: The dominant component, over 90%, of this category is electrical power. Natural gas, water, sewer and sanitary waste disposal costs are also included. Between FY01 and FY02 costs increased \$2,430K, of which \$2,375K was for electrical power. More than 90% of the electrical power consumption is "process" power for the operation of the experimental facilities. Thus, changes in experimental program operations can have large impact on the electrical power costs. However, the increase in FY02 was primarily a result of the California energy crisis in 2001.

Category 23, Mission Direct: Cost increased \$15.4M from FY01 to FY02. The increase is due to two factors: a) \$8.5M increase in costs of Office of Science activities primarily associated with the High Energy Physics program. b) \$6.9M in costs primarily associated with research activities funded through Stanford, not identified in previous years.

Category 24, Capital/Construction: Costs increased \$5M from FY01 to FY02. The increase is primarily related to the SPEAR3 and the GLAST capital equipment projects. SPEAR3 is a joint project between the DOE and National Institutes of Health to be completed in 2003, while GLAST, a joint project between the DOE and NASA, is scheduled to complete the instrument fabrication phase in 2005.

#### **IV. COST SAVINGS INITIATIVES**

SLAC has been, and continues to be, very responsible in managing its business and administrative functions. In recent years we have taken numerous actions to streamline administrative functions, procedures, and practices, resulting in cost avoidance and small cost reductions. It is primarily through such actions that SLAC is able to incorporate various new requirements mandated by the DOE, while still being successful in keeping administrative and support costs low.

In FY97, SLAC invested in a new business information system which consists of a suite of integrated software packages for human resources management, payroll, accounting, purchasing, asset management, and inventory. The Laboratory expects future cost savings

through continual process improvements and increased use of electronic transaction/ information processing.

Strategic Reserve

Trends in Total Functional Support Cost Categories

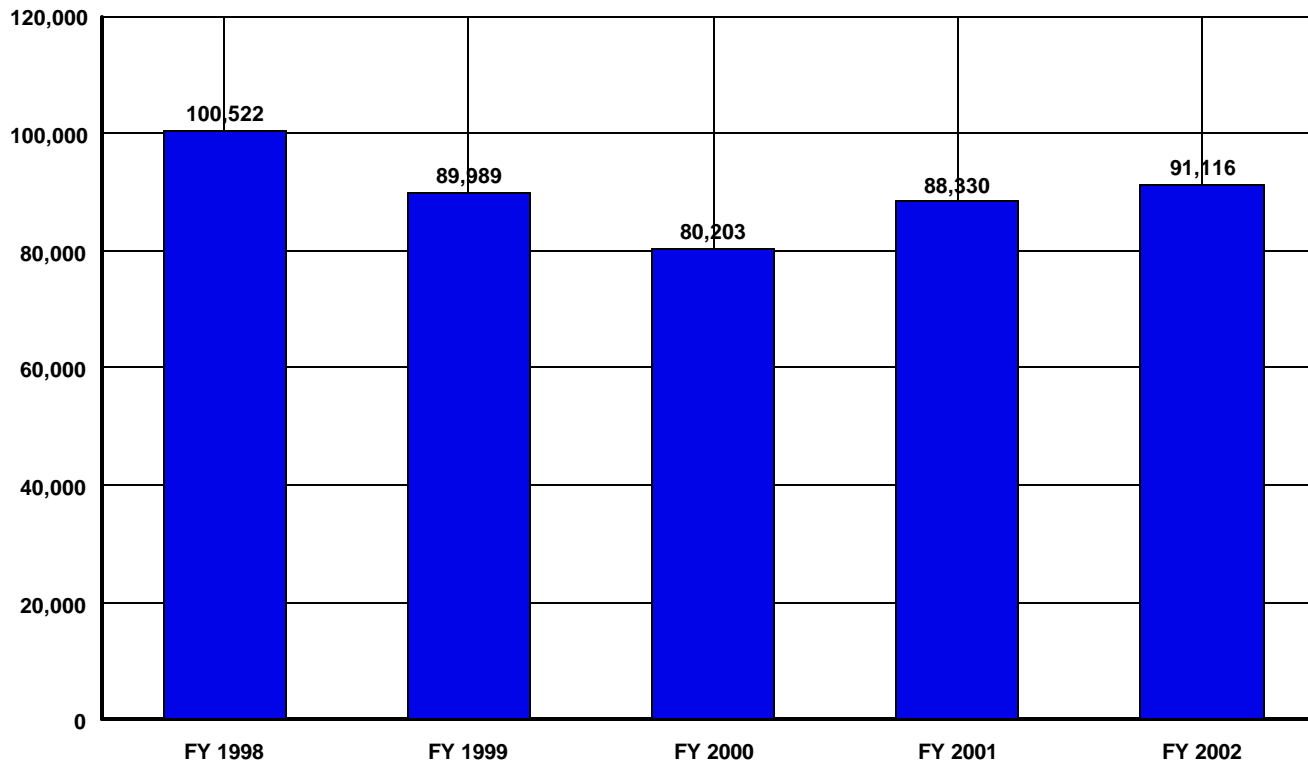
FY 2002

(\$ in 000's)

GENERAL SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
EXECUTIVE DIRECTION	1,342	1,164	560	294	260	-1,082	-80.6%
HUMAN RESOURCES	1,745	1,514	2,030	1,336	1,259	-486	-27.9%
CFO	2,131	1,848	1,823	1,969	1,797	-334	-15.7%
PROCUREMENT	2,314	2,007	1,780	1,918	1,957	-357	-15.4%
LEGAL	737	639	1,485	754	532	-205	-27.8%
CENTRAL ADMIN SERVICES	1,932	1,676	1,474	993	698	-1,234	-63.9%
PROGRAM/PROJECT CONTROL	6,577	5,705	5,468	4,748	4,930	-1,647	-25.0%
INFORMATION OUTREACH	1,927	1,672	1,790	2,362	1,852	-75	-3.9%
INFORMATION SERVICES	13,523	11,730	9,108	11,357	9,828	-3,695	-27.3%
OTHER	0	0	0	0	0	0	0.0%
<b>TOTAL GENERAL SUPPORT</b>	<b>32,228</b>	<b>27,955</b>	<b>25,518</b>	<b>25,731</b>	<b>23,113</b>	<b>-9,115</b>	<b>-28.3%</b>
MISSION SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
ENVIRONMENTAL	2,593	2,250	2,078	2,213	2,350	-243	-9.4%
SAFETY AND HEALTH	2,788	2,419	2,545	3,138	2,500	-288	-10.3%
FACILITIES MANAGEMENT	828	718	809	716	1,015	187	22.6%
MAINTENANCE	34,944	30,311	25,835	29,464	27,410	-7,534	-21.6%
UTILITIES	2,405	2,086	2,036	2,903	2,600	195	8.1%
SAFEGUARDS AND SECURITY	12,437	10,788	10,742	11,824	19,988	7,551	60.7%
LOGISTICS SUPPORT	4,162	3,610	2,856	3,679	2,955	-1,207	-29.0%
QUALITY ASSURANCE	2,172	1,884	1,744	1,659	1,721	-451	-20.8%
LABORATORY/TECHNICAL SUPPOR	0	0	0	0	0	0	0.0%
<b>TOTAL MISSION SUPPORT</b>	<b>62,329</b>	<b>54,066</b>	<b>48,645</b>	<b>55,596</b>	<b>60,539</b>	<b>-1,790</b>	<b>-2.9%</b>
SITE SPECIFIC	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
MANAGEMENT/INCENTIVE FEE	5,965	7,968	6,040	7,003	7,316	1,351	22.6%
TAXES	0	0	0	0	148	148	100.0%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>5,965</b>	<b>7,968</b>	<b>6,040</b>	<b>7,003</b>	<b>7,464</b>	<b>1,499</b>	<b>25.1%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>100,522</b>	<b>89,989</b>	<b>80,203</b>	<b>88,330</b>	<b>91,116</b>	<b>-9,406</b>	<b>-9.4%</b>
MISSION DIRECT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
Mission Direct Operation	94,575	82,037	37,791	37,040	43,963	-50,612	-53.5%
Capital Construction	0	0	0	0	0	0	0.0%
<b>TOTAL MISSION DIRECT</b>	<b>94,575</b>	<b>82,037</b>	<b>37,791</b>	<b>37,040</b>	<b>43,963</b>	<b>-50,612</b>	<b>-53.5%</b>
<b>Total Costs</b>	195,097	172,026	117,994	125,370	135,079	-60,018	-30.8%
<b>Total Costs w/o Construction</b>	195,097	172,026	117,994	125,370	135,079	-60,018	-30.8%
General Support % Total Costs	16.5%	16.3%	21.6%	20.5%	17.1%		
Mission Support % Total Costs	31.9%	31.4%	41.2%	44.3%	44.8%		
Site Specific % Total Costs	3.1%	4.6%	5.1%	5.6%	5.5%		
Total Support % Total Costs	51.5%	52.3%	68.0%	70.5%	67.5%		
Total Support % Total Costs w/o Co	51.5%	52.3%	68.0%	70.5%	67.5%		

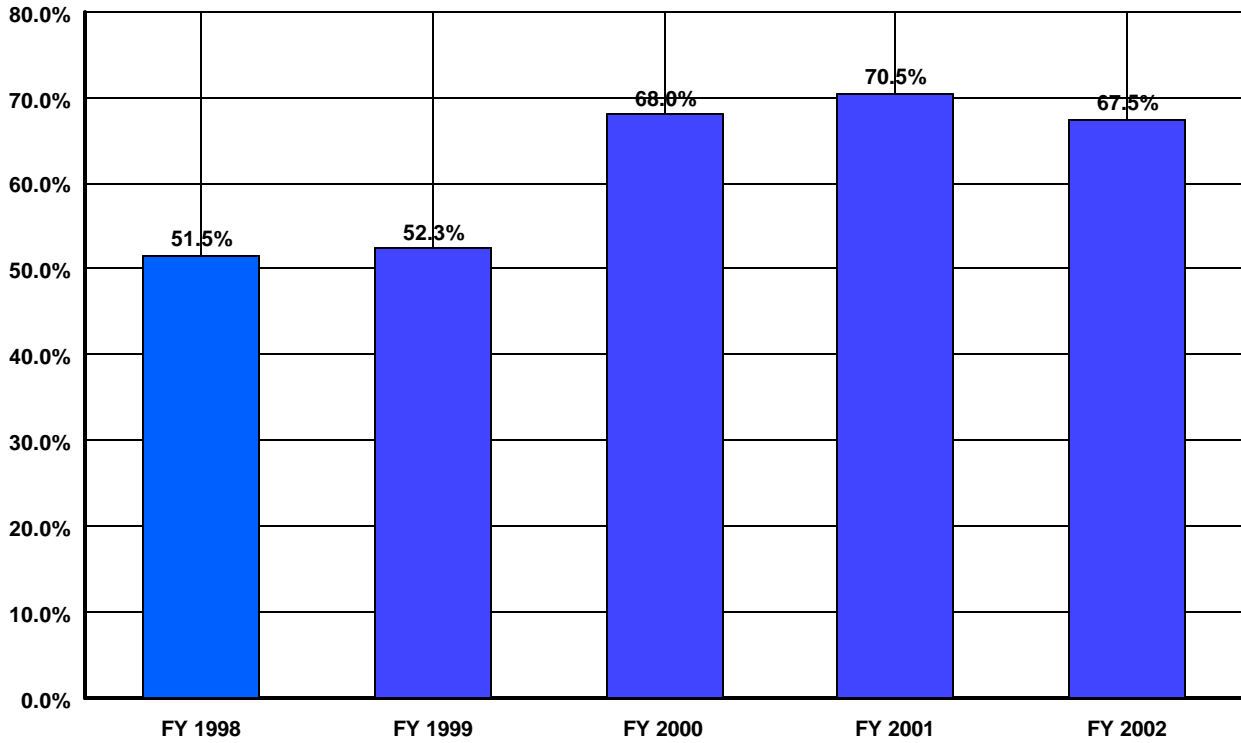


## Total Support Costs (000's) Strategic Petroleum Reserve-DynMcDermott



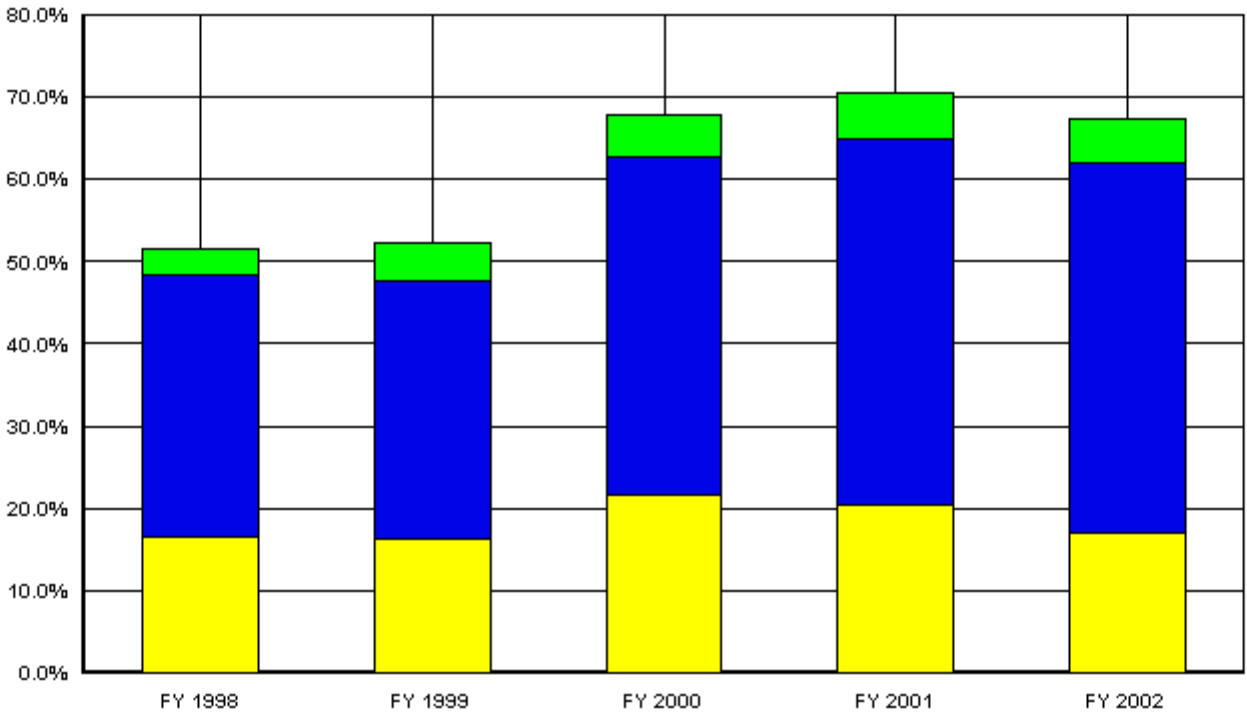
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	100,522	89,989	80,203	88,330	91,116

# Support Cost as a % of Total Cost Strategic Petroleum Reserve-DynMcDermott



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	51.5%	52.3%	68.0%	70.5%	67.5%

**US Department of Energy  
Percent of Support Category to Total  
Strategic Reserve**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	16.5%	16.3%	21.6%	20.5%	17.1%
<b>Mis Sup</b>	31.9%	31.4%	41.2%	44.3%	44.8%
<b>Site Specific</b>	3.1%	4.6%	5.1%	5.6%	5.5%

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**SITE PROFILE**  
**STRATEGIC PETROLEUM RESERVE - DYNMCDERMOTT**

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**I. SITE CHARACTERISTICS**

The Strategic Petroleum Reserve (PSR) was established in 1975 in response to the 1973 Arab oil embargo. It is authorized by the Energy Policy and Conservation Act (EPCA) (Public Law 94-463), and by the comprehensive energy plans of all Administrations since 1975, in recognition of the long-term dependence of the United States on imported crude oil and petroleum products.

The United States (U. S.) is a member of the International Energy Agency (IEA), which requires member nations to maintain stocks of crude oil in the public and private sectors. The U. S. relies on a combination of oil in the SPR and private stocks to meet its oil storage obligations to the IEA.

Our mission is to maintain a state of readiness to respond to a Presidential order to drawdown the SPR emergency crude oil stockpile. The SPR maintains a goal of being drawdown ready within 15 days of notification. The SPR has stockpiled 587 million barrels of oil and is currently filling the SPR with Royalty-in-Kind oil, which is being diverted to increase the inventory. The current inventory amounts to approximately 60 days of net imports, based on the U. S. net import rate for crude oil in 1999.

**II. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEARS**

**FY 1998 vs. FY 1999**

- The Life Extension program was in the final stages of implementation in FY 1999. The activities in FY 1999 were significantly reduced from that of FY 1998. FY 1998 was \$73.2M and FY 1999 was \$51.8M.
- The DynMcdermott (DM) labor headcount and subcontracted labor to support Life Extension was being reduced. FY 1998 was \$33.5M and FY 1999 was \$32.3M.

**FY 1999 vs. FY 2000**

- The Life Extension program was basically completed during FY 1999. FY 1999 was \$51.8M and FY 2000 was \$10.9M.
- The DM labor headcount was being reduced. FY 1999 was \$32.3M and FY 2000 was \$30.5M.
- Employees were being trained in the operational capability of the Life Extension equipment. FY 1999 was \$.6M and FY 2000 was \$.8M.
- Several Life Extension subcontractor claims were settled during FY 2000. FY 1999 was \$0M and FY 2000 was \$.9M.

**FY 2000 vs. FY 2001**

- Major Maintenance was expanded for repairs and modification to existing facilities and equipment. FY 2000 was \$2.8M and FY 2001 was \$4.0M.
- The DM headcount continues to be reduced. FY 2000 was \$30.5M and FY 2001 was \$30.3M.

- Computer software programs continue to be expanded and maintained. FY 2000 was \$9.1M and FY 2001 was \$11.4M.
- The crude oil exchange program continued. FY 2000 was \$0M and FY 2001 was \$.2M.
- Enhanced security was implemented. FY 2000 was \$0M and FY 2001 was \$.5M.

### **FY 2001 vs. FY 2002**

- Major Maintenance to perform Enhanced Security tasks and heat exchanger bundle replacement. FY 2001 was \$0M and FY 2002 was \$6.8M.
- Enhanced security implementation continued with the hiring of 50 guards and expenditure of significant overtime to replace the non-cleared guards at their posts. FY 2001 was \$.5M and FY 2002 was \$8.0M

### **III. OPERATION AND MAINTENANCE SITES**

The SPR's Operating and Maintenance contractor has one project management office and four operation and maintenance sites. The operation and maintenance sites are listed below.

- Bryan Mound located in east Texas near the city of Freeport.
  - ◆ 232 million barrels of crude oil can be stored in the site's 20 caverns.
  - ◆ 85 people are employed at the site as of October 2002.
  - ◆ The site contains 224 million barrels of oil in storage as September 30, 2002.
  - ◆ The site consists of 37 buildings.
- Big Hill is located in east Texas near the city of Beaumont.
  - ◆ 170 million barrels of crude oil can be stored in the site's 14 caverns.
  - ◆ 88 people are employed at the site as of October 2002.
  - ◆ The site contains 104 million barrels of oil in storage as September 30, 2002.
  - ◆ The site consist of 29 buildings
- Bayou Choctaw is located in central Louisiana near the city of Baton Rouge.
  - ◆ 76 million barrels of crude oil can be stored in the site's 6 caverns.
  - ◆ 61 people are employed at the site as of October 2002.
  - ◆ The site contains 74 million barrels of oil in storage as September 30, 2002.
  - ◆ The site consist of 25 buildings
- West Hackberry is in Southwest Louisiana near the city of Lake Charles.
  - ◆ 222 million barrels of crude oil can be stored in the site's 22 caverns.
  - ◆ 100 people are employed at the site as of October 2002 including a traveling workover crew.
  - ◆ The site contains 183 million barrels of oil in storage as September 30, 2002.
  - ◆ The site consist of 27 buildings

**WIPP**

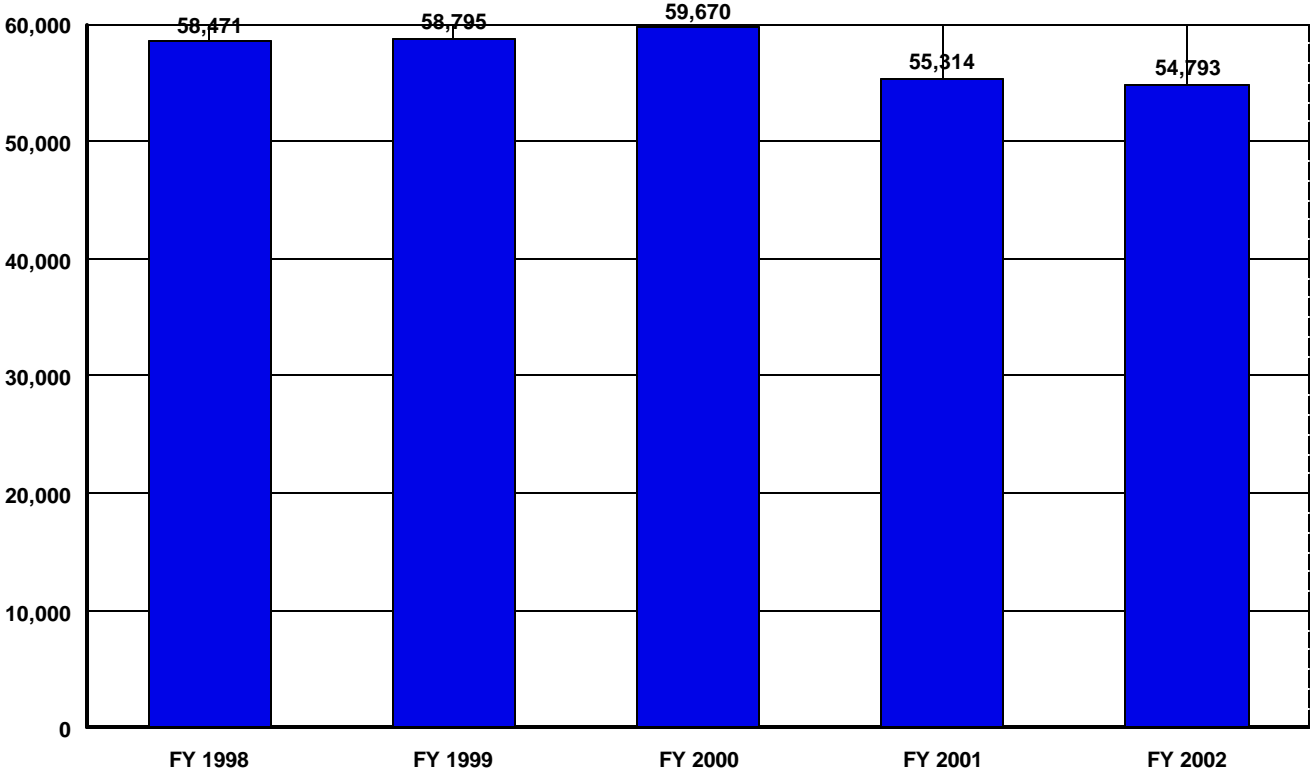
**FY 2002**

**Trends in Total Functional Support Cost Categories**

(\$ in 000's)

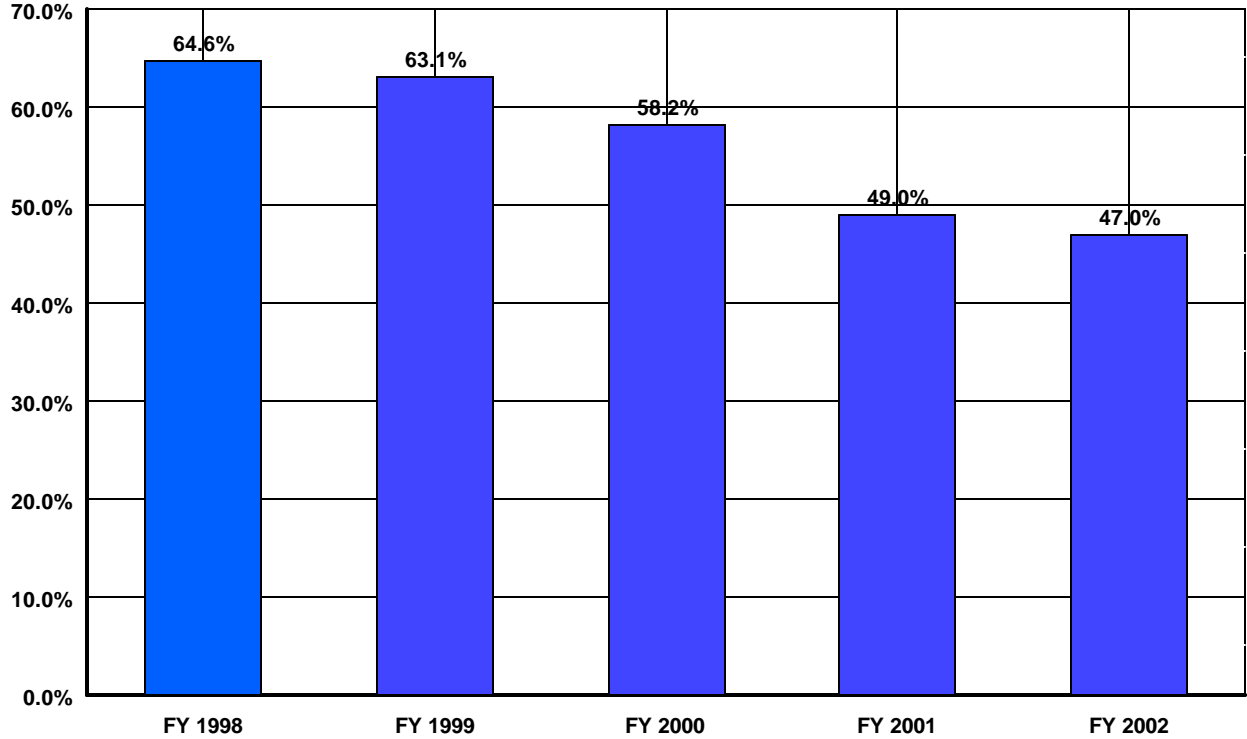
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	570	823	694	939	1,340	770	135.1%
HUMAN RESOURCES	2,843	2,792	3,523	4,121	3,661	818	28.8%
CFO	2,039	2,090	1,992	2,648	1,747	-292	-14.3%
PROCUREMENT	1,393	1,341	1,210	1,421	1,289	-104	-7.5%
LEGAL	208	309	395	1,084	1,137	929	446.6%
CENTRAL ADMIN SERVICES	4,894	4,014	4,345	3,303	3,211	-1,683	-34.4%
PROGRAM/PROJECT CONTROL	1,794	1,820	1,930	2,118	1,829	35	2.0%
INFORMATION OUTREACH	2,610	2,836	2,806	2,911	2,593	-17	-0.7%
INFORMATION SERVICES	3,491	4,338	4,445	4,127	6,038	2,547	73.0%
OTHER	0	0	0	0	0	0	0.0%
<b>TOTAL GENERAL SUPPORT</b>	<b>19,842</b>	<b>20,363</b>	<b>21,340</b>	<b>22,672</b>	<b>22,845</b>	<b>3,003</b>	<b>15.1%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	2,102	2,316	2,436	2,075	2,201	99	4.7%
SAFETY AND HEALTH	6,286	5,926	5,426	3,711	3,442	-2,844	-45.2%
FACILITIES MANAGEMENT	3,581	3,217	3,035	1,487	1,637	-1,944	-54.3%
MAINTENANCE	7,385	6,936	7,132	6,457	7,260	-125	-1.7%
UTILITIES	1,428	1,292	1,000	195	11	-1,417	-99.2%
SAFEGUARDS AND SECURITY	1,671	1,932	2,036	2,571	2,892	1,221	73.1%
LOGISTICS SUPPORT	1,444	1,244	1,272	1,413	1,443	-1	-0.1%
QUALITY ASSURANCE	2,248	2,012	2,057	1,990	1,770	-478	-21.3%
LABORATORY/TECHNICAL SUPPOR	466	984	439	518	815	349	74.9%
<b>TOTAL MISSION SUPPORT</b>	<b>26,611</b>	<b>25,859</b>	<b>24,833</b>	<b>20,417</b>	<b>21,471</b>	<b>-5,140</b>	<b>-19.3%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	7,232	8,085	7,862	6,679	5,256	-1,976	-27.3%
TAXES	4,786	4,488	5,635	5,546	5,221	435	9.1%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>12,018</b>	<b>12,573</b>	<b>13,497</b>	<b>12,225</b>	<b>10,477</b>	<b>-1,541</b>	<b>-12.8%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>58,471</b>	<b>58,795</b>	<b>59,670</b>	<b>55,314</b>	<b>54,793</b>	<b>-3,678</b>	<b>-6.3%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	27,125	29,852	36,113	50,603	59,475	32,350	119.3%
Capital Construction	4,875	4,533	6,806	7,018	2,366	-2,509	-51.5%
<b>TOTAL MISSION DIRECT</b>	<b>32,000</b>	<b>34,385</b>	<b>42,919</b>	<b>57,621</b>	<b>61,841</b>	<b>29,841</b>	<b>93.3%</b>
<b>Total Costs</b>	<b>90,471</b>	<b>93,180</b>	<b>102,589</b>	<b>112,935</b>	<b>116,634</b>	<b>26,163</b>	<b>28.9%</b>
<b>Total Costs w/o Construction</b>	<b>85,596</b>	<b>88,647</b>	<b>95,783</b>	<b>105,917</b>	<b>114,268</b>	<b>28,672</b>	<b>33.5%</b>
General Support % Total Costs	21.9%	21.9%	20.8%	20.1%	19.6%		
Mission Support % Total Costs	29.4%	27.8%	24.2%	18.1%	18.4%		
Site Specific % Total Costs	13.3%	13.5%	13.2%	10.8%	9.0%		
Total Support % Total Costs	64.6%	63.1%	58.2%	49.0%	47.0%		
Total Support % Total Costs w/o Co	68.3%	66.3%	62.3%	52.2%	48.0%		

**Total Support Costs (000's)  
WIPP - Westinghouse**



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	58,471	58,795	59,670	55,314	54,793

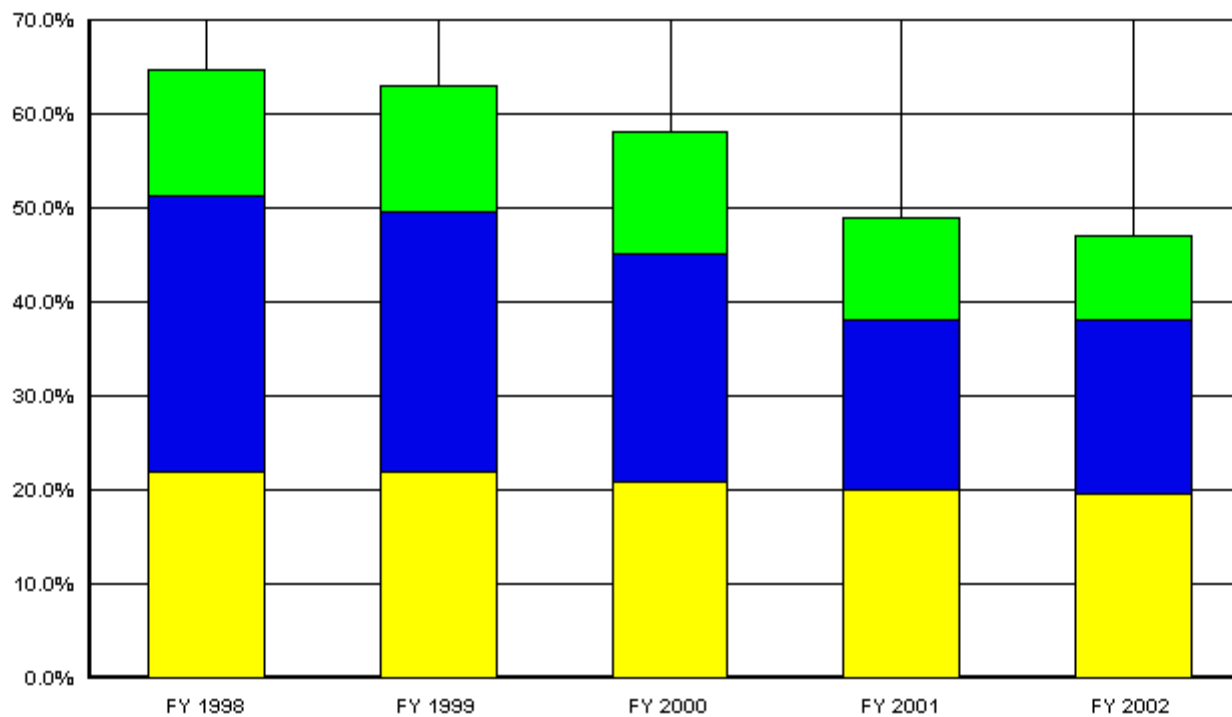
# Support Cost as a % of Total Cost WIPP - Westinghouse



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	64.6%	63.1%	58.2%	49.0%	47.0%



**US Department of Energy  
Percent of Support Category to Total  
WIPP**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	21.9%	21.9%	20.8%	20.1%	19.6%
<b>Mis Sup</b>	29.4%	27.8%	24.2%	18.1%	18.4%
<b>Site Specific</b>	13.3%	13.5%	13.2%	10.8%	9.0%

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**SITE PROFILE**  
**WASTE ISOLATION PILOT PLAN - WESTINGHOUSE**

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**I. BACKGROUND**

The Waste Isolation Pilot Plan (WIPP) is designed to permanently dispose of transuranic (TRU) waste generated by defense-related activities. It is located in southeastern New Mexico, 26 miles east of Carlsbad. Project facilities include disposal rooms excavated 2,150 feet underground (about a half-mile) in an ancient, stable salt formation. TRU waste consists primarily of tools, gloves, clothing and other such items contaminated with trace amounts of radioactive elements, mostly plutonium. Westinghouse TRU Solutions' (WTS) mission is to dispose of TRU waste in an environmentally sound and safe manner while meeting the mandate to reduce cost. There are 27 DOE TRU waste sites, each having the similar goal of removal of TRU wastes from its facility. The total volume of TRU waste currently managed by the DOE (stored and projected) is estimated to be 171,439 m<sup>3</sup> of which 167,412 m<sup>3</sup> is CH TRU and 4,027 m<sup>3</sup> is RH TRU waste. A portion of this waste will be treated or repackaged prior to disposal, and the reported volumes may change depending on the selected treatment of repackaging methodology. The volume to be disposed of at WIPP is 108,439 m<sup>3</sup>, of which 106,623 m<sup>3</sup> is contact handled (CH) TRU, and 1,816 m<sup>3</sup> is remote handled (RH) TRU waste. WIPPs' total capacity for both CH TRU waste and RH TRU waste is set at 175, 600 m<sup>3</sup> by the Land Withdrawal Act, with the total volume of RH TRU waste not exceeding 7,080 m<sup>3</sup>. WTS opened and began receiving waste March 25, 1999. At the end of FY02, WIPP had emplaced 7,717 cubic meters of TRU Waste, which was a result of 1,258 shipments.

WTS developed and implemented a new stand-alone program, Central Characterization Project (CCP), that enables the deployment of equipment and personnel to identified generator sites to perform waste characterization activities of TRU waste. The CCP functions are independent of other WIPP Site activities and/or requirements; therefore, new program and project level documentation which complies with all RCRA permits for waste characterization and disposal are required.

The concept behind the development of the CCP is that once the program is certified, the program and project level documentation will be deployed and accepted at the next generator site that had been targeted for clean up. The Department of Energy will save significant amounts of money resulting from standardization of programs, equipment and procedures.

The CCP effort has extended beyond the boundaries of WTS by partnering with Los Alamos National Laboratories and Sandia National Laboratories to organize a team of experts in the fields of Non-Destructive Assay, Non-Destructive Examination, Head Space Gas Analysis, Acceptable Knowledge and Transportation. The teaming concept will more effectively utilize

the resources of the Department of Energy in its effort to clean up and close generator sites across the complex.

CCP has developed and implemented an aggressive, fast-paced program to accelerate the cleanup of stored CH-TRU waste at those facilities across the country that only have small quantities of waste destined for WIPP, and that are designated as small quantity sites (SQS). Processes were designed, procedures developed, personnel hired and trained, mobile vendors selected, equipment deployed, and start-up activities initiated at three sites.

- Savannah River Site - The certification audit was completed, approved to ship, reviewed by the Environmental Protection Agency (EPA), and the New Mexico Environmental Department (NMED), and shipment of CCP waste to WIPP began.
- Argonne National Laboratories East and the Nevada Test Site – Readiness assessments were completed, waste characterization operations began, certification audits were completed and both sites are currently waiting for approval from the EPA and NMED to begin shipments to WIPP.

Standardization, a cornerstone of CCP, will help drive down the cost-per-drum for characterization.

WTS has developed the NTP Integrated Schedule – the complex-wide schedule is a management tool that shows interdependency of activities among the complex and tracks progress toward the major milestones identified in the National TRU Waste Management Plan.

The WIPP operating costs are within one fund type (with minor exceptions). Other sites having multiple missions with multiple appropriation funding sources may view what classifies as support costs differently.

## II. HIGHLIGHTS OF TRENDS

- WTS continues to reduce support costs each year.

	FY97	FY98	FY99	FY00	FY01	FY02
Total Functional Support Costs as a Percentage of Total Costs	65.70%	64.63%	63.20%	58.16%	48.98%	46.98%

WTS support costs continue to decrease.

The WTS mission has moved from preparation for opening with emphasis on design, environmental compliance and permitting activities into an operating mode. This shift from information based (preparing to open) tasks to hands on (operating) tasks have resulted in a steady shift to mission direct efforts and away from support functions. The WIPP site mission is

singular in nature (disposal of TRU waste). Its total infrastructure is charged to one mission; therefore, support functions lack the economies of scale that results from spreading these costs across missions. WTS is the M&O contractor and our submittal contains only a portion of the total WIPP budget. Because WIPP is a one of a kind 10,000-year facility in a remote location, it has unique human resource, record management, and outreach efforts. Legal activities have increased due to increased support for RCRA permitting. The opening of WIPP in March of 1999 and the continued increase in waste receipt throughput have resulted in a continued downward trend in support costs. In 2001, WTS was awarded the WIPP M&O contract. This resulted in significant cost savings in support cost areas. The FY02 Functional Support Cost percentage is 2.0% less than FY01, and shows a five year reduction of 18.72%.

West Valley

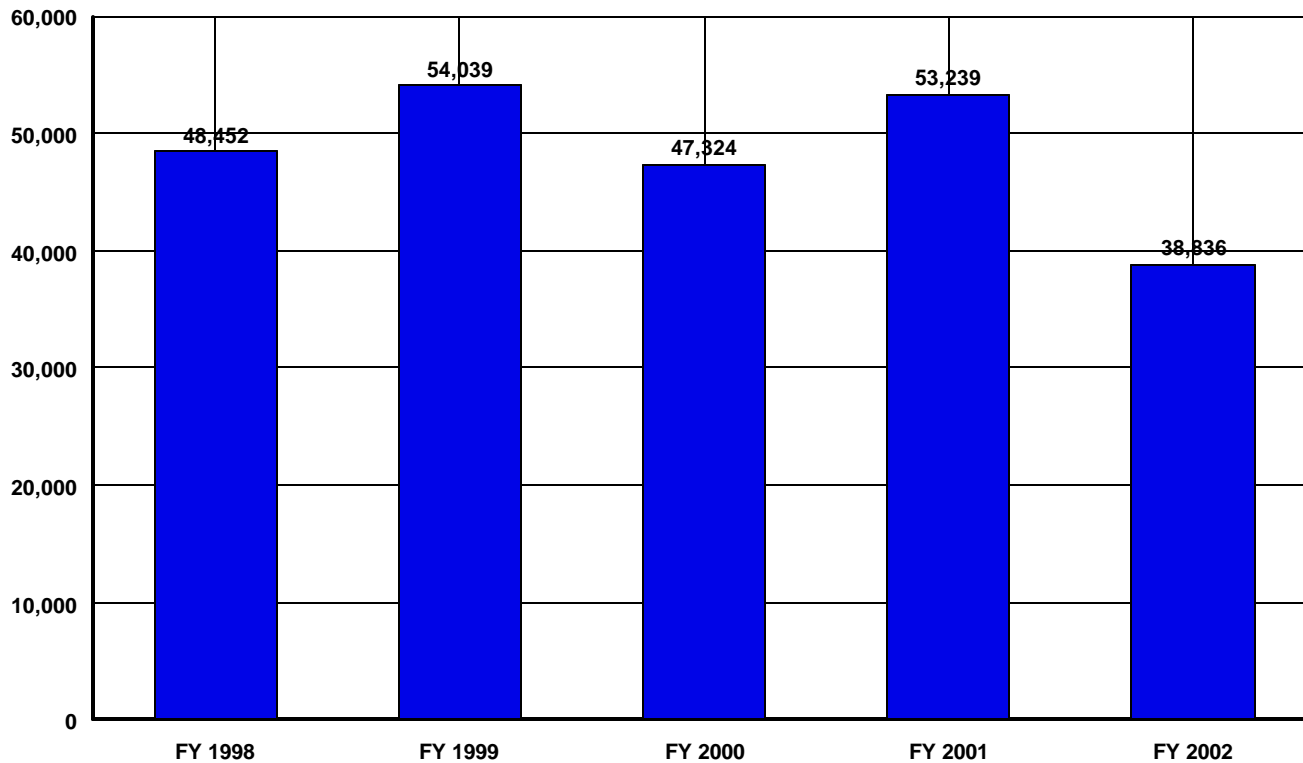
Trends in Total Functional Support Cost Categories

FY 2002

(\$ in 000's)

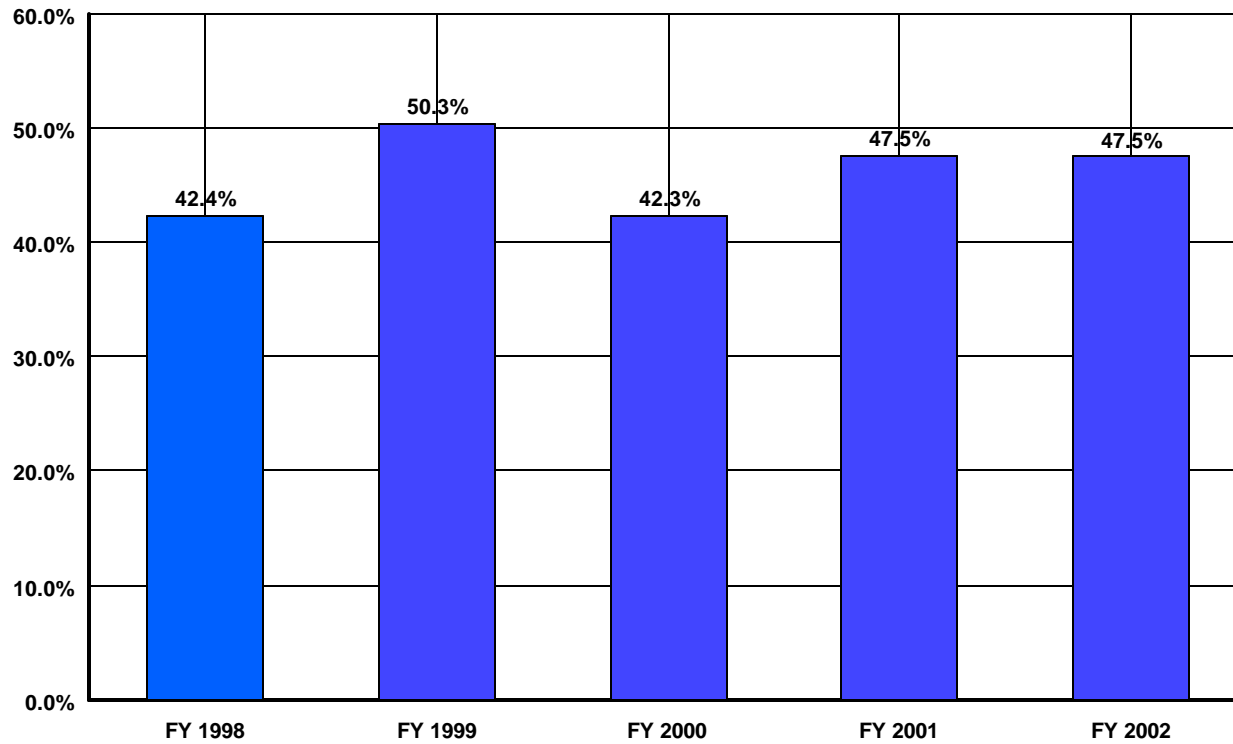
GENERAL SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
EXECUTIVE DIRECTION	670	502	601	723	536	-134	-20.0%
HUMAN RESOURCES	2,170	1,953	2,028	2,029	1,867	-303	-14.0%
CFO	991	933	1,029	1,274	1,290	299	30.2%
PROCUREMENT	1,507	1,297	1,373	1,276	1,167	-340	-22.6%
LEGAL	188	176	346	328	192	4	2.1%
CENTRAL ADMIN SERVICES	1,705	1,711	1,464	1,189	628	-1,077	-63.2%
PROGRAM/PROJECT CONTROL	1,087	1,007	1,104	1,157	1,388	301	27.7%
INFORMATION OUTREACH	446	470	879	1,143	1,221	775	173.8%
INFORMATION SERVICES	5,665	6,260	6,036	4,683	3,063	-2,602	-45.9%
OTHER	0	7,137	0	5,396	0	0	0.0%
<b>TOTAL GENERAL SUPPORT</b>	<b>14,429</b>	<b>21,446</b>	<b>14,860</b>	<b>19,198</b>	<b>11,352</b>	<b>-3,077</b>	<b>-21.3%</b>
MISSION SUPPORT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
ENVIRONMENTAL	1,509	1,711	1,931	1,851	1,679	170	11.3%
SAFETY AND HEALTH	7,341	7,283	7,559	7,181	6,490	-851	-11.6%
FACILITIES MANAGEMENT	1,952	1,942	2,262	1,786	1,605	-347	-17.8%
MAINTENANCE	3,708	3,782	3,890	4,025	4,011	303	8.2%
UTILITIES	2,486	2,007	1,995	3,037	2,011	-475	-19.1%
SAFEGUARDS AND SECURITY	1,161	1,100	1,138	1,484	1,293	132	11.4%
LOGISTICS SUPPORT	680	760	817	1,031	942	262	38.5%
QUALITY ASSURANCE	1,905	1,695	1,659	1,646	916	-989	-51.9%
LABORATORY/TECHNICAL SUPPOR	2,458	2,297	1,824	1,755	1,546	-912	-37.1%
<b>TOTAL MISSION SUPPORT</b>	<b>23,200</b>	<b>22,577</b>	<b>23,075</b>	<b>23,796</b>	<b>20,493</b>	<b>-2,707</b>	<b>-11.7%</b>
SITE SPECIFIC	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
MANAGEMENT/INCENTIVE FEE	9,516	9,143	9,389	10,026	6,780	-2,736	-28.8%
TAXES	1,307	873	0	219	211	-1,096	-83.9%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>10,823</b>	<b>10,016</b>	<b>9,389</b>	<b>10,245</b>	<b>6,991</b>	<b>-3,832</b>	<b>-35.4%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>48,452</b>	<b>54,039</b>	<b>47,324</b>	<b>53,239</b>	<b>38,836</b>	<b>-9,616</b>	<b>-19.8%</b>
MISSION DIRECT	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change 1998 to FY2002	
Mission Direct Operation	65,903	53,396	64,537	58,800	42,981	-22,922	-34.8%
Capital Construction	0	0	0	0	0	0	0.0%
<b>TOTAL MISSION DIRECT</b>	<b>65,903</b>	<b>53,396</b>	<b>64,537</b>	<b>58,800</b>	<b>42,981</b>	<b>-22,922</b>	<b>-34.8%</b>
<b>Total Costs</b>	114,355	107,435	111,861	112,039	81,817	-32,538	-28.5%
<b>Total Costs w/o Construction</b>	114,355	107,435	111,861	112,039	81,817	-32,538	-28.5%
General Support % Total Costs	12.6%	20.0%	13.3%	17.1%	13.9%		
Mission Support % Total Costs	20.3%	21.0%	20.6%	21.2%	25.0%		
Site Specific % Total Costs	9.5%	9.3%	8.4%	9.1%	8.5%		
Total Support % Total Costs	42.4%	50.3%	42.3%	47.5%	47.5%		
Total Support % Total Costs w/o Co	42.4%	50.3%	42.3%	47.5%	47.5%		

## Total Support Costs (000's) West Valley – West Valley Nuclear Services



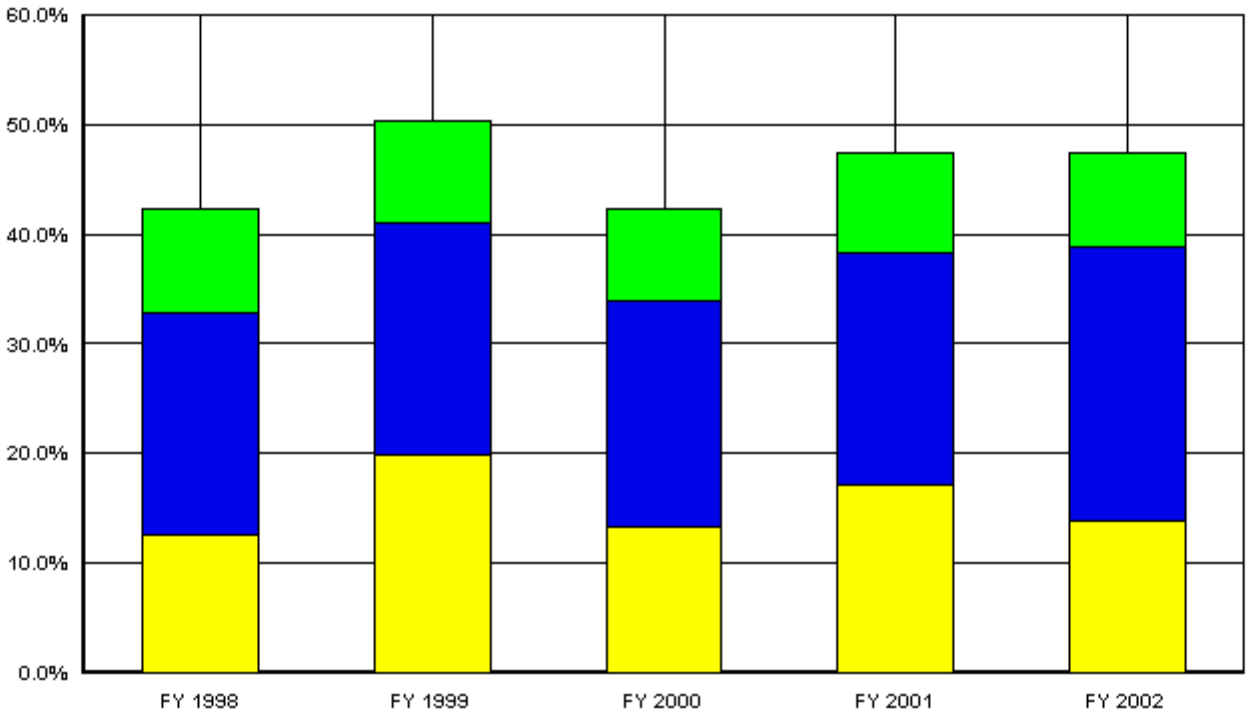
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	48,452	54,039	47,324	53,239	38,836

## Support Cost as a % of Total Cost West Valley – West Valley Nuclear Services



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	42.4%	50.3%	42.3%	47.5%	47.5%

**US Department of Energy  
Percent of Support Category to Total  
West Valley**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	12.6%	20.0%	13.3%	17.1%	13.9%
<b>Mis Sup</b>	20.3%	21.0%	20.6%	21.2%	25.0%
<b>Site Specific</b>	9.5%	9.3%	8.4%	9.1%	8.5%



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**SITE PROFILE**  
**WEST VALLEY – WEST VALLEY NUCLEAR SERVICES**

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**I. SITE CHARACTERISTICS**

The West Valley Demonstration Project (WVDP) Act chartered the Department of Energy (DOE) to solidify liquid high-level waste (HLW) at the Western New York Nuclear Service Center (WNYNSC). The site is owned by New York State (NYS) and administered through its agency, New York State Energy Research and Development Authority (NYSERDA). The WNYNSC is a 3,300 acre site located approximately 30 miles south of Buffalo, New York. A commercial spent nuclear fuel reprocessing facility operated at the site from 1966 until 1972. This reprocessing facility occupied about 230 acres of the entire 3,300 acre tract. During its operational years, the facility was used to reprocess uranium and plutonium from spent nuclear fuel (SNF), 60% of which originated from defense facilities. Reprocessing operations resulted in approximately 600,000 gallons of liquid HLW stored in underground tanks, which required processing, storage and ultimate disposal.

In 1980, the United States Congress passed the West Valley Demonstration Project Act (Public Law 96-368), which authorized DOE to conduct a technology demonstration project to solidify the liquid HLW. A subsequent decision was made by DOE to develop vitrification technology as the process to solidify the liquid HLW. In accordance with WVDP Act requirements, DOE also has responsibility to: develop containers suitable for the permanent disposal of the solidified HLW at an appropriate Federal repository; transporting the HLW containers to the Federal repository; disposing of low level waste (LLW) and transuranic (TRU) waste resulting from HLW solidification; and the decontamination and decommissioning of facilities used for HLW solidification. DOE also has responsibility for 125 spent nuclear fuel (SNF) assemblies stored at the site, which have been removed from a “wet” storage facility, placed into certified transportation casks, and are awaiting transfer to the Idaho National Environmental and Engineering Laboratory (INEEL) site.

HLW solidification was performed according to a Memorandum of Understanding between the DOE and the U.S. Nuclear Regulatory Commission (NRC) and a Cooperative Agreement between DOE and NYSERDA. NYSERDA cooperates in the WVDP and contributes ten percent of WVDP costs. NYSERDA holds title to the WNYNSC and the NRC license to operate the site. During performance of the WVDP Act requirements, DOE has exclusive use and possession of the WVDP premises (i.e., 230 acres), and is responsible for maintaining these premises, managing environmental risk, ensuring site worker and public safety, and accomplishing the scope of the WVDP Act as mandated by its implementing agreements.

Two Environmental Impact Statements are in development to evaluate options for waste disposition and project closure. Upon completion of both the Waste Management EIS, expected in FY2003, and Decommissioning and/or Long-term Stewardship EIS, expected

in the 2005 time-frame, Records of Decisions will be formulated to provide the basis for WVDP completion including disposal of the LLW, decontamination and decommissioning of facilities used for HLW solidification.

### **Mission**

The management and operating prime contractor for the WVDP is the West Valley Nuclear Services Company (WVNSCO), which manages the facility according to a performance based contract. During the time period encompassed by the Functional Cost Report (FY1995 to FY2002), the Project will have evolved from HLW waste processing engineering / construction / start-up, through HLW final treatment/vitrification processing, to the current decontamination and waste management phase. There are significant challenges being managed in order to assure the Project has the required disciplines to support this evolutionary process.

## **II. HIGHLIGHTS OF TRENDS**

The actual current year dollars spent for functional costs decreased from \$47.5M in FY95 to \$38.8 in FY2002. The functional cost data are not adjusted for the impacts of inflation over the reporting period (FY1995-FY2002). When the functional cost trend totals are adjusted to FY2002 dollars, the overall cost trend decreases more significantly by approximately 32%, from \$56.8M “adjusted” FY2002 base year (\$47.5M FY1995 dollars escalated to FY2002 basis) to \$38.8M in FY2002. As the work scope has evolved during the functional cost reporting period from waste processing systems / facilities construction to HLW waste processing to post operations decontamination and waste management scopes, the site has experienced a significant decrease in non-labor Mission related expenditures. This is primarily due to completion of vitrification facility construction, facility/system modifications and completion of required infrastructure upgrades. Direct employment levels have decreased from 965 full time equivalents (FTEs) in FY1995 to the current level of 501 FTEs. In addition, total Project expenditure decreases from \$126.1M in FY1995 to \$81.8M in FY2002 have affected the overall trend.

FY2002 was a year of significant change for the West Valley Demonstration Project. Radioactive vitrification operations were successfully completed on September 5, 2002. As a part of Project transition, the WVNSCO organization was evaluated against talent requirements for future work scopes, and a new vision was established which focused on decontamination of high-risk hazards, waste management and safe site operation. Through work force restructuring efforts enacted in 2002, a total reduction of 194 FTEs was realized by the end of the fiscal year. Another effect of the changing mission at WVDP was a decrease in overall expenditures of \$30.2M, from the FY2001 level of \$112.0M to \$81.8M in FY2002. In FY2002, a total of \$1.4M of New York State Sales and Use taxes was included as a part of the respective functional cost categories. The WV total functional cost decreased from \$53.2M in FY2001 to \$38.8M in FY2002. The decrease is primarily due to a one-time charge of \$5.4M for the settlement of the prior year New York State (NYS) sales tax liability which was made in FY2001 and did not

recur in FY2002, and the reduction in the overall site headcount from 695 to 501 in FY2002.

### III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEARS

From a functional cost reporting perspective, WVNSCO was able to maintain the “balance” in support vs. mission expenditures in comparison to FY2001 levels. WVNSCO also maintained a favorable comparison to Total DOE EM mission direct cost data. For example, the DOE EM mission direct expenditure percentage is 47.7% as compared 52.5% for WVDP Mission direct expenditures.

This table illustrates the FY2001 to FY2002 WVDP comparison and the WVDP to DOE EM comparison.

<b>Functional Cost Category</b>	<b>WVDP FY2001</b>		<b>WVDP FY2002</b>		<b>DOE EM FY 2001</b>	
General Support	\$ 19,198	17.1%	\$ 11,352	13.9%	\$ 809,943	12.6%
Mission Support	\$ 23,796	21.2%	\$ 20,493	25.0%	\$ 1,769,275	27.4%
Site Specific Support	\$ 10,245	9.2%	\$ 6,991	8.5%	\$ 326,690	5.1%
<b>Total Functional Support</b>	<b>\$ 53,239</b>	<b>47.5%</b>	<b>\$ 38,836</b>	<b>47.5%</b>	<b>\$ 2,905,908</b>	<b>45.0%</b>
<b>Mission direct</b>	<b>\$ 58,800</b>	<b>52.5%</b>	<b>\$ 42,981</b>	<b>52.5%</b>	<b>\$ 3,076,913</b>	<b>47.7%</b>
Construction	\$ -	0.0%	\$ -	0.0%	\$ 468,647	7.3%

The following table details the “Other” category for FY2001 to FY2002 trend comparison.

<b>Other Cost Category Detail</b>	<b>FY2001</b>	<b>FY2002</b>	<b>Comment</b>
<b>General Support "Other"</b>	\$ 5,396	\$ -	One time FY 2001 resolution of New York State Sales Tax liability
<b>Mission Direct "Other"</b>			
Project Management	\$ 265	\$ 162	On-going
TTP OH09WT41 Vit Expended Mat	\$ 366	\$ -	TTP Scope Completed FY01
TTP OH09WT31 Immobilization	\$ 90	\$ 227	On going TTP scope as planned
TTP OH00WT22 Retrieval	\$ 479	\$ 363	On going TTP scope as planned
TTP OH09WT11 Characterization	\$ 119	\$ 40	TTP Scope Completed FY02
TTP OH00SS31 Permeable Wall	\$ 25	\$ 37	On going TTP scope as planned
TTP OH01DD11 Large Scale D&D	\$ -	\$ 351	TTP Scope initiated in FY02
Workers Exposure Compensation	\$ -	\$ 12	
Ohio EW02MM	\$ -	\$ 4	
<b>Mission Direct Other Total</b>	<b>\$ 1,345</b>	<b>\$ 1,196</b>	

### IV. COST SAVINGS INITIATIVES

The WVNSCO Productivity and Cost Effectiveness (PACE) program formally generates and tracks cost savings commitments. The total savings / cost avoidance which were reported through the PACE program in FY2002 was \$10.9M, which exceeded the goal of

\$6.2M. Hard dollar savings available for return through change control was \$.4M. The hard dollar savings were re-deployed directly into the Project to support acceleration of additional work into the fiscal year.

The “hard dollar” savings represent planned budget that was returned and replanned for other Project workscope and included the following savings:

- Reduction of Minimum/Maximum order quantities for consumable stock items in the warehouse (\$315K).
- Energy consumption reduction through the use of programmable thermostats and by lowering lighting requirements during off-peak periods (\$79K).
- Realignment of Non Destructive Examination training and re-qualification requirements to eliminate duplicate travel costs (\$7K).

The “cost avoidance” category included costs associated with implementation of the following efforts:

- Reduction of Records Management processing activities through the implementation of an Electronic Data Management System (\$730K).
- Reduction in the amount of Government Property in uncontrolled storage (\$515K).
- Re-engineering of the Radworker Work Permit (RWP) process for access to radiologically controlled areas of the site (\$1075K).
- Pollution Prevention initiatives that focused on waste segregation activities to minimize higher rate disposal costs (\$5710K).
- Streamlining of on-site Engineering Standards and Codes (\$125K).
- Development of portable control panels in lieu of permanently installed control workstations for remotely operated mechanical arms and equipment used in high activity waste treatment and recovery and facility decontamination efforts. (\$390K).

Another effort to control site support expenditures featured the establishment of administrative targets for contractor travel costs. Unlike FY2001 when Congress placed statutory restrictions on travel reimbursements, the DOE CFO managed FY2002 contractor travel costs by using administrative targets. Compliance to these targets was validated by periodic reviews. The WVNSCO target for travel was \$450K and the actual cost was \$195K.

	<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>
Hard Dollar Savings	\$3,600,000	\$6,300,000	\$401,000

**Yucca Mountain**

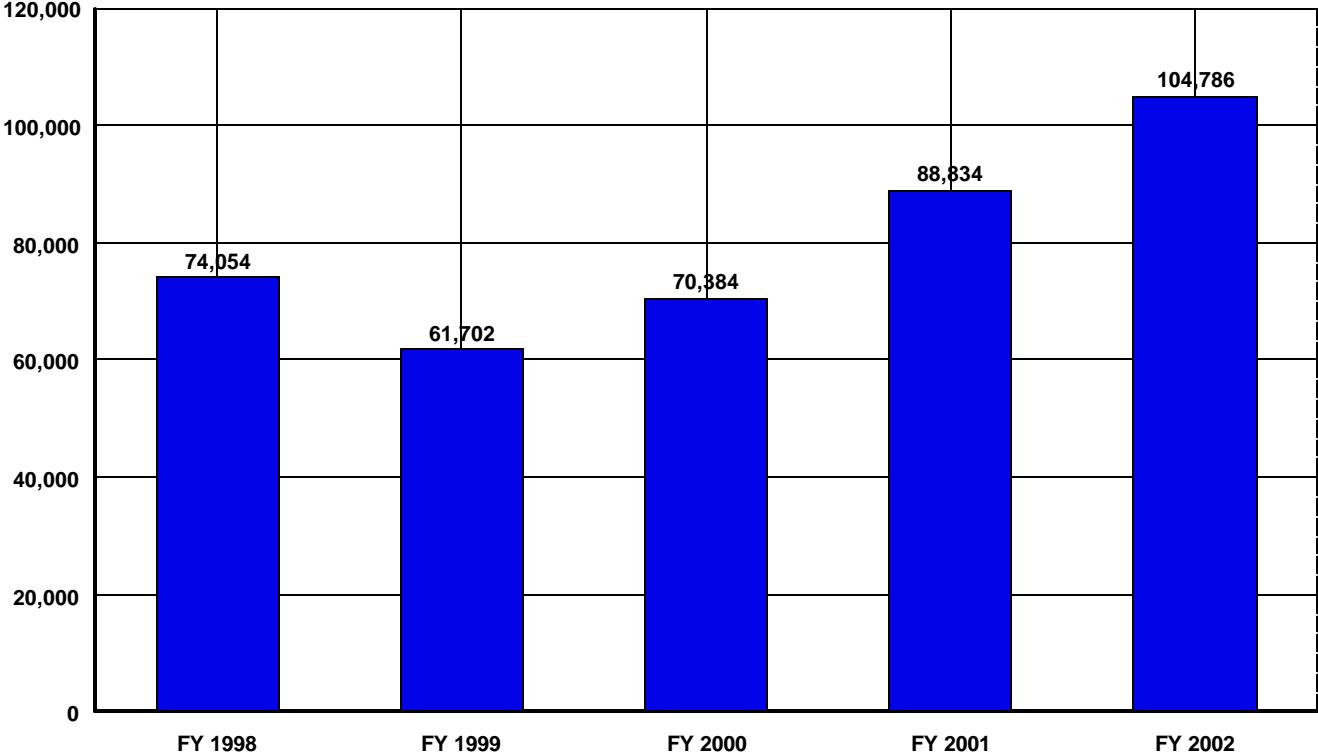
**Trends in Total Functional Support Cost Categories**

**FY 2002**

(\$ in 000's)

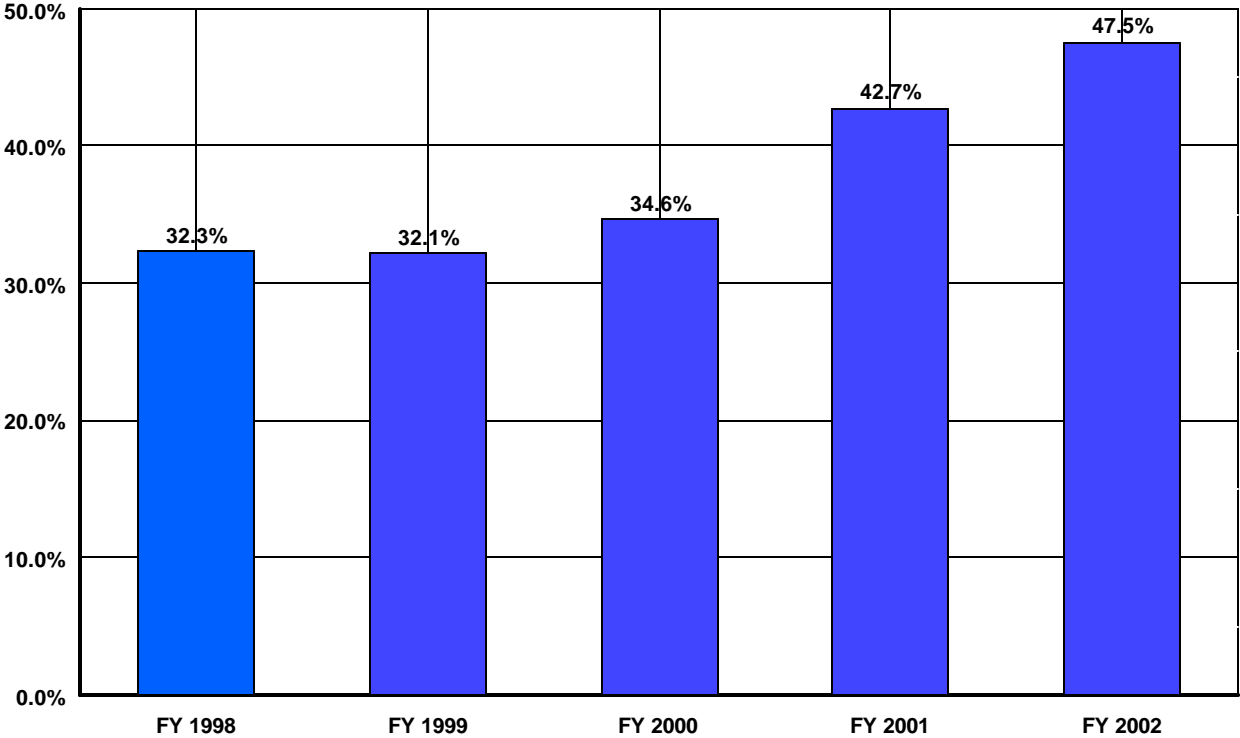
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	3,246	2,241	2,560	2,440	2,963	-283	-8.7%
HUMAN RESOURCES	1,860	1,633	1,835	4,494	5,105	3,245	174.5%
CFO	1,526	1,614	2,060	3,392	3,619	2,093	137.2%
PROCUREMENT	2,020	2,111	2,228	2,305	2,515	495	24.5%
LEGAL	1,313	1,433	394	192	248	-1,065	-81.1%
CENTRAL ADMIN SERVICES	3,833	3,274	4,267	7,976	11,866	8,033	209.6%
PROGRAM/PROJECT CONTROL	8,861	6,051	8,738	4,818	6,016	-2,845	-32.1%
INFORMATION OUTREACH	3,638	3,318	3,932	2,181	3,788	150	4.1%
INFORMATION SERVICES	15,494	10,781	14,336	11,453	14,841	-653	-4.2%
OTHER	0	0	0	8,455	-380	-380	100.0%
<b>TOTAL GENERAL SUPPORT</b>	<b>41,791</b>	<b>32,456</b>	<b>40,350</b>	<b>47,706</b>	<b>50,581</b>	<b>8,790</b>	<b>21.0%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	7,731	6,872	6,621	4,738	4,769	-2,962	-38.3%
SAFETY AND HEALTH	3,537	2,454	3,064	3,180	2,160	-1,377	-38.9%
FACILITIES MANAGEMENT	8,315	7,857	7,459	8,372	9,250	935	11.2%
MAINTENANCE	736	453	609	2,314	2,353	1,617	219.7%
UTILITIES	0	13	0	17	407	407	100.0%
SAFEGUARDS AND SECURITY	433	335	450	217	689	256	59.1%
LOGISTICS SUPPORT	909	947	949	2,451	2,525	1,616	177.8%
QUALITY ASSURANCE	195	0	0	4,642	6,489	6,294	3,227.7%
LABORATORY/TECHNICAL SUPPOR	0	0	0	0	0	0	0.0%
<b>TOTAL MISSION SUPPORT</b>	<b>21,856</b>	<b>18,931</b>	<b>19,152</b>	<b>25,931</b>	<b>28,642</b>	<b>6,786</b>	<b>31.0%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	10,103	10,095	10,867	15,068	25,381	15,278	151.2%
TAXES	304	220	15	129	182	-122	-40.1%
LDRD / PDRD / SDRD	0	0	0	0	0	0	0.0%
<b>TOTAL SITE SPECIFIC</b>	<b>10,407</b>	<b>10,315</b>	<b>10,882</b>	<b>15,197</b>	<b>25,563</b>	<b>15,156</b>	<b>145.6%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>74,054</b>	<b>61,702</b>	<b>70,384</b>	<b>88,834</b>	<b>104,786</b>	<b>30,732</b>	<b>41.5%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	155,334	130,413	132,891	118,396	113,002	-42,332	-27.3%
Capital Construction	0	0	0	861	2,800	2,800	100.0%
<b>TOTAL MISSION DIRECT</b>	<b>155,334</b>	<b>130,413</b>	<b>132,891</b>	<b>119,257</b>	<b>115,802</b>	<b>-39,532</b>	<b>-25.4%</b>
<b>Total Costs</b>	<b>229,388</b>	<b>192,115</b>	<b>203,275</b>	<b>208,091</b>	<b>220,588</b>	<b>-8,800</b>	<b>-3.8%</b>
<b>Total Costs w/o Construction</b>	<b>229,388</b>	<b>192,115</b>	<b>203,275</b>	<b>207,230</b>	<b>217,788</b>	<b>-11,600</b>	<b>-5.1%</b>
General Support % Total Costs	18.2%	16.9%	19.8%	22.9%	22.9%		
Mission Support % Total Costs	9.5%	9.9%	9.4%	12.5%	13.0%		
Site Specific % Total Costs	4.5%	5.4%	5.4%	7.3%	11.6%		
Total Support % Total Costs	32.3%	32.1%	34.6%	42.7%	47.5%		
Total Support % Total Costs w/o Co	32.3%	32.1%	34.6%	42.9%	48.1%		

**Total Support Costs (000's)**  
**Yucca Mountain – Bechtel SAIC**



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	74,054	61,702	70,384	88,834	104,786

# Support Cost as a % of Total Cost Yucca Mountain – Bechtel SAIC

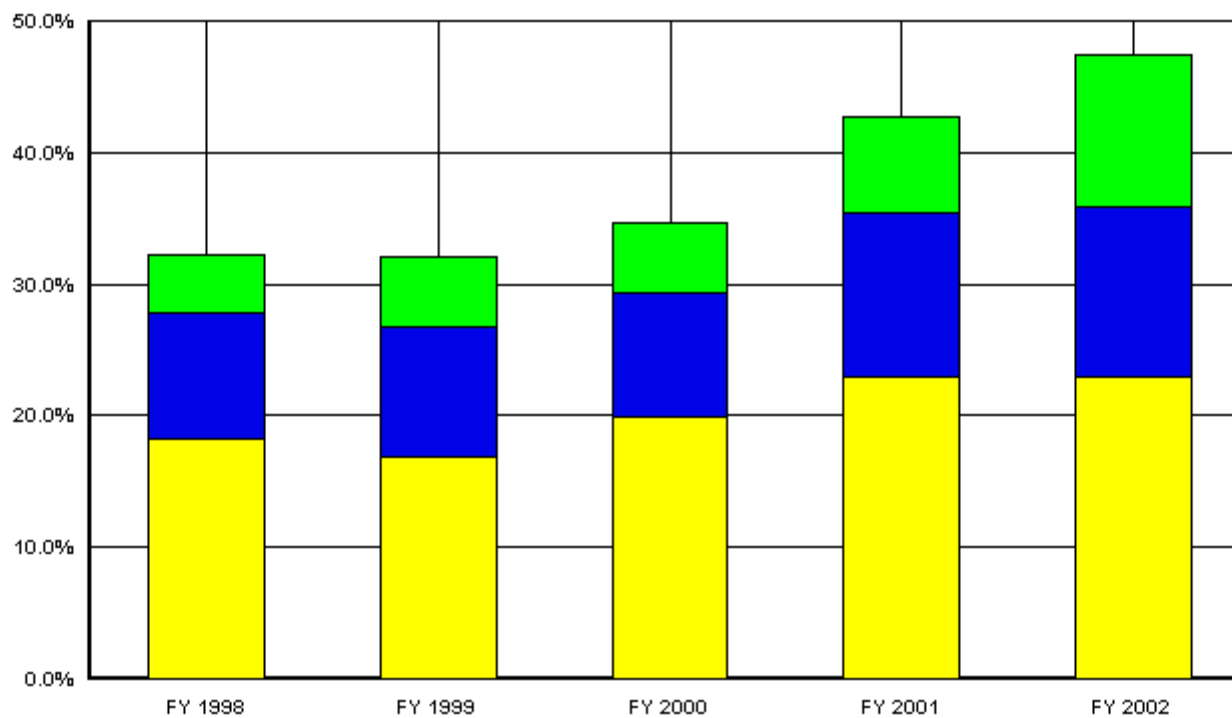


FY 1998      FY 1999      FY 2000      FY 2001      FY 2002

**Total Functional Support**

32.3%      32.1%      34.6%      42.7%      47.5%

**US Department of Energy  
Percent of Support Category to Total  
Yucca Mountain**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	18.2%	16.9%	19.8%	22.9%	22.9%
<b>Mis Sup</b>	9.5%	9.9%	9.4%	12.5%	13.0%
<b>Site Specific</b>	4.5%	5.4%	5.4%	7.3%	11.6%



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**SITE PROFILE**  
**YUCCA MOUNTAIN - BECHTEL**

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**I. SITE CHARACTERISTICS**

After more than 20 years and \$4 billion in scientific study, the U.S. Congress approved Yucca Mountain, Nevada, as the nation's first long-term geologic repository for spent nuclear fuel and high-level radioactive waste. This marked the end of Phase 1, Site Characterization and Pre-licensing. Phase 2A, Repository Design and Licensing starts in FY 2003.

Yucca Mountain is located in Nye County, Nevada, about 100 miles northwest of Las Vegas on federally owned land on the western edge of the Department of Energy's Nevada Test Site. The repository is to be built approximately 1,000 feet below the top of the mountain and 1,000 feet above the ground water.

Spent nuclear fuel and high-level radioactive waste make up most of the material to be disposed at Yucca Mountain. Approximately 90 percent of the waste proposed for disposal is from commercial nuclear power plants, with the remainder coming from defense programs.

Prior to the President signing the Yucca Mountain Bill in July 2002, the project involved extensive scientific study on Yucca Mountain's geology, hydrology, biology, and climate. As part of this investigation, Yucca Mountain scientists have mapped geologic structures, including rock units, faults, fractures, and volcanic features; excavated more than 200 pits and trenches to remove rocks and other material for direct observation; drilled more than 450 boreholes; collected over 75,000 feet of core, and some 18,000 geologic and water samples; constructed six and one-half miles of tunnels to provide access to the rocks that would be used for the repository; mapped the geologic features exposed by the underground openings in the tunnels; conducted the largest known test in history to simulate heat effects of a repository, heating some million cubic feet of rock over its ambient temperature; tested mechanical, chemical, and hydrologic properties of rock samples; and examined over 13,000 engineered material samples to determine their corrosion resistance in a variety of environments.

Customers who use nuclear power pay for the disposal of spent fuel. The federal government collects a fee of one mil (one-tenth of a cent) per kilowatt-hour of nuclear-generated electricity from utilities. This money goes into the Nuclear Waste Fund. In addition, the federal government will pay the fund for disposal of high-level radioactive waste generated by Department of Defense programs.

The Nuclear Waste Fund pays for a majority of the U.S. nuclear waste management program. DOE, the state of Nevada, and local governments that could be affected by the potential repository receive money from the Nuclear Waste Fund through congressional appropriations. The General Accounting Office, an arm of the U.S. Congress, oversees

expenditures from the fund. In addition, the Nuclear Waste Fund is audited annually by a public accounting firm.

Additional project information about Yucca Mountain can be viewed on the official Office of Civilian Radioactive Waste Management Web Site:  
<http://www.ymp.gov>

## II. HIGHLIGHTS OF TRENDS

A summary of the change in various functional cost categories from FY 1998 to FY 2002 is as follows:

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Change FY98-02
General Support	\$ 41,791	\$ 32,456	\$ 40,350	\$ 47,706	\$ 50,581	21%
Mission Support	21,856	18,931	19,152	25,931	28,642	31%
Site Specific	10,407	10,315	10,882	15,197	25,563	146%
Total Support	\$ 74,054	\$ 61,702	\$ 70,384	\$ 88,834	\$ 104,786	41%
Mission Direct	155,334	130,413	132,891	118,396	113,002	-27%
Capital/Constr.	-	-	-	861	2,800	
Total Site	\$ 229,388	\$ 192,115	\$ 203,275	\$ 208,091	\$ 220,588	-4%
Sppt Cost Ratio	32.3%	32.1%	34.6%	42.7%	47.5%	47%

Total Support costs increased by 18 percent from FY 2001 to FY 2002. The increase resulted partially from the transition to a new contractor who made significant changes in how the work is performed and costs are reported. FY 2002 was the first full year under the new contract.

In December 2000, Yucca Mountain began to transition its contract from TRW Environmental Safety Systems, Incorporated (TESS), including several of TESS's major subcontracts, to Bechtel/SAIC Company (BSC). BSC took over the contract in February 2001. The changes in the functional support costs result primarily from major differences in how work is structured under the new contract and how BSC accounts for costs. TESS subcontracted many activities that BSC has brought in-house. This resulted in a large increase in the contractor workforce (416 TESS employees at the end of the contract to over 1,300 BSC employees by the end of FY 2002) with a corresponding decrease in subcontract activity. For functional cost purposes, TESS was not able to separately identify the support activities from the direct activities in individual subcontracts and so most subcontract costs were included in their entirety in the line item that most closely represented the work performed. There is currently no requirement to breakdown subcontracted effort into the separate functional cost categories. As a result, activities such as Quality Assurance and Capital Equipment that were previously reported in the single Mission Direct RW line item under TESS can now be identified and reported separately by BSC in the appropriate functional line item. Also, other support costs such

as Human Resources and Administrative Support are now reported in total on the appropriate functional cost line where previously only the TESS portion could be identified and reported separately.

### **III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR**

Significant changes in various specific line items from FY 2001 to 2002 are as follows:

- Human Resources. The increase resulted from the hiring of a Benefits Manager and an increase in Health and Welfare, Employee Relations, and Compensation activities.
- Administrative Support. The increase resulted from a substantial increase in graphics, multimedia, and text design effort.
- Program/Project Planning and Control. The increase resulted primarily from the change in contractors and how these costs were identified under the prior contractor.
- Information/Outreach Activities. The increase resulted from the preparation and distribution of a "Citizen's Guide" publication in conjunction with the Site Recommendation; a "cask" open house event held at the Site; Web/Multimedia Content Management effort; and the Exhibit program.
- Information Services. The increase resulted from an infrastructure upgrade requiring additional equipment and support as well as increases in network operations and general programming support.
- Other. The costs included in this category for FY 2001 were generally in support of the contract transition. In addition, the negative amount resulted from inclusion of rate adjustment and credit invoices received from subcontractors of the former M&O in this category. A detailed breakdown of the elements included in this line item is provided at the end of the profile
- Safety and Health. The decrease resulted from the change in contractors.
- Facility Management/Engineering. The increase resulted from new office and warehouse space. Lease costs total \$6.8M.
- Utilities. In prior years, utility costs were embedded in the lease.
- QA/Compliance. The increase resulted from new activities relating to internal QA surveillance, compliance and performance based audits and all corrective action functions for BSC, its subcontractor, the National Laboratories and the United States Geologic Survey (USGS).
- Management/Award/Incentive Fee. The increase is due to the performance fee structure of the BSC contract.
- Taxes. Per the guidance, all taxes are reported in this line item.
- Capital/Construction. The increase is for upgraded communication equipment, a locomotive for construction and site operations, scientific equipment for repository design and seismic work that was on the critical path for FY 2002, servers, a telephone system for new office space, and other computer equipment.

#### **IV. MAJOR COST DRIVERS THAT MAY CAUSE OUR SITE'S COSTS TO APPEAR OUT OF LINE WITH SIMILAR SITES**

In 1987, Congress amended the Nuclear Waste Policy Act and directed DOE to study only Yucca Mountain. As a result, Yucca Mountain's activities are unique within the Department.

#### **V. OTHER**

Details of costs included in the other category are as follows:

<u>Description</u>	<u>FY 2002 (in 000's)</u>
Transition Costs	\$ 28
GM All-Hands Meetings	140
Prior M&O Sub Adj Invoices	-548
Total	<u>\$ -380</u>

Y-12

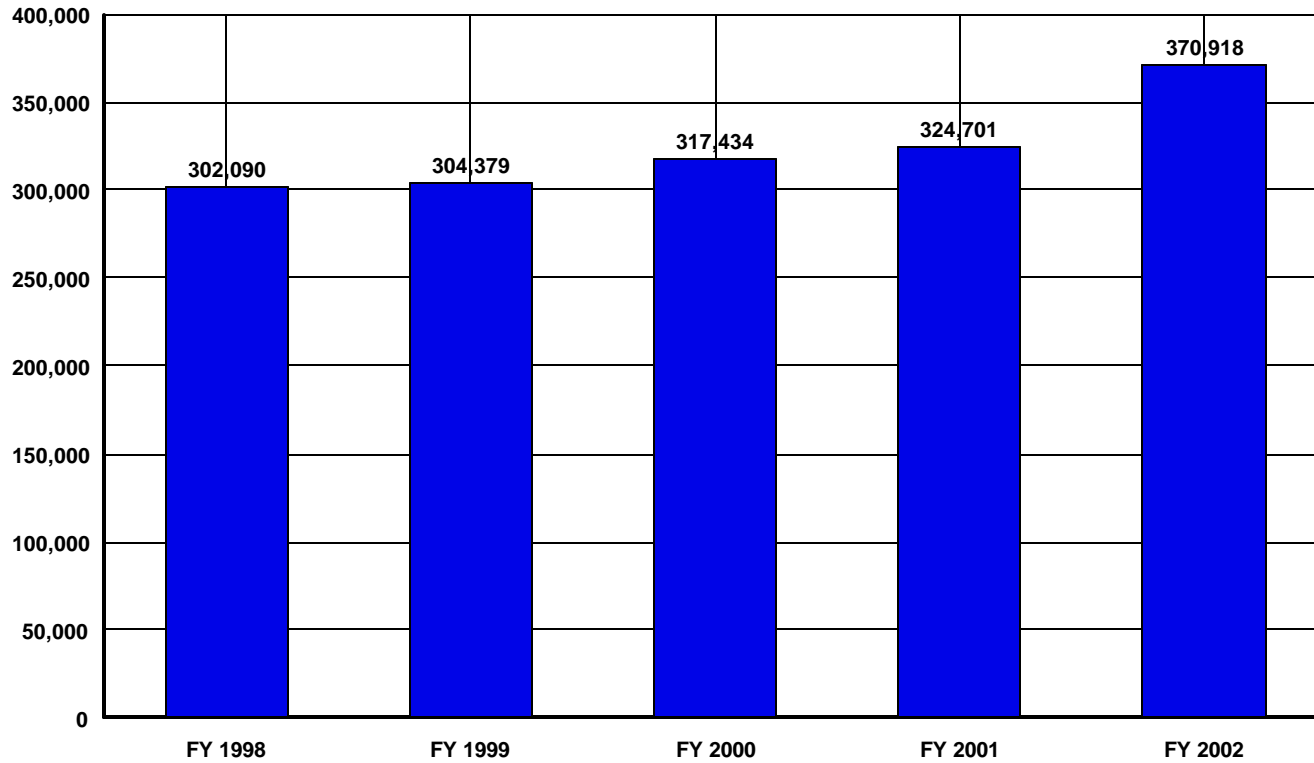
**Trends in Total Functional Support Cost Categories**

**FY 2002**

(\$ in 000's)

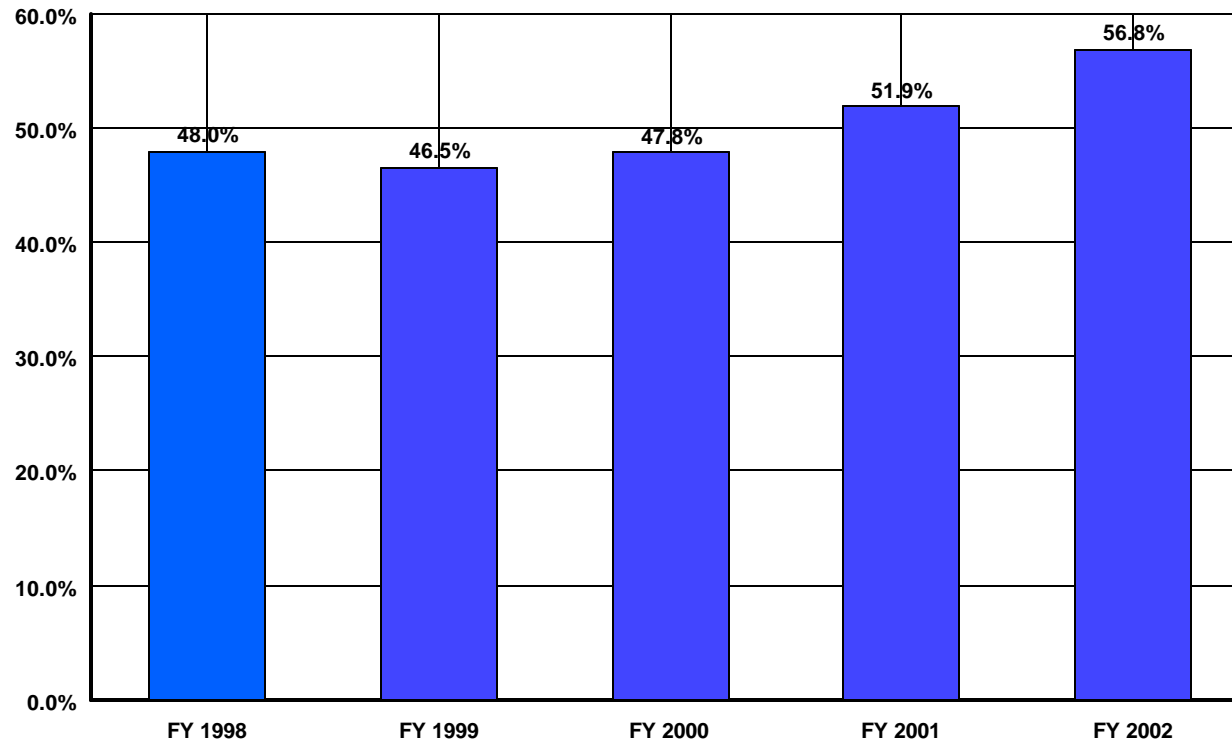
<b>GENERAL SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
EXECUTIVE DIRECTION	3,133	4,056	5,108	4,636	1,950	-1,183	-37.8%
HUMAN RESOURCES	5,161	5,851	6,595	6,784	5,772	611	11.8%
CFO	7,406	8,543	9,736	10,152	9,530	2,124	28.7%
PROCUREMENT	1,398	3,394	3,244	3,146	3,524	2,126	152.1%
LEGAL	785	1,464	1,889	1,982	2,489	1,704	217.1%
CENTRAL ADMIN SERVICES	6,036	5,625	7,064	7,299	8,724	2,688	44.5%
PROGRAM/PROJECT CONTROL	2,026	2,125	2,214	5,996	12,389	10,363	511.5%
INFORMATION OUTREACH	1,211	1,210	1,447	1,461	1,717	506	41.8%
INFORMATION SERVICES	22,661	26,000	29,819	29,092	28,747	6,086	26.9%
OTHER	10,075	4,214	5,774	2,107	2,062	-8,013	-79.5%
<b>TOTAL GENERAL SUPPORT</b>	<b>59,892</b>	<b>62,482</b>	<b>72,890</b>	<b>72,655</b>	<b>76,904</b>	<b>17,012</b>	<b>28.4%</b>
<b>MISSION SUPPORT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
ENVIRONMENTAL	4,998	10,035	9,027	8,547	6,072	1,074	21.5%
SAFETY AND HEALTH	31,552	36,548	41,294	42,543	43,139	11,587	36.7%
FACILITIES MANAGEMENT	6,204	7,804	7,576	6,140	8,759	2,555	41.2%
MAINTENANCE	55,842	53,357	50,456	49,797	62,211	6,369	11.4%
UTILITIES	47,604	51,203	46,430	51,442	53,075	5,471	11.5%
SAFEGUARDS AND SECURITY	28,920	29,858	42,220	48,981	64,945	36,025	124.6%
LOGISTICS SUPPORT	2,289	2,877	3,470	3,064	4,211	1,922	84.0%
QUALITY ASSURANCE	22,102	11,042	9,432	10,263	14,040	-8,062	-36.5%
LABORATORY/TECHNICAL SUPPOR	10,687	13,213	13,718	13,700	13,355	2,668	25.0%
<b>TOTAL MISSION SUPPORT</b>	<b>210,198</b>	<b>215,937</b>	<b>223,623</b>	<b>234,477</b>	<b>269,807</b>	<b>59,609</b>	<b>28.4%</b>
<b>SITE SPECIFIC</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
MANAGEMENT/INCENTIVE FEE	29,186	27,127	18,958	16,346	18,102	-11,084	-38.0%
TAXES	2,814	-1,167	1,963	1,223	4,690	1,876	66.7%
LDRD / PDRD / SDRD	0	0	0	0	1,415	1,415	100.0%
<b>TOTAL SITE SPECIFIC</b>	<b>32,000</b>	<b>25,960</b>	<b>20,921</b>	<b>17,569</b>	<b>24,207</b>	<b>-7,793</b>	<b>-24.4%</b>
<b>TOTAL FUNCTIONAL SUPPORT</b>	<b>302,090</b>	<b>304,379</b>	<b>317,434</b>	<b>324,701</b>	<b>370,918</b>	<b>68,828</b>	<b>22.8%</b>
<b>MISSION DIRECT</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>Change 1998 to FY2002</b>	
Mission Direct Operation	266,791	316,394	330,285	291,442	259,927	-6,864	-2.6%
Capital Construction	60,990	33,642	16,093	9,945	22,194	-38,796	-63.6%
<b>TOTAL MISSION DIRECT</b>	<b>327,781</b>	<b>350,036</b>	<b>346,378</b>	<b>301,387</b>	<b>282,121</b>	<b>-45,660</b>	<b>-13.9%</b>
<b>Total Costs</b>	<b>629,871</b>	<b>654,415</b>	<b>663,812</b>	<b>626,088</b>	<b>653,039</b>	<b>23,168</b>	<b>3.7%</b>
<b>Total Costs w/o Construction</b>	<b>568,881</b>	<b>620,773</b>	<b>647,719</b>	<b>616,143</b>	<b>630,845</b>	<b>61,964</b>	<b>10.9%</b>
General Support % Total Costs	9.5%	9.5%	11.0%	11.6%	11.8%		
Mission Support % Total Costs	33.4%	33.0%	33.7%	37.5%	41.3%		
Site Specific % Total Costs	5.1%	4.0%	3.2%	2.8%	3.7%		
Total Support % Total Costs	48.0%	46.5%	47.8%	51.9%	56.8%		
Total Support % Total Costs w/o Co	53.1%	49.0%	49.0%	52.7%	58.8%		

## Total Support Costs (000's) Y-12 - BWXT



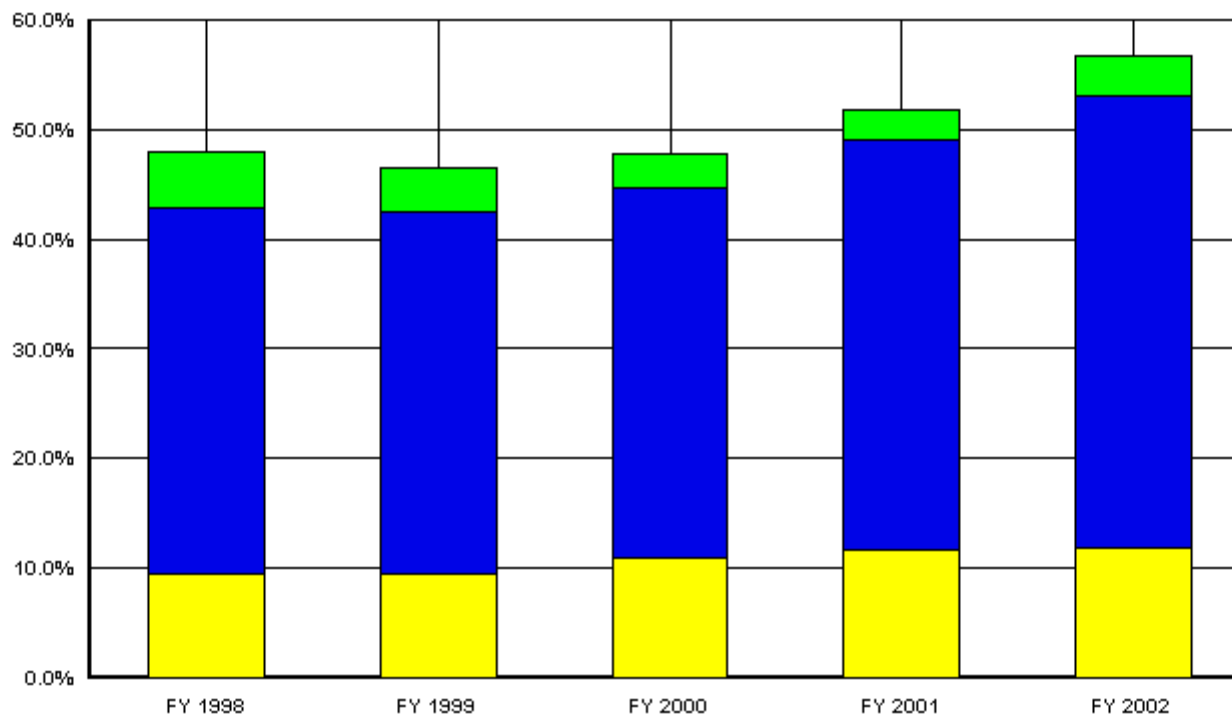
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	302,090	304,379	317,434	324,701	370,918

## Support Cost as a % of Total Cost Y-12 - BWXT



	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Total Functional Support</b>	48.0%	46.5%	47.8%	51.9%	56.8%

**US Department of Energy  
Percent of Support Category to Total  
Y-12**



**Gen Sup**
 **Mis Sup**
 **Site Specific**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
<b>Gen Sup</b>	9.5%	9.5%	11.0%	11.6%	11.8%
<b>Mis Sup</b>	33.4%	33.0%	33.7%	37.5%	41.3%
<b>Site Specific</b>	5.1%	4.0%	3.2%	2.8%	3.7%



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## **SITE PROFILE**

### **Y-12 – BWXT**

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#### **I. SITE CHARACTERISTICS**

The Y-12 National Security Complex performs missions that are vital to the U. S. Department of Energy (DOE) National Nuclear Security Administration (NNSA). These missions are:

- Manufacturing and assessing nuclear weapons secondaries, cases, and other weapons components;
- Safeguarding special nuclear materials; and
- Preventing the proliferation of weapons of mass destruction.

The Y-12 Complex covers approximately 800 acres, nearly 600 acres of which are enclosed by perimeter security fences. Security and emergency management buffer areas exist outside the main site but within the Oak Ridge Reservation. Real property includes more than 650 buildings and other structures with floor area of approximately 7.7 million square feet.

A BWXT Y-12 workforce of approximately 4,400 people support NNSA-related activities and rely upon a diverse infrastructure to perform assigned tasks in support of Y-12 missions. Buildings and facility types include large production, light and heavy laboratory, sophisticated and standard warehousing, and a mix of new and World War II-vintage technical and administrative office structures. Over 70% of the floor space at Y-12 was constructed prior to 1950 as a part of the Manhattan Project.

#### **II. HIGHLIGHTS OF TRENDS**

In looking at raw data, it appears that the functional cost at the Y-12 plant has increased by approximately \$68M since 1998. Of this increase, \$46M occurred between 2001 and 2002. Consequently, functional costs as a percentage of total costs have increased from 48.0% in 1998 and 51.9% in 2001 to a 2002 value of 56.8%. These cost increases are driven by changes in the contractual arrangements with the DOE/NNSA, changes in priorities that are supported by both the contractor and DOE/NNSA and changes in the BWXT Y-12 organizational structure. The most significant of these changes are:

##### **Contract Changes:**

Beginning in FY 1997, the DOE began to separate the three large Oak Ridge contracts (Y-12, ORNL, and ETTP) from being managed by a single contractor to being managed by three separate contractors. When all three facilities were managed by a single contractor, much of the fixed cost of information systems was shared by the three sites. As the three separate contractors began to “stand up” their own information systems, the opportunity to share fixed costs went away and the total costs of these systems to Y-12 increased. Areas specifically impacted by this change in the business environment were

Chief Financial Officer (\$2M), Human Resources (\$2M), and Information Services (\$6M).

#### Changes in Priorities:

Over the last few years, Y-12 has placed more emphasis into integrating safety into every activity that takes place at the facility. With such an emphasis on Health and Safety activities, more resources are identified as being safety related and therefore are being classified as Health and Safety as opposed to Mission Direct in regards to functional cost reporting. In addition, increased efforts to resolve deficiencies in the Fire Protection area have driven Safety and Health costs higher. This increased emphasis has generated an \$11M increase in the Health & Safety category since 1998.

Fiscal Years 2000 through 2002 have seen significant changes in the area of Safeguards and Security. First, a decision was made in Oak Ridge to subcontract security activities to Wackenhut Services Inc. (WSI). This is significant from a functional cost perspective in that all cost incurred by WSI are considered security cost. In the past, some of these costs necessary to execute the security function may have been incurred on other functional cost lines like CFO, Quality, Executive Direction, Fee, etc. A second significant change in the area of Safeguards and Security is the decision to direct fund the safeguards and security scope of work. With Safeguards and Security having direct funding status, many of the critical unfunded needs in this area are receiving attention and consideration of funding. This environment is adding scope to the safeguards and security area and therefore costs are increasing. The unfortunate events of September 11, 2001, have also driven Safeguards and Security costs higher in FY 02 than in previous years. The combined impact of these changes in the Safeguards and Security area have driven an increase in cost of \$36M from FY 1998 to FY 2002.

One of the major components of the BWXT management plan was the creation of a strong planning and integration function. At the beginning of FY 2001, 23 employees were aligned with the Program/Project Planning & Control (PPPC) functional cost activity. At the end of FY 2002, nearly 200 employees and subcontractors were aligned with the PPPC functional area. While this strategy does reflect an increase in total functional cost, it is recognized by BWXT Y-12 and the NNSA Y-12 Area Office that a strong PPPC function enhances both the contractor's and the government's ability to manage the work that is being performed at Y-12. The implementation of this strategy has caused the PPPC functional category to be increased by \$6M from FY 1998 to FY 2002.

#### Organizational Changes

In FY 2002, all administrative support employees were centralized under a single organization. This made it very easy to identify and properly categorize these employees as Central Administrative Services. In previous years, the cost associated with these employees were scattered across multiple functional cost lines. For example, a secretary in the Safeguards and Security organization would have been categorized as Safeguards and Security in previous years. However, with the organizational change, all secretaries

are easily identified as Central Administrative Services. This change has led to an increase in the Central Administrative Services category of \$2.6M.

### **III. ANALYSIS OF CHANGE IN SUPPORT COSTS FROM PRIOR YEAR**

The trend from FY 2001 to FY 2002 shows an increase in the value of functional costs as percent of total costs from 51.9% to 56.8%. While this trend is viewed as unfavorable, most of the increase can be attributed to two activities: 1) The increase in mission driven safeguards and security costs accounts for 2.4% of the 4.9% increase, and 2) An emphasis on better maintaining the dilapidated infrastructure at Y-12 accounts for 1.9% of the 4.9% increase. The remaining increase in the percentage is driven by other increases in functional cost (as described below) and a decrease in the Mission Direct cost values. The reasons for a decrease in the Mission Direct costs relate to a conscious decision by BWXT Y-12 to realign it's focus on Work for Others and Nonproliferation and National Security (NN) work scope. Several million dollars in revenues were transferred from Y-12 to the Oak Ridge National Laboratory in FY 2002 in keeping with this realignment. Also, decisions to discontinue certain longstanding WFO programs like the HAZWRAP program have caused a decrease in WFO revenues.

*Executive Direction* – \$2.7M decrease from FY 2001. In the FY 2002 functional cost submission, the cost of all BWXT Y-12 senior managers were reported in this category. In FY 02, the cost of the functional senior managers were reported in their functional category. For example, the cost of the Director of the ES&H program was reported in Executive Direction in FY 2001 and in the Environment and Safety & Health categories in FY 02.

*Human Resources* - \$1.1M decrease from FY 2001. Two contributors to lower cost; 1) Less subcontracted training costs and 2) Converting from legacy Human Resources systems to the integrated SAP software has led to lower cost.

*Chief Financial Officer* –\$.6M decrease from FY 2001. Costs are lower in FY 2002 due to the conversion of legacy timekeeping, payroll, and absence systems into an integrated SAP software system.

*Legal* – \$.5M increase from FY 2001 to FY 2002. Increased costs due to increased litigation and workers compensation management

*Procurement* – \$.4M increase from FY 2001 to FY 2002. Additional FTE's have been added to support workload driven by increased capital work scope.

*Central Administrative Services* - \$1.4M increase from FY 2001 to FY 2002. Organizational change made it possible to collect all of the administrative support employees cost in one functional category. Earlier organizational cost alignments did not allow for this. Increased cost was scattered across multiple functional cost categories in previous years.

*Program/Project Planning & Control* - Increase of \$6.4M from FY 2001 to FY 2002. One of the major components of the BWXT Y-12 management plan was the creation of a strong planning and integration function. At the beginning of FY 2001, 23 employees were aligned with the Program/Project Planning & Control (PPPC) functional cost activity. At the end of FY 2002, 200 employees and subcontractors were aligned with the PPPC functional area. While this strategy does reflect an increase in total functional cost, it is recognized by BWXT Y-12 and the NNSA Y-12 Area Office that a strong PPPC function enhances both the contractor and the government's ability to manage the work that is being performed at Y-12.

*Information /Outreach Activities* - No significant change.

*Information Services* – No significant change.

*Environmental* - \$2.5M decrease from FY 2001 to FY 2002. Certain direct funded environmental work performed in FY 01 was not performed in FY 02.

*Safety and Health* - No significant change

*Facilities Management* – Increase of \$2.6M from FY 01 to FY 02. A strong emphasis on infrastructure reduction over the past two years has driven an increase in this cost category

*Maintenance* – Increase of \$12.4M from FY 01 to FY 02. A focus on restoring the dilapidated Y-12 infrastructure has caused a sharp increase in maintenance cost. Approximately 90 maintenance FTE's have been added during FY 02.

*Utilities* – Increase of \$1.6M from FY 01 to FY 02. Increased cost and usage of electricity and natural gas.

*Safeguards and Security* - A significant change that is impacting the Safeguards and Security functional category is the decision to direct fund the safeguards and security scope of work. With Safeguards and Security having direct funding status, many of the critical unfunded needs in this area are receiving attention and consideration of funding. This environment is adding scope to the safeguards and security area and therefore costs are increasing. The unfortunate events of September 11, 2001, have also driven Safeguards and Security costs higher in FY 02 than in previous years. The combined impact of these changes in the Safeguards and Security area have driven an increase in cost of \$16M from FY 2001.

*Logistics Support* – An increase of \$1.1M from FY 2001 to FY 2002. Increased Capital activity across the site has driven a need to increase the material control, receipt, and delivery resources. FTE's have been added to support these programs.

*Quality Assurance* – An increase of \$3.8M from FY 2001 to FY 2002. Increased attention to the infrastructure of the Y-12 complex has driven the need to add 20 – 25

FTE's in the Equipment Test & Inspection organization. Also, increased emphasis on management assessments has resulted in an increase of 10 FTE's in the Performance Assurance organization.

*Laboratory & Technical Support* – No significant change.

*Other* – Major cost elements in this category include:

Relocation Costs	\$2.7M
Construction Contractor G&A Adj.	(.7M)

*Taxes* – Total Sales and Use taxes paid for FY 2002 were \$6.2M. These costs are incurred as a part of material costs and are spread across the functional categories as a part of material cost.

#### **IV. COST SAVING INITIATIVES**

A part of the FY 2002 Fee plan for BWXT Y-12 is a commitment to gain 10% in productivity improvements and cost savings. Several cost savings projects have been identified that will produce, at a minimum, the 10% metric. Some of the projects that were included in the productivity improvements are:

Classified Mainframe Computer Savings	\$.2M
Construction Management Savings	\$3.6M
Maintenance Work Improvements	\$5.4M
Medical Plan Savings	\$9.2M
Off-Site Leasing Cost Savings	\$.5M
Copier Consolidation	\$.2M
Reduced Training Requirements	\$.3M
FMLA Administration Improvements	\$.6M

In addition, BWXT Y-12 is aggressively implementing a Six Sigma program that will produce further efficiencies.

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## SUPPORT COST BY FUNCTIONAL ACTIVITY REPORT

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### DEFINITIONS

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#### A. General Support:

1. **Executive Direction** - Includes costs normally associated with the executive level of management. Examples of activities in this account may be the Laboratory Director, President, and other top level management and immediate staff (Secretary, Special Assistants, etc.), Science Advisors and Deputy Directors, Vice Presidents, etc. This category also includes total quality (TQM) type activities such as the development and administration of Total Quality Improvement Plans, Cost Savings and Reengineering Programs administration, etc.; institutional/strategic planning, including development and control; and any site specific development. All other management/supervisor activities, including related incidental costs, should be reported in the appropriate support/mission category.
2. **Human Resources** - Includes costs associated with recruiting, wage and salary administration, equal employment opportunity and diversity activities, benefits administration, employee concerns programs, central training development services (job specific training development curriculum should be included in the specific category to which it applies), industrial relations, personnel records, employee claims, adjudications, grievances, arbitration, educational programs providing for undergraduate and graduate course work, and other personnel services
3. **Chief Financial Officer** - Includes costs associated with activities of a financial nature, such as general accounting, payroll, travel accounting, funds control, cost accounting, financial systems management, non-project/program specific budget coordination and control, such as indirects, and internal audit.
4. **Procurement** - Includes costs associated with activities related to make/buy decisions, contracting, purchasing, contract administration (including prime), and acquisition of resources to conduct activities, as well as conduct audit and cost/price analysis activities.
5. **Legal** - Includes costs associated with legal counsel support and litigation support. Includes outside legal support and ethics functions.
6. **Central Administrative Services** - Includes costs associated with clerical support pools, travel reservation support, food service, printing and graphic support services, records management, and all library-related activities. Also includes cost-per-copy contracts (convenience copiers). Does not include secretarial and clerical costs; these are in the respective category they support.

7. **Program/Project Planning & Control** - Includes cost associated with support and execution of program/project budgeting, funding requests, baseline control and preparation (including planning, scheduling, coordination, change control, reporting and analysis which is program specific). Also includes master scheduling, project management system administration, and baseline pricing and validation efforts. Does not include actual program/project management functions. These costs should be reported in the specific mission or support categories they relate to.
8. **Information/Outreach Activities** - Costs associated with media communication, public relations, technology transfer, technical information management, educational programs, employee outreach program, stakeholder-related outreach, activities contributing to the development of the local/regional economy, and other information or outreach activities such as HBCU (Historically Black Colleges and Universities) and other university-related activities, including stakeholder agencies and Washington, DC, liaison activities. This category includes:

#### **Information Outreach Activities**

**Public Relations/Information** - Includes all costs associated with activities which provide non-technical information about the M&O Contractor, and its activities to the general public, news media, etc.

**Technology Transfer** - Includes all costs associated with activities that encourage the further development of promising technologies; disseminate information to appropriate researchers, organizations, industry, governmental bodies, and other institutions; and other activities that assist in effecting the introduction of technologies into the marketplace.

**Technical Information Management** - Includes all costs associated with activities to develop and make available technical information.

**Employee Outreach Programs** - Includes all costs associated with activities by employees utilizing their technical expertise for the benefit of external stakeholders.

**Other Information Outreach Activities** - Includes all costs associated with other outreach activities that are not defined above.

**Stakeholder-Related Outreach** - Community relations and education programs to promote enhanced understanding of the site by local and state stakeholders.

9. **Information Services** - Costs associated with Automated Data Processing (ADP) Services (central computer facilities, and service organizations, including business and scientific), Communications (mail, both electronic and hard copy including postage, subcontracted delivery services, etc.), Networking (groups of computers that communicate with each other, share peripherals, and access remote hosts or other networks), and Telecommunications Services (communication by electronic submission of impulses over telephone/optic lines including cell phones). Include

paggers and related systems, but not the maintenance of these systems. Also include computer leases. Do not include computer bill-out rates in any other functional category. This category includes systems analysts/programmers; however, specific systems management and administrative costs for various business and scientific systems should be included in their respective functional categories (Note: Dedicated scientific activities, experiments, analysis, etc., should be included in the appropriate category. Also computer hardware maintenance activities are to be reported within the maintenance category.)

**10. Other** - Costs which are not identified in another functional cost category. This includes legal settlements, workforce restructuring activities (severance, benefits, and outplacement services) and general company liability insurance expenditures. Specifically identify significant cost activities and provide footnotes.

## **B. Mission Support:**

**11. Environmental** Includes costs associated with the development, implementation, and maintenance of effluent controls, environmental monitoring, and surveillance, permitting, auditing and evaluation to assure environmental compliance, and pollution prevention. These activities, performed on a routine basis, are necessary to maintain compliance with Federal State and Local regulations, as well as applicable DOE Orders and directives. This category does not include actual waste storage or cleanup activities. The category includes:

- **Auditing and Evaluation** - These audits are done as a routine mechanism to assure environmental compliance with internal and external directives, including the National Environmental Policy Act (NEPA). Encompasses costs associated with implementation of the Environmental, Safety and Health Compliance Assessment activities (such as related "Tiger Team" activities). Also includes the development of performance objectives and environmental auditing procedures.
- **Effluent and Environmental Monitoring and Surveillance** - Monitoring activities include data base monitoring as required by DOE directive or compliance monitoring as required by the environmental regulatory authorities, such as air and water monitoring. (Note: Actual sample analysis should be included in Laboratory Support or Other Technical Support Activities.)
- **Permitting** - Includes those activities involved in reporting the results of environmental monitoring, analysis, and evaluation. These activities are necessary to obtain permits from regulatory agencies regarding plant releases and/or discharges. (Note: Environmental Impact Statement costs and related activities are to be included in the appropriate category they support.)



- **Non-Environmental Management Waste Management** - The Non-EM Waste Management functional area includes those activities addressing the treatment, storage, and disposal of wastes. Activities include characterization and certification of waste to ensure its proper treatment or disposal; waste handling and temporary storage activities, such as operation of 90-day satellite accumulation areas for the storage of hazardous waste; operation and management of all waste treatment and disposal systems; and final disposal of all wastes.

**12. Safety & Health** - Costs associated with safety and health programs, such as emergency preparedness, fire protection, industrial hygiene, industrial safety, occupational medical services, nuclear safety, work smart programs, radiation protection, transportation safety (does not include traffic management functions - include this item in logistics), and management oversight. Further definitions are as follows:

**Emergency Preparedness** - Emergency Preparedness includes all those activities that are intended to provide personnel with a special capability to respond to incidents and accidents. Activities in this area include maintenance inspection of emergency facilities and equipment; emergency response team personnel training, drills, and exercises; maintaining and updating of current emergency plans based on site specific safety analyses; coordination with State and local authorities and Federal Agencies. Plant and equipment that are part of safety systems relied upon to prevent or mitigate accidents (heating ventilation air conditioning process monitors, etc.) are not included in this area, but are addressed in Industrial Safety or Nuclear Safety. The physical plant and equipment provided for normal and emergency egress are addressed in Industrial Safety.

**Fire Protection** - Fire Protection includes all those activities that are intended to prevent, detect, alert, and suppress fires. Activities in this area include fire prevention; fire detection; fire suppression systems; related inspections and testing; fire fighting and emergency response, loss prevention; operation of ambulances and fire fighting equipment; testing and inspection of fire protection equipment and alarm systems; flammable and explosive material control; training certification to National Fire Protection Association, state and local requirements; review of construction and design plans for fire hazards; and mutual aid agreements with local authorities. This area excludes those fire protection activities and/or systems that are solely for the benefit or protection of nuclear systems, storage areas, and/or processes (e.g., glove box inerting systems). These excluded activities are to be included in Nuclear Safety.

**Industrial Hygiene** - Industrial Hygiene includes all those activities that are intended to provide protection to workers from physical and physiological hazards. Activities in this area include engineered/redesign of tasks,

ventilation, substitution of less hazardous materials (such as asbestos abatement program administration, but not removal), written and verbal communication of real and perceived hazards, personnel protection, radiological and non-radiological laundry services, laser protection, and physiological stress. This area does not include medical surveillance, employee medical records, and exposure of workers to radioactivity (note that non-ionizing radiation is included).

**Industrial Safety** - Industrial Safety includes all those activities that are intended for the protection of workers from physical trauma. Activities in this area include electrical safety; machinery and machine guarding; personnel protection; accident investigation; compressed gas and pressure system safety; hoisting, rigging, and material handling; lockout/tag-out; confined space controls; platform, man-lift and scaffolding usage; safe surfaces for walking and working; cutting, welding and boring safety; hand and portable power tool safety; explosives and hazardous material handling, storage and use; construction safety; firearms safety; and facility egress.

**Occupational Medical Services** - Occupational Medical Services includes all those activities that are intended to provide a comprehensive occupational medical program, including employee health examinations such as pre-placement and qualification, periodic, return to work, fitness for duty, and termination examinations; diagnosis and treatment of occupational illnesses and injuries; employee health counseling (employee assistance program and wellness); maintenance of medical records; emergency medical treatment and triage; specialized medical equipment; and immunization programs.

**Nuclear Safety** - Nuclear Safety includes activities that are intended to maintain criticality safety and nuclear operations safety. Activities in this area include control of systems and parameters within subcritical limits, and use of systems, procedures, equipment, analyses, programs, and personnel to ensure safe nuclear reactor and nuclear non-reactor operations.

**Radiation Protection** - The Radiation Protection includes all those activities that are intended to control exposures of workers and the public to radioactivity. Activities in this area include control equipment and procedures for radiation sources; interlocks, instrumentation, and shielding for radiation-generating devices; equipment and procedures used to minimize or mitigate external exposure; personnel dosimetry, bioassay program, and ALARA (As Low As Reasonably Achievable) programs; control of paths for inhalation or ingestion of radiation; radiation exposure records; fixed and portable instrumentation for radiation detection and measurement; and contamination control; effluent monitoring and release; and environmental monitoring and remediation.

**Transportation Safety** - Transportation Safety includes all those activities that are intended to ensure safe packaging and transportation. Activities in this area include packaging certification; coordination of intra-building and on-site movements and transfers; off-site and international shipments; transportation (including marking and labeling) of material; maintenance inspection of transportation equipment; testing and technology of transportation operators; aviation safety; motor vehicle safety; water craft safety; and rail safety.

**Management and Oversight** - Management and Oversight includes all those activities that are intended to coordinate, direct, integrate, and control Safety and Health (S&H) activities across multiple areas. Activities in this area include S&H documentation and document control activities; configuration management; S&H performance trending, analyses, and lessons learned feedback; corrective action tracking; S&H self-assessment activities; dedicated internal S&H personnel; coordination and communication with DOE, State, and local authorities; internal audits and surveillance; external S&H program reviews; operational readiness reviews; and performance and documentation of comprehensive safety analyses. Nuclear safety analyses are included in Nuclear Safety. Program elements such as quality assurance, management systems, oversight, and physical infrastructure are inherent to all areas and are intended to be accounted for in the specific areas.

**13. Facilities Management** - Costs associated with facilities and their ability to function effectively, such as plant and maintenance engineering, facilities remodeling (if it does not meet the capitalization criteria), facilities utilization analysis, modification and upgrade analysis, facilities planning and condition determinations, rental of buildings/land.

Facilities Management includes:

**Engineering** - Activities including facility engineering such as HVAC systems, facility electrical/mechanical activities, and repair and maintenance analysis.

**Rental of Buildings/Land** - Activities including leases, rental, and any real property third party financing agreements. Lease costs should be foot noted since they materially affect year to year trends. (Note: Include trailer leases in this category; include set-up and tear down in maintenance.)

**Other** - Includes all other activities involving facilities management/plant engineering not defined above.

(Note: Leases for facilities and land are to be included, all other leases should be reported in the appropriate category.)

**14. Maintenance** - Costs associated with day-to-day work that is required to sustain property, plant, and equipment in a condition suitable for it to be used for its designated purpose and includes preventive, predictive, and corrective maintenance. This category includes all maintenance activities regardless of source of funds. (Note: All maintenance is included even though it is recognized these costs are incurred in support of other support and mission categories.) Maintenance Activities include:

**Preventive Maintenance** - Includes all those systematically planned and scheduled actions performed for the purpose of preventing equipment, system or facility failure.

**Predictive Maintenance** - Includes actions necessary to monitor, find trends, and analyze parameters associated with equipment, systems, or facilities that are indicative of decreasing performance or impending failure.

**Corrective Maintenance** - The repair of failed or malfunctioning equipment, system, or facility to restore the intended function or design condition. This maintenance does not result in a significant extension of the expected useful life. Includes asbestos removal and material replacement.

**Maintenance** - Functions include supervision; planning and scheduling storage and staging of materials and supplies; calibration, care, repair, and storage of equipment used in monitoring or for the performance of maintenance work; and similar activities.

**General Maintenance** - Includes roads and grounds activities; regularly scheduled custodial services, such as cleaning and preserving facilities and equipment, and pest control.

(Note: Also includes computer hardware maintenance, vehicle maintenance, and utility maintenance. Cost for relocation of personnel is included in the respective category they support.)

**15. Utilities** - Costs include utility-related engineering associated with labor, operating plants and equipment, contract services for fuel, water treatment chemicals, or support needed to provide electric power, heat, steam, chilled water, potable water, process gases, and sanitary waste disposal to support business and research. This element includes all costs associated with contract services in support of utilities, such as fuel, water treatment chemicals, and control systems, (also include energy management related activities). Utilities include:

**Central Steam Facility** - Includes the fuel handling and storage facilities, all assigned personnel, and the main steam distribution system.

**Central Chilled Water Facility** - Includes all assigned personnel and the main chilled water distribution system.

**Water Supply System** - Includes wells, treatment facilities, storage tanks, the main distribution system, and all assigned personnel.

**Sanitary Waste Disposal System** - Includes the main collection system, refuse collection (internal as well as contracted services), treatment facilities, and all assigned personnel.

**Electrical Power** - Distribution system including main substations and high-voltage distribution systems, and all assigned personnel, as well as all electricity purchases.

**16. Safeguards and Security** - Includes all costs associated with the development and implementation of a Safeguards and Security Program to protect nuclear materials, nuclear weapons, classified information, and government property from theft, sabotage, espionage, or other acts that may cause adverse impacts on national security or to the health and safety of the public and the employees. Specifically includes the following:

**Program Direction** - Includes all persons and operating costs for program management, vulnerability assessment, safeguards and security alarming process, professional development and training, inspections, surveys, assessments, facility approval (including Foreign Ownership, Control, or Influence), tests and evaluations, policy oversight and administration, and technology development oversight and program management, associated with the Safeguards and Security Program.

**Protective Forces** - Includes all personnel and operating costs associated with Protective Forces. This includes such things as salaries, overtime, benefits, travel, materials and supplies, uniforms, equipment, facilities, vehicles, helicopters, training, communications, federal and contractor management, and oversight of protective forces.

**Physical Security Protection Systems** - Includes all personnel and operating costs associated with designing, installing, performance testing, contraband detection, alarm communications and control, intrusion detection and assessment, barriers and access denial, entry and egress control, vital components tampering, and monitoring.

**Transportation** - All security-related transportation costs for transport of special nuclear materials, weapons, and other classified material. Includes such costs as personnel, equipment, facilities security upgrades to vehicles, and communications. Transportation costs associated with off-site shipment of wastes should be included in the Mission Category.

**Information Security** - Includes all personnel and operating costs associated with classified documents and material, classification, unclassified controlled nuclear information, security infractions, computer security, technical surveillance countermeasures, and operations security.

**Material Control and Accountability (MC&A)** - Includes all personnel and operating costs associated with control and accountability of special nuclear materials (SNM), nuclear weapons, test devices, and weapons components. Includes MC&A access areas, surveillance, containment, detection, assessment, testing, transfers, verifications and measurements, inventories, reconciliation, and statistical analyses.

**Research & Development** - Includes all personnel and operating costs associated with research and development of physical security, information security, personnel security, material control and accountability, integrated systems, vulnerability assessment methods, technology application and tests, and technology transfer to users or potential vendors.

**Personnel Security** - Includes initial investigations, reinvestigations, adjudication, security education, personnel security assurance program, visitor control, national agency checks, and administrative review activities.

**Cyber Security** - Includes management of unclassified and classified data, information technology security assets, cyber information systems, including information technical utilities which include grid research, threat assessments, wireless networks, performance measures, risk management, configuration management, certification/accreditation, training, network monitoring and intrusion detection systems.

- 17. Logistics Support** - Costs associated with shipping, receiving, transportation (excluding maintenance which is included in the Maintenance category), warehousing, motor pools, office equipment pools, property management and excessing activities; routine inventory write-offs; and other logistic support activities. (Note: Final disposal costs for radiological/hazardous waste shipments are a Mission Direct cost.)
- 18. Quality Assurance** - Costs associated with all quality assurance, reliability, and regulatory activities. Included in this category are costs for quality engineering and inspection services, quality assurance audits, occurrence reporting (such as Occurrence Reporting and Processing System), development of quality program plans, operational readiness review coordination and other activities related to ensuring the quality assurance of site operations and facilities. This does not include costs incurred for weapons stockpile certification.

19. **Laboratory/Tech Support** - Measurement and testing conducted within the context of sampling, field investigations, analytical chemistry, and other similar studies. Includes the cost of other technical support services/activities, such as non-destructive assay, electronics services, machine shops, etc

### **C. Site Specific**

20. **Management/Award Fee/Incentive Fee** - The management allowance is an amount paid to not-for-profit educational institutions for the equivalent of home or corporate office G&A expenses. The award and incentive fee is a fee that is paid to a contractor based on performance and includes shared savings incentive payments (such as cost savings incentives).
21. **Taxes** - Includes state and municipal taxes, as well as "payments in lieu of taxes." Does not include taxes that are payroll related.
22. **Laboratory Directed Research and Development (LDRD), Plant Directed Research and Development (PDRD), and Site Directed Research and Development (SDRD)** – LDRD portion reflects costs incurred in accordance with DOE Order 413.2A for the purpose of pursuing new and innovative scientific concepts of benefit to the DOE. Excludes allocations of overhead. PDRD and SDRD portion reflect costs incurred in accordance with the legislative authority for these activities.

### **D. Mission Direct:**

23. **Mission Direct** - All costs not included in General Support, Mission Support or Site Specific categories. This section captures program activities which include scientific, engineering, production operations, decommissioning, decontamination, remediation, etc.
24. **Capital/construction** - Prime capital and construction costs related to line items. Capital equipment (CE) and General Plant Projects (GPP). Does not include costs that more appropriately belong in a general support, mission support or site specific categories.