

May 1995

# OVERHEAD COSTS

## Defense Industry Initiatives to Control Overhead Rates





**National Security and  
International Affairs Division**

B-260357

May 3, 1995

The Honorable Floyd D. Spence  
Chairman  
The Honorable Ronald V. Dellums  
Ranking Minority Member  
Committee on National Security  
House of Representatives

The Honorable James V. Hansen  
The Honorable Norman Sisisky  
House of Representatives

Senior Department of Defense (DOD) officials have expressed concern that contractor overhead rates may drive up procurement costs as a result of declines in DOD spending. In accordance with a September 26, 1994, request from the former Chairman and Ranking Minority Member, we reviewed (1) initiatives taken by six individual business units of large defense contractors to reduce overhead costs and (2) the issue of whether the units' actions would avoid increases in overhead rates.

We selected business units of General Dynamics, General Motors, Lockheed, Martin Marietta, McDonnell Douglas, and United Technologies. The six units we visited were primarily engaged in defense work, and their sales comprised an important part of the parent corporations' total government sales.<sup>1</sup> To protect proprietary data, we have not identified the six business units we visited. Also, we frequently interchanged the business unit labels (A-F) throughout the report to further ensure the protection of proprietary data. While not projectable to the defense industry, the six units' actions provide some insight into measures taken to control overhead rates.

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**Background**

DOD has estimated that overhead costs on average represent about one-third of a contract's price. However, these costs vary from contractor to contractor and from industry to industry. Examples of costs that are typically classified as overhead, because these costs are not directly assignable to a specific contract but rather support a company's total business, include those of facilities and equipment, administrative and general office support, computer operations, managers' salaries, and security. Overhead costs are generally accumulated by logical groupings

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<sup>1</sup>Includes sales made to foreign governments through the U. S. government.

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referred to as overhead cost pools. Manufacturing,<sup>2</sup> engineering,<sup>3</sup> and general and administrative<sup>4</sup> overhead costs are commonly grouped in separate cost pools. Contractors also commonly use separate pools for material, tooling, selling, and off-site labor costs. Overhead rates are computed by dividing the overhead cost pools by a common base such as total direct labor dollars, total labor hours, or total costs. The overhead rates are then used to allocate a company's overhead costs to its contracts.

Because overhead costs are significant, senior DOD acquisition officials have expressed concern that the sharp decline in defense spending would lead to increases in contractor overhead rates and, in turn, increases in the cost of individual defense programs. In February 1992, for example, the Army's Senior Acquisition Executive noted that declining defense budgets would result in fewer programs and that, for most defense contractors, this would mean a significantly smaller business base against which to charge overhead. This condition, according to the executive, would drive up contractors' overhead rates and could result in increases or even overruns in program costs.

In September 1992, the Secretary of the Air Force directed that overhead should-cost reviews<sup>5</sup> be conducted at contractors responsible for the F-22 fighter aircraft program because overhead costs on that program had increased by several hundred million dollars. In addition, a 1993 Defense Science Board Task Force report recognized that the rapid loss of defense sales would likely lead to significant increases in defense contractor overhead rates. The task force noted that increases in overhead rates could lead to unexpected and largely unavoidable cost increases in existing programs, even if aggressive actions were taken to cut overhead costs.<sup>6</sup>

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## Results in Brief

Declining defense spending since the late 1980s has resulted in reduced sales by defense contractors and a concurrent reduction in the business bases against which they charge overhead. At the six business units we

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<sup>2</sup>Manufacturing overhead embodies all items of production cost, except direct materials, direct labor, and other direct costs.

<sup>3</sup>Engineering overhead includes the cost of directing and supporting an engineering department's activities.

<sup>4</sup>General and administrative overhead includes the expenses of a company's general and executive offices; the costs of such staff services as legal, accounting, public relations, financial, and similar functions; and the cost of other miscellaneous activities related to the overall business.

<sup>5</sup>These reviews are a special form of a cost analysis that is used to evaluate the economy and efficiency of a contractor's overhead operations.

<sup>6</sup>FY 1994-99 Future Years Defense Plan, Defense Science Board Task Force (May 1993).

visited, for instance, sales declined by an average of 39 percent between the peak years and 1993 and were projected to fall by an average of 55 percent between the peak years and latest projected years. However, in response to their declining business bases, the business units had taken action to reduce their overhead costs. Specifically, the six units reduced their overhead costs by an average of 35 percent between their peak years and 1993 and were anticipating on average a total reduction of 53 percent between their peak years and latest projected years. To reduce overhead costs, the business units had taken measures such as reducing the number of indirect employees,<sup>7</sup> cutting employee health care benefits, consolidating facilities, and reducing independent research and development and bid and proposal (IR&D/B&P<sup>8</sup> expenditures.

Despite these efforts, overhead costs at four of the six business units were not declining as rapidly as their sales; thus, these units were forecasting increases in their overhead rates. One unit, for example, was projecting the overhead rate to increase by 17 percent in real terms between 1993 and 2001. This means the business unit charged \$1.50 in overhead costs for every one dollar in direct labor in 1993, but will charge \$1.76 in overhead costs for every one dollar in direct labor by 2001. Unless these four business units can identify additional cost reductions or increase their sales, their overhead rates will continue to rise—a condition that could result in increased procurement costs.

## Defense Spending Is Declining

The decline in defense spending since the late 1980s has eroded the business bases against which contractors charge overhead. Total DOD outlays,<sup>9</sup> or expenditures, have fallen from a high of \$354.1<sup>10</sup> billion in fiscal year 1989 to \$274.5 billion in fiscal year 1994—a \$79.6-billion decrease. The executive branch is projecting an additional decrease of \$50.0 billion in defense expenditures by fiscal year 2000. This would represent a total decrease of \$129.6 billion, or about 37 percent, between fiscal years 1989 and 2000.

<sup>7</sup>Employees are referred to as “indirect employees” when their work cannot be identified with a specific cost objective but rather supports several cost objectives. The cost of indirect employees is therefore charged to overhead accounts and allocated to all contracts.

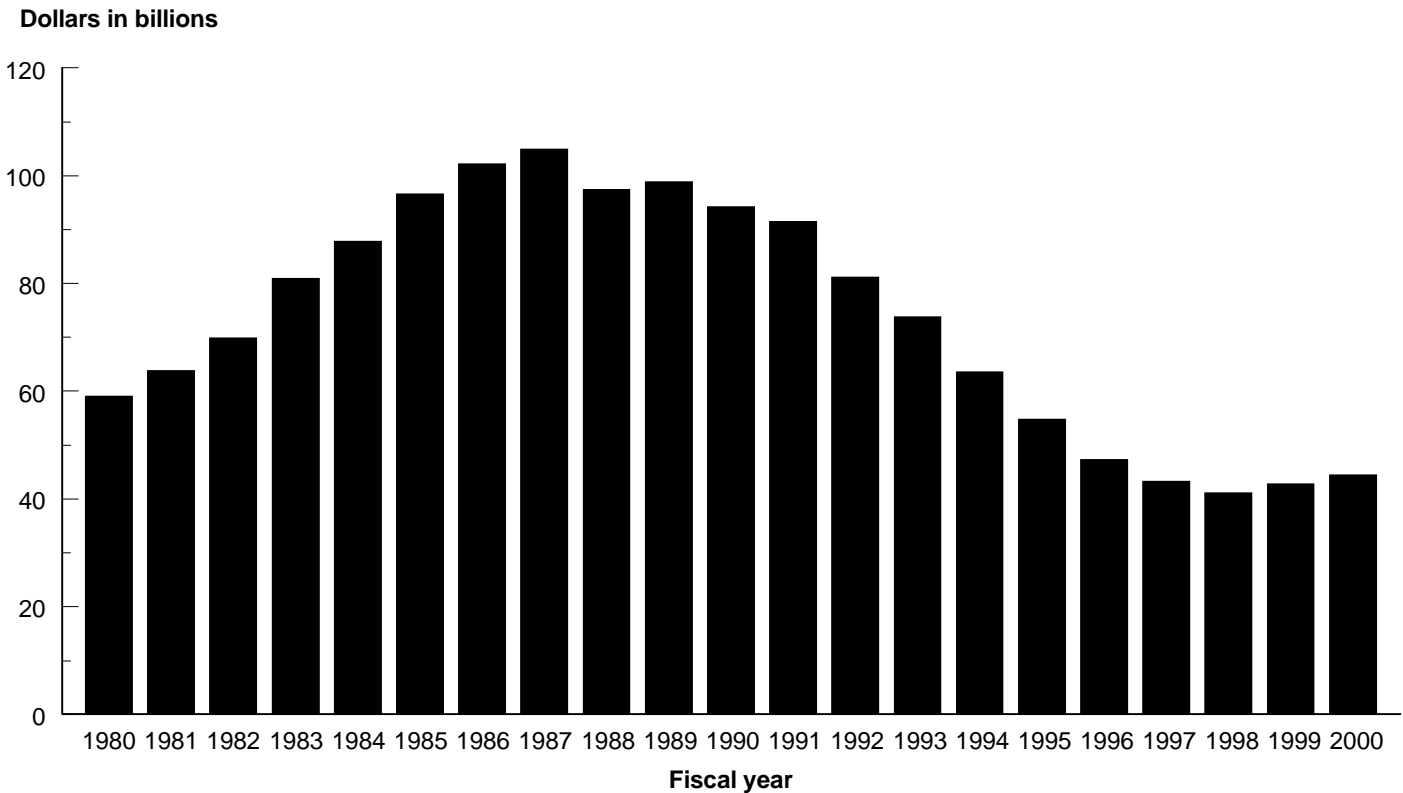
<sup>8</sup>IR&D is research and development initiated and conducted by contractors but is not specified under any contract or grant. It is funded and managed at the contractor’s discretion from contractor controlled resources, with a portion of the costs later recovered through overhead. B&P expenditures are costs incurred in preparing, submitting, and supporting bids and proposals (solicited and unsolicited) on potential government or nongovernment contracts.

<sup>9</sup>DOD outlays generally represent cash payments and in a given fiscal year may represent the liquidation of obligations incurred over a number of years.

<sup>10</sup>DOD outlays are stated in constant year 1995 dollars.

More important to defense contractors, however, is that outlays for the procurement account have fallen even more sharply than total outlays. As shown in figure 1, procurement outlays are projected to decline from a peak of \$104.9<sup>11</sup> billion in fiscal year 1987 to \$44.4 billion by fiscal year 2000—a reduction of about 58 percent. The procurement account is important to defense contractors because it is the funding source for the products they sell—weapons and components, communication and support equipment, munitions, and other related items.

Figure 1: DOD Procurement Outlays



Notes: Constant year 1995 dollars.

Figures for fiscal years 1995-2000 are executive branch projections.

<sup>11</sup>DOD's procurement outlays are stated in constant year 1995 dollars.

Since 1991, DOD has canceled, terminated, or reduced the production of a large number of existing and planned weapons. According to a 1993 report,<sup>12</sup> defense contractors are increasingly experiencing the impact of these actions. The six business units we visited were particularly sensitive to changes in defense spending because U.S. government sales<sup>13</sup> accounted for an average of 94 percent of their total 1993 sales. As a result, the reduction in defense spending has significantly eroded their business bases. As shown in table 1, sales at the six business units we visited had declined by an average of 39 percent between the peak year<sup>14</sup> and 1993. Moreover, the units were projecting their sales to decrease by an average of 55 percent between the peak year and the latest year for which they had made sales projections at the time of our visits—from 1997 to 2001 depending on the unit.

**Table 1: Actual and Projected Declines in Sales Based on Constant Year 1995 Dollars**

In percent		
Business unit	Peak year through 1993	Peak year through last projected year
A	29	62
B	36	50
C	54	51
D	42	55
E	48	62
F	21	73
Weighted average	39	55

## Significant Reductions Made in Total Overhead Costs

The six business units we visited had significantly reduced their actual and projected overhead costs. Some of the reduction can be attributed to declines in the units' business bases. However, the business units have taken aggressive steps to reduce overhead costs to remain competitive in an environment of declining sales. As shown in table 2, the six units have reduced their overhead costs by an average of 35 percent between the

<sup>12</sup>Adjusting to the Drawdown: The Transition in the Defense Industry, Defense Budget Project (April 1993).

<sup>13</sup>Includes sales made to foreign governments through the U.S. government.

<sup>14</sup>Peak sales years for the six business units varied from 1985 to 1989.

peak year<sup>15</sup> and 1993. They plan to reduce overhead costs by an average of 53 percent between the peak year and the latest projected year.<sup>16</sup>

**Table 2: Actual and Projected Reductions in Overhead Based on Constant Year 1995 Dollars**

In percent		
Business unit	Peak year through 1993	Peak year through last projected year
A	25	32
B	40	62
C	63	69
D	41	53
E	11	67
F	30	39
Weighted average	35	53

## Overhead Cost Reduction Initiatives Implemented

To reduce overhead costs, the business units targeted top overhead cost drivers such as indirect labor, fringe benefits, and facilities and assessed other areas of their overhead operations to identify additional cost reduction opportunities. The cost reduction measures initiated by both the business units and their corporate headquarters, which are shown in table 3, resulted in significant reductions in overhead costs. The initiatives are discussed in greater detail in appendix I.

**Table 3: Areas of Cost Reduction Initiatives**

Initiative	Business unit					
	A	B	C	D	E	F
Indirect labor	X	X	X	X	X	X
Fringe benefits	X	X	X	X	X	X
Facilities	X	X		X	X	X
IR&D/B&P expenditures	X	X	X	X	X	X
Employee compensation	X	X	X	X	X	X
Data processing costs	X	X	X	X	X	
Employee savings plans		X		X	X	X
Property taxes	X			X		

According to information collected by the Defense Contract Management Command (DCMC), the DOD organization primarily responsible for overseeing contractor overhead costs, similar cost reduction initiatives are

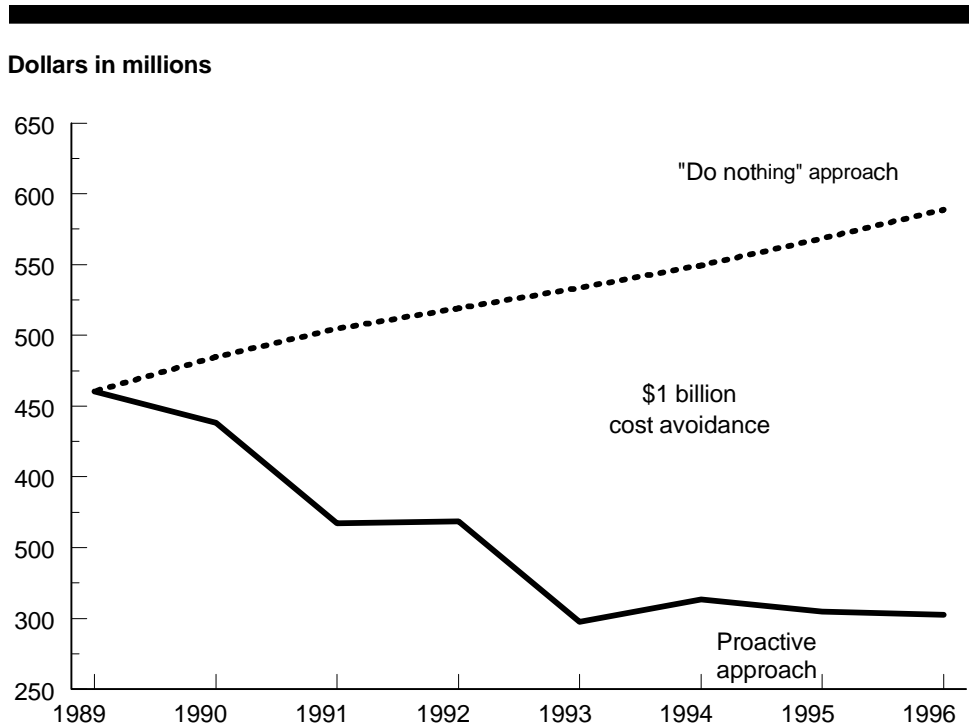
<sup>15</sup>Peak overhead years varied from 1985 to 1989.

<sup>16</sup>Projected overhead costs are presented for the latest year forecasted by the business units at the time of our visits—from 1995 to 2001.



being pursued by major contractors throughout the defense industry. Some of these initiatives have resulted in significant overhead cost reductions. One of the business units we visited, for example, expects to avoid more than \$1 billion in costs from 1989 through 1996 by reducing indirect personnel by laying off employees, contracting out at lower rates, using part-time security guards, training salaried employees after hours, and reducing duplicate functions (see fig. 2).

**Figure 2: Indirect Labor Cost Reduction in One Business Unit**



## Overhead Rates Continue to Rise Despite Cost Reductions

Even though the business units we visited had taken measures to reduce their overhead costs, these costs were not declining as rapidly as the business bases at four of the business units. As a result, these units were projecting increases in their overhead rates. To assess the significance of these projections, we computed composite<sup>17</sup> overhead rates from 1993 to the last year forecasted.<sup>18</sup> Business unit officials generally agreed that our

<sup>17</sup>The composite rates were computed by dividing total overhead costs by either a direct labor base or a total cost base, with concurrence from unit officials.

<sup>18</sup>The last year of overhead rates forecasted by the business units at the time of our visits varied from 1995 to 2001.

composite rates reflected the overall trend in their individual overhead rates and provided a useful evaluation tool. As shown in table 4, four business units will experience increases in their overhead rates from 1993 as the base year. Two of these increases are substantial.

**Table 4: Percentage of Change in Composite Overhead Rates**

<b>Business unit</b>	<b>1993 through last projected year</b>
A	9-percent increase
B	16-percent increase
C	17-percent increase
D	4-percent decrease
E	6-percent increase
F	7-percent decrease

Because overhead rates are used to allocate a company's overhead costs to government contracts, increases in these rates could cause the cost of individual defense programs to increase, a concern shared by senior DOD officials. The Secretary of Defense, for example, has pointed out that as orders for defense systems decrease, defense contractors must decrease their overhead because failure to do so could result in prohibitive increases in unit costs, severely hampering DOD's ability to modernize.

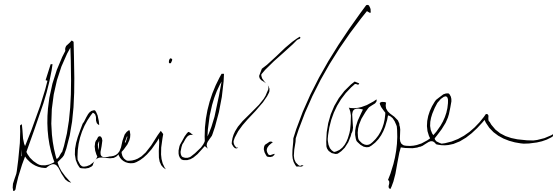
## Scope and Methodology

At the six business units we visited, we obtained information on actual and forecasted business bases, total overhead costs, and overhead cost reduction initiatives. To assess the impact of the cost reduction initiatives on overhead rates, we analyzed trends in the business units' engineering, manufacturing, and general and administrative overhead rates. We also computed composite overhead rates to assess the overall trends in projected overhead rates and the potential cost impact on DOD contracts.

We discussed the business units' cost reduction initiatives and projected overhead rates with unit officials, as well as with DOD contract administration and contract audit representatives at each of the units. In addition, we examined various reports, papers, and other documents on contractor overhead costs and rates throughout the industry. We did not obtain DOD comments on the report; however, we discussed the results of our review with business unit officials and incorporated their comments as appropriate. We performed our review from March 1994 to January 1995 in accordance with generally accepted government auditing standards.

We are sending copies of this report to the Secretary of Defense, officials at the six business units we visited, and other interested congressional committees. Copies of this report will also be made available to others upon request.

Please contact me at (202) 512-4587 if you or your staff have any questions concerning this report. The major contributors to this report were John K. Harper, George C. Burdette, Anne-Marie Olson, and Amy S. Parrish.

A handwritten signature in black ink that reads "David E. Cooper". The signature is written in a cursive style with a large, sweeping initial "D".

David E. Cooper,  
Director, Acquisition Policy, Technology,  
and Competitiveness Issues.

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# Overhead Cost Reduction Initiatives

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The six business units we visited have taken initiatives to reduce overhead costs in the environment of declining defense business. These initiatives have resulted in significant reductions in overhead costs. Overhead costs such as indirect labor, fringe benefits, and facility costs were considered top overhead cost drivers, and we found that the six business units we visited were taking measures to reduce these costs. Besides focusing on their primary overhead cost drivers, the business units were also reducing other overhead costs. Based on information the Defense Contract Management Command (DCMC) had collected, the cost reduction initiatives by these six units generally appeared to be representative of the kind of actions being taken by major defense contractors throughout the industry.

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## Reduction in Number of Indirect Personnel

Each of the business units we visited have significantly reduced the number of indirect personnel as part of their cost reduction initiatives. As shown in figure I.1, five<sup>1</sup> of the business units achieved reductions in indirect personnel ranging from 43 percent to 77 percent between their peak year employment<sup>2</sup> and 1993. In addition, the units were projecting total reductions ranging from 51 percent to 82 percent from peak employment years to the latest projected year.<sup>3</sup>

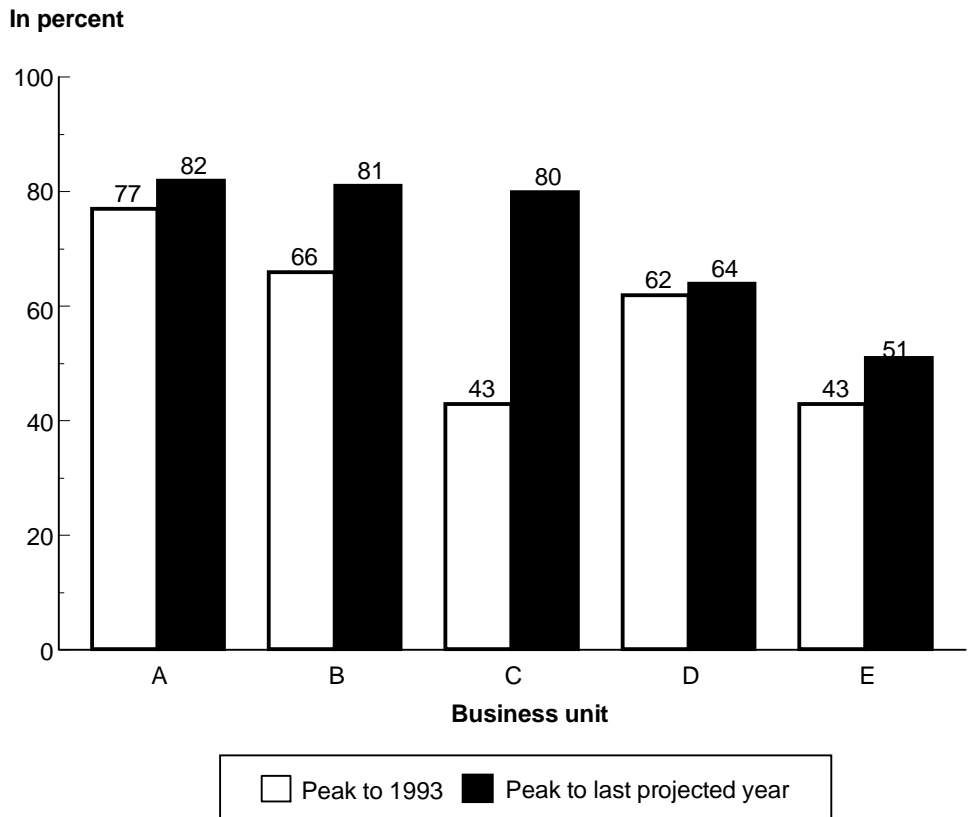
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<sup>1</sup>One of the six business units had records that did not contain a readily available breakout of direct and indirect employees.

<sup>2</sup>Peak indirect employment years varied from 1981 to 1987.

<sup>3</sup>The latest projected years for indirect employment varied from 1996 to 2001.

Figure I.1: Actual and Projected  
Reductions in Indirect Personnel



Such reductions resulted in significant overhead cost savings because indirect labor was a top cost driver at five of the business units we visited. One unit, for instance, estimated it had saved \$40 million in salaries and fringe benefit costs by reducing indirect personnel by approximately 600 over a 2-year period.

Major personnel reductions have also occurred throughout the defense industry. According to a DCMC assessment that included 20 contractors, contractors have made significant reductions in their direct and indirect employees since 1990. DCMC data showed, for example, that two major defense contractors expected to save almost \$1 billion in salary and fringe benefit costs from 1991 through 1994 as a result of reducing the number of their employees.

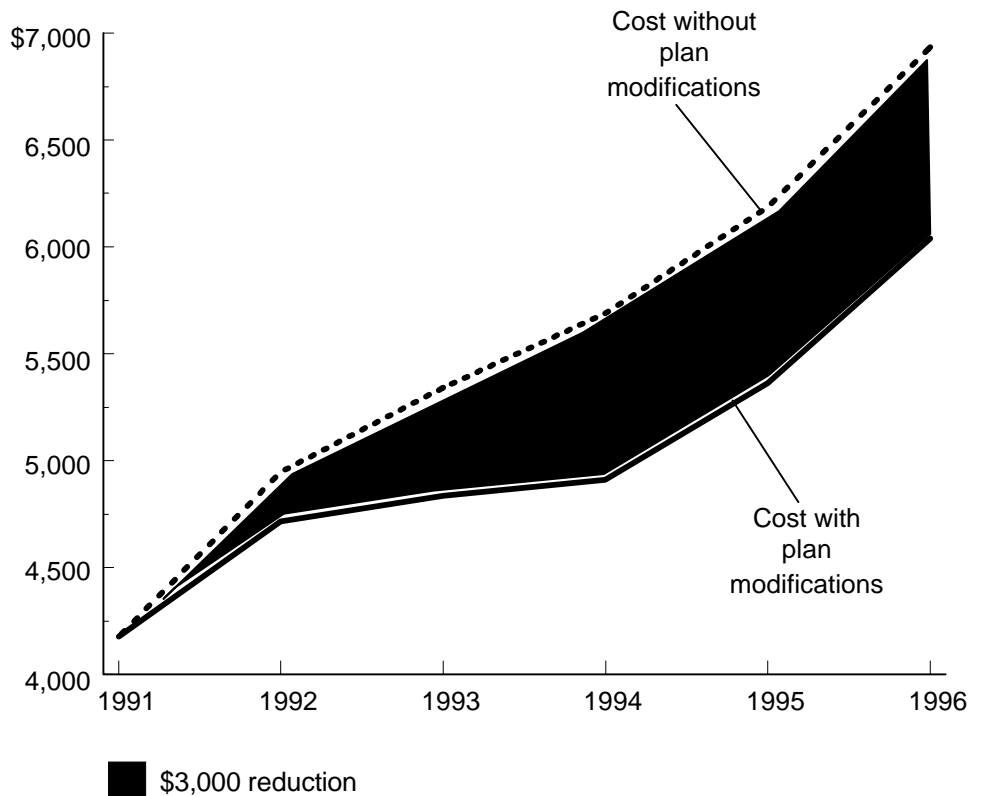
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## Change in Employee Fringe Benefits

At the six business units we visited, fringe benefits, particularly health care costs, were also among the top overhead costs drivers. To reduce health care costs, the business units increased employee deductibles, raised co-payments, used preferred provider networks and health maintenance organizations, and implemented flexible benefit programs. DCMC data showed that other major defense contractors were taking similar actions in the health care area.

Officials at one business unit we visited indicated that they expect to save 35 percent to 40 percent on health care costs (hospital and physician services) by using preferred provider networks with agreed-to fee schedules. This business unit also has shifted some of the health care costs to its employees by increasing employee contributions by 50 percent. In addition, this business unit has begun to promote early diagnosis and prevention to avoid future costs. As shown by figure I.2, this business unit expects to achieve a cost avoidance of over \$3,000 per employee, or a total of \$79.9 million, between 1991 and 1996 as a result of its health care cost reduction initiatives.

Figure I.2: Reduction in Health Care Costs Per Employee



Another business unit we visited reduced its workers' compensation costs by about \$28 million through special work assignments, pharmaceutical discounts, and a medical utilization program to assure appropriate treatment is rendered. The DCMC data showed that other major defense contractors were also taking action to reduce workers' compensation costs.

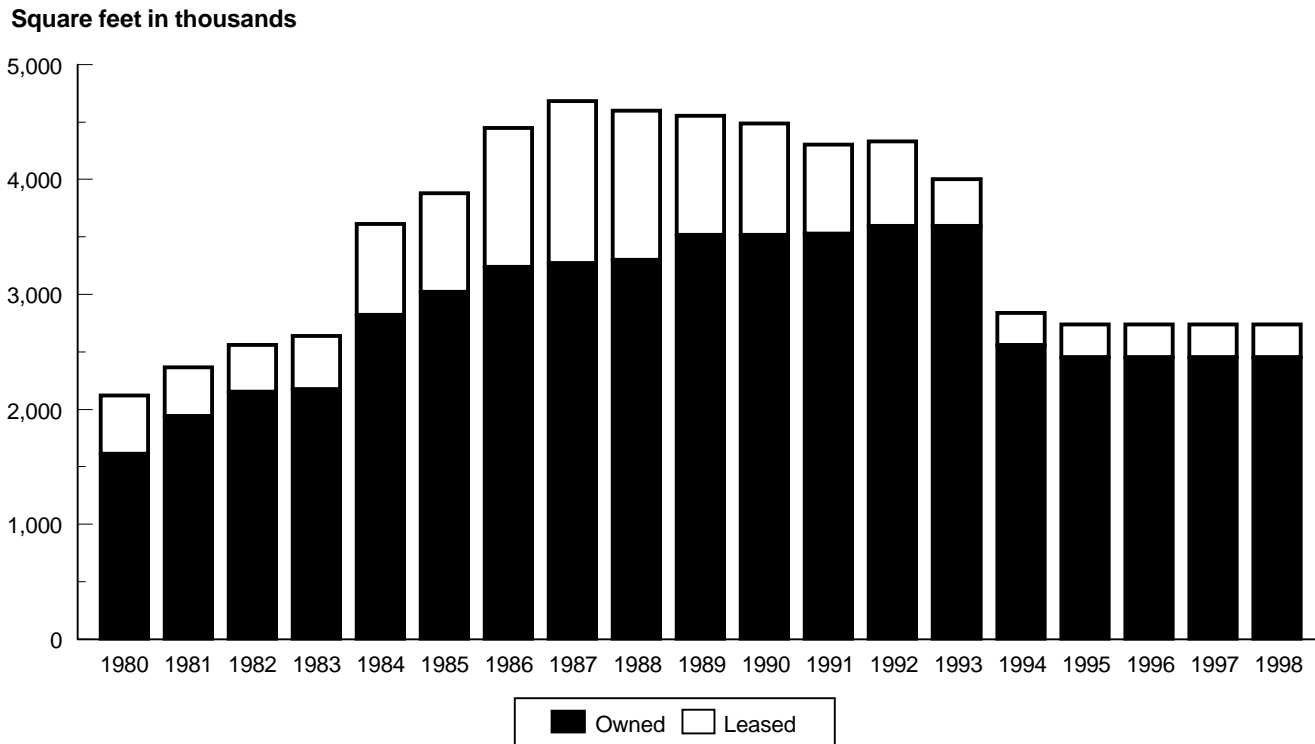
## Consolidation of Facilities

Facility costs were another top overhead cost driver. Five of the six business units visited had reduced their total square footage by as much as 34 percent between their peak year<sup>4</sup> and 1993 by disposing of both owned and leased space. In addition, the units were projecting reductions in their total square footage ranging from 6 percent to 43 percent between the

<sup>4</sup>Peak years for square footage varied from 1985 to 1991.

peak year and latest projected year.<sup>5</sup> The data collected by DCMC showed that other major defense contractors were also reducing and consolidating their facilities. According to the DCMC data, one defense contractor has saved \$95 million since 1988 by reducing the amount of leased facilities in high cost areas. Figure I.3 shows the results of the facility consolidation efforts of one of the business units we visited.

Figure I.3: Consolidation of Owned and Leased Facilities



By reducing owned and leased square footage, the business units we visited had also reduced facility-related costs such as cafeteria expenses, security costs, maintenance costs, property taxes, insurance, rental costs, electricity, fuel, water, and sewage. One unit estimated it would save about \$10 million a year between 1987 and 1996 by eliminating these type costs.

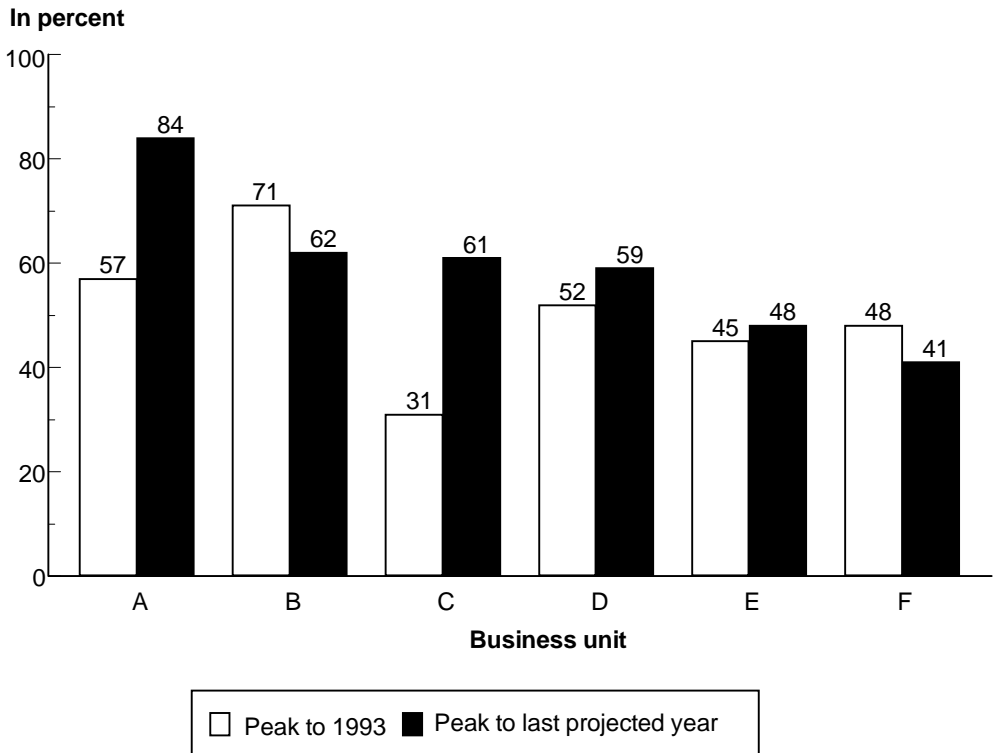
<sup>5</sup>The latest year of projected square footage available at the time of our visits varied from 1997 to 2001.



## Reduction in Independent Research and Development and Bid and Proposal Expenditures

The business units we visited had made reductions in their independent research and development and bid and proposal (IR&D/B&P) expenditures ranging from 31 percent to 71 percent between their peak years<sup>6</sup> and 1993. At the time of our visits, the units were projecting total reductions in IR&D/B&P costs ranging from 41 percent to 84 percent between their peak years and latest projected years.<sup>7</sup> Figure I.4 shows the business units' actual and projected reductions in IR&D/B&P expenditures.

Figure I.4: Actual and Projected Percentage Reduction in IR&D/B&P Expenditures



One business unit we visited indicated that its IR&D/B&P expenditure level was consistent with the expected reduction in the future defense budget. An official of the business unit advised us that the unit plans to assess the

<sup>6</sup>Peak IR&D/B&P years varied from 1984 to 1988.

<sup>7</sup>The latest projected years for IR&D/B&P expenditures varied from 1997 to 2001.

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level of research and development investment in relation to its other overhead allocations on an annual basis. The official indicated that the benefit from those research and development expenditures will be weighed against the company's overall rate structure and cost competitiveness. Another business unit planned to increase its emphasis on long-term technology development. According to a representative from this unit, the reduction in forecasted IR&D/B&P expenditures is consistent with the forecast of declining defense business.

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## Reduction in Employee Compensation

The six business units we visited had controlled salary and labor costs by using lump sum payments instead of merit wage or salary increases or by limiting salary and wage increases. This action eliminated the effect of compounding on future wages and wage-related fringe benefits. As a result, one business unit expected to save approximately \$34.7 million over a 9-year period. In addition to this action, another business unit eliminated overtime premiums for salaried employees, which reduced costs by \$11.4 million from 1990 to 1993. DCMC found that other major defense contractors were making changes to their employees' compensation, including instituting salary and wage freezes, to reduce costs.

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## Data Processing Cost Reduction

Five of the six business units we visited had initiated measures to reduce data processing costs, including transitioning to low-cost data processing alternatives, consolidating mainframe computing capabilities, and contracting out data processing operations. One business unit expected to realize a savings of about \$27 million over a 5-year period by consolidating two of its mainframe data centers. According to data being collected by DCMC, other defense contractors have taken similar actions to reduce data processing costs.

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## Changes to Employee Savings Plans

Four of the business units we visited had changed their employee savings plans to reduce overhead costs. One business unit temporarily reduced company matching contributions to the savings plan by 50 percent, resulting in a savings of about \$22 million. According to the DCMC data, other top defense contractors were taking similar actions. The DCMC data showed, for example, that one contractor funded the administrative costs of its employee savings plan through employee contributions, which has saved the contractor an estimated \$3 million.

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## Property Tax Reduction

Two of the business units we visited had initiated cost reduction actions with their local governments. One unit achieved a \$1-million a year cost reduction by demonstrating lower market values for its plant sites based on marketability, building condition, and occupancy. The other unit hired an outside consultant to assess its property because it believed the county was overstating the property assessment value. At the time of our visit, the unit was still pursuing the issue with the county.

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## Other Cost Reduction Initiatives

The business units we visited have taken a number of other measures to reduce their overhead costs. One unit, for instance, renegotiated its janitorial contract to reduce the number of trash collections and cleanings as part of its continual process of seeking new ways to cut overhead cost. The cleaning services contractor was making fewer daily pickups of sanitary waste and was focusing on removing time-sensitive trash, such as wet or organic matter, which enabled the contractor to use its resources more efficiently and not adhere to the rigid or daily schedules previously used. The unit expected to save about \$200,000 annually. According to DCMC information, other major Department of Defense contractors were targeting waste reduction as a means of cost containment.

Another cost reduction initiative was to contract out various aspects of the units' operations. One unit expected to save \$5 million over a 5-year period by contracting out its cafeteria operations. According to the DCMC data, other major defense contractors have also contracted out parts of their operations to reduce their overhead costs.

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