

July 1994

FUTURE YEARS DEFENSE PROGRAM

Optimistic Estimates Lead to Billions in Overprogramming



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National Security and
International Affairs Division

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July 29, 1994

The Honorable Charles E. Grassley
United States Senate

The Honorable William V. Roth, Jr.
United States Senate

The Honorable John Conyers, Jr.
Chairman, Subcommittee on Legislation
and National Security
Committee on Government Operations
House of Representatives

The Honorable John R. Kasich
House of Representatives

There is concern in Congress that the fiscal year 1995 Future Years Defense Program (FYDP) submitted by the Department of Defense (DOD) is overprogrammed, or contains more programs than the President's current funding projections will support. At your request, we (1) examined major funding assumptions underlying DOD's FYDP and (2) determined whether the FYDP complies with statutory requirements.

Background

The FYDP is a classified database that provides an official set of planning assumptions for use throughout DOD. It is an authoritative record of current and projected force structure, costs, and personnel levels approved by the Secretary of Defense. The projections are far enough ahead to enable DOD to estimate the future implications of its current decisions. In the annual FYDP documents, which by law have been provided to Congress since 1988, DOD presents its estimated expenditures and appropriations needs for the budget year for which funds are being requested, at least the 4 years following it, and the 2 years preceding it.

FYDP funding projections peaked in 1986 at nearly \$2 trillion and have been declining ever since. Because of the dramatic changes that resulted from the end of the cold war and the dissolution of the Soviet Union, the FYDP fell to about \$1.2 trillion for fiscal years 1994 through 1998. The fiscal year 1995 FYDP (1995-99) represents DOD's blueprint and supporting cost estimates for the defense strategy articulated in the Bottom Up Review. It also has an estimated cost of about \$1.2 trillion over 5 years.

Congress enacted legislation in 1987 requiring DOD to submit future years program and budget information consistent with the President's budget. This enactment was a response to congressional concern that DOD's FYDPs have contained more programs than funding projections would support. We have been reporting on this problem since the mid-1980s when DOD funding began to decline. Our work since that period has shown that too many development and acquisition programs were underway—more than could be funded at future funding levels being proposed by the President. We have reported that such overprogramming tends to obscure defense priorities and delay tough decisions and trade-offs.

Results in Brief

Our review of the 1995-99 FYDP revealed a substantial amount of risk that has resulted in overprogramming. This overprogramming could be in excess of \$150 billion.

DOD's current FYDP is overprogrammed by about \$20 billion when compared with the Administration's fiscal year 1995 budget submission. The \$20 billion is the sum of four negative accounting entries and is clearly labeled in the FYDP as "undistributed future adjustments." Our analysis revealed an additional \$1.5 billion in negative adjustments in the research and development account. We believe that it is inconsistent with congressional intent for DOD to use negative adjustments (reflected as negative accounting entries) to unspecified programs to balance FYDP funding estimates with those in the President's budget.

DOD officials said that the \$20 billion reflected last minute changes due to revised inflation indices for which DOD could not adjust its programs. However, the Congressional Budget Office concluded that the \$20 billion in future adjustments indicated problems clearly beyond the question of inflation.

In addition to the \$21.6 billion in unspecified overprogramming, our current analysis found substantial overestimation of future savings and underestimation of costs. For example:

- The FYDP contains \$32 billion in projected savings that may be only partially realized. These are from base closures and Defense Management Report initiatives over the planning period.
- The FYDP also contains about \$112 billion in potential cost increases for base closures, weapon systems, personnel pay, environmental remediation, and peacekeeping operations.

By overstating savings and understating costs, more programs are included in the FYDP than spending plans will support. This overprogramming is not new. Since 1984, we have consistently disclosed that DOD employs a systemic bias toward overly optimistic planning assumptions.¹ The use of optimistic planning assumptions has led to program instability, costly program stretch-outs, and program terminations.

DOD officials do not agree with our methodology for estimating the risk in the current FYDP. We used the most current estimates available to us in computing the risk in projected savings and costs and believe that our methodology is sound.

FYDP Submission Is Not in Accordance With Congressional Intent

Section 221 of Title 10 of the United States Code states "The Secretary of Defense shall submit to Congress each year, at or about the time that the President's budget is submitted . . . a future-years defense program . . . reflecting the estimated expenditures and proposed appropriations included in that budget." The provision requires that program and budget information submitted to Congress by DOD be consistent with the President's budget submission. The purpose of this law is to ensure that the Secretary of Defense make the hard decisions necessary to fit DOD programs within the budget.

The fiscal year 1995 FYDP contains a negative \$20.1 billion in future program/budget adjustments. We identified an additional \$1.5 billion in undistributed future reductions in the research and development account. DOD used negative adjustments to offset the overprogramming and give the FYDP totals the appearance of being consistent with the President's budget. According to DOD officials we spoke to, efforts will be made to eliminate the undistributed future adjustments in preparation for the fiscal year 1996 budget cycle.

DOD officials said that the \$20.1 billion reflected last minute changes due to revised inflation indices for which DOD could not adjust its programs. The Congressional Budget Office reported in April 1994 that the future adjustments indicate funding problems beyond the question of inflation estimates.² According to the Congressional Budget Office, the difference in

¹A list of related GAO products is included at the end of this report.

²An Analysis of the President's Budgetary Proposals for Fiscal Year 1995 (Congressional Budget Office, Apr. 1994).

inflation assumptions would start out small in 1996 at about \$2 billion and grow to about \$7.5 billion in 1999, as the costs of the assumptions of higher prices cumulate. By contrast, DOD's future adjustments start at \$6.4 billion in 1996 and dwindle to \$3.3 billion in 1999.

The use of negative accounting entries is appropriate in many instances, such as adjustments for offsetting receipts and foreign currency fluctuations. However, we do not believe it is appropriate for DOD to use negative adjustments as substitutes for resource decisions necessary to bring programs, projects, and resources in conformance with the President's budget.

Table 1 shows how DOD used negative entries to reconcile about \$21.6 billion in overprogramming with the Administration's lower fiscal guidance.

Table 1: Comparison of DOD's Program and the President's Budget Submission

In billions of current dollars

	Fiscal year					Total
	1995	1996	1997	1998	1999	
DOD program	\$252.15	\$250.20	\$245.90	\$252.12	\$256.79	\$1,257.16
Less negative entries						
Future adjustments		-6.43	-5.37	-5.02	-3.26	-20.08
Adjustments to research and development		-0.33	-0.35	-0.38	-0.41	-1.47
Total negative entries		\$-6.76	\$-5.72	\$-5.40	\$-3.77	\$-21.65
President's budget	\$252.15	\$243.44	\$240.23	\$246.72	\$253.02	\$1,235.56

Note: Totals may not add due to rounding.

Source: GAO analysis of DOD data.

We have reported and testified in the past on DOD's tendency to overestimate the amount of funds available for defense. We have referred to this as DOD's plans/reality mismatch. We believe such unrealistic planning provides an unclear picture of defense priorities because tough decisions and trade-offs are avoided. Instead, program decisions end up being made on a piecemeal basis to meet each year's funding realities. This is not an effective way for DOD to manage.

Refinements in section 221 have not adequately improved the integrity and credibility of DOD planning. It is clear from the legislative history of section

221 that Congress intended that DOD provide updated information in its FYDP to reflect the most recent budget figures and show in detail how those budget figures would affect "the out-years of the five year period presented in the [FYDP]" documents. DOD's use of negative adjustments in its FYDP to offset overprogramming is not expressly prohibited by law, but it is inconsistent with this congressional intent. Further, we believe that the use of overly optimistic costs and savings estimates as a way to include more programs in the FYDP than the President's funding guidance can support also is inconsistent with congressional intent.

Savings Estimates of \$32 Billion May Be Overstated

In its 1995-99 FYDP, DOD assumed that about \$32 billion in savings would be realized due to base closures and Defense Management Report initiatives. On the basis of past work, we believe that these savings estimates may be overly optimistic. If they are not achieved, DOD will have to reduce programs or ask for a budget increase. Moreover, DOD is not tracking the savings due to Defense Management Report initiatives and will have little basis to know whether those savings are being achieved. Table 2 outlines the net savings that DOD anticipates in the 1995-99 FYDP.

Table 2: DOD's Anticipated Net Savings

In millions of current dollars

Savings category	Fiscal year					Total
	1995	1996	1997	1998	1999	
Base closures—rounds 1, 2, and 3	-\$310	-\$723	\$3,461	\$1,220	\$1,716	\$5,364
Defense Management Report	7,200	7,200	7,500	2,500	2,500	26,900
Total anticipated savings	\$6,890	\$6,477	\$10,961	\$3,720	\$4,216	\$32,264

Source: GAO analysis of DOD data.

Base Realignment and Closures Savings May Be Too Optimistic

As a result of recommendations by three separate independent commissions in 1988, 1991, and 1993, Congress approved the closure or realignment of 247 defense activities (including the closure of 70 major installations). Once a base is selected for closure, DOD has 2 years to initiate the action and 6 years to complete the closure. DOD's current FYDP assumes that about \$14 billion in base closure savings will be realized between 1995 and 1999 at a cost of about \$9 billion.

The \$5 billion in net savings may be too optimistic. To date, DOD has only completed about 20 percent of base closure actions planned for the first

three rounds, and savings have not been achieved as early as anticipated. For example, DOD's total anticipated savings for base closure rounds one and two is estimated to be about \$10 billion, or 23 percent less than DOD's original savings estimate of about \$13 billion. Depending on future progress, anticipated savings could be further reduced or delayed.

Defense Management Report Savings Are Overly Optimistic

The 1989 Defense Management Report proposed a series of consolidations and management improvements that were estimated to save tens of billions of dollars in support and overhead programs. DOD officials told us that \$7.2 billion is to be saved in fiscal year 1995, and an additional \$19.7 billion from fiscal years 1996 through 1999. These savings are already deducted from FYDP estimates, even though actions to achieve these savings have not occurred. Therefore, if the future Defense Management Report savings do not occur, funds may have to come from other budget areas.

We believe a projection of nearly \$27 billion in Defense Management Report savings over the next 5 years may be significantly overstated. In past work on Defense Management Report initiatives, we have questioned whether the estimated savings could be achieved.³ For example, our past work found that up to 82 percent of the planned savings were based solely on management judgment and were not always supported by historical facts or empirical data. In April 1994, we reported that a Defense Science Board task force, which was established to provide independent advice to the Secretary of Defense and became known as the Odeen panel, reported that, on average, 20 percent of the anticipated savings were not achievable.⁴ According to DOD, adjustments were made to rectify the shortfall. However, our report also stated the Air Force and the Army presented much higher estimates of potential shortfalls. The worst-case expectations involved Army and Air Force concerns that they were only able to validate about half of their anticipated savings.

Officials we interviewed from the DOD Office of Management Systems, Directorate for Management Improvement, said that they continue to track the progress of individual management initiatives but no longer track the

³Defense Management Review (GAO/NSIAD-94-17R, Oct. 7, 1993), Financial Management: DOD Has Not Responded Effectively to Serious, Longstanding Problems (GAO/T-AIMD-93-1, July 1, 1993), Defense Business Fund (GAO/AFMD-93-52R, Mar. 1, 1993), National Security Issues (GAO/OGC-93-9TR, Dec. 1992), and Defense ADP: Corporate Information Management: Savings Are Not Supported (GAO/IMTEC-91-18, Feb. 22, 1991).

⁴DOD Budget: Evaluation of Defense Science Board Report on Funding Shortfalls (GAO/NSIAD-94-139, Apr. 20, 1994).

associated dollar savings based on a task force recommendation that continuing to try to track Defense Management Report dollar savings had become counterproductive. The task force concluded in May 1993 that the bookkeeping effort devoted to tracking Defense Management Report savings had outlived its usefulness and should be terminated. The task force determined that, over a period of time, other changes in the DOD program that were driven by historic changes in the world security situation have so altered the original baseline that current estimates of savings are often hopelessly intertwined with impacts of larger changes. On August 2, 1993, the Office of the Secretary of Defense issued a memorandum that effectively terminated the tracking of Defense Management Review savings.

Cost Estimates May Be Understated by More Than \$100 Billion

There is a substantial amount of cost risk associated with the 1995-99 FYDP. Our analysis indicates that the cost estimates in the FYDP for the fourth round of base closures, weapon systems development and procurement, environmental remediation, pay raises, and peacekeeping operations may be understated by about \$112 billion.

Cost of the 1995 Base Closure Round Is Significantly Understated

DOD has significantly understated the costs associated with the planned fourth round of base closures and realignments scheduled to begin in 1995. Round four is expected to close an equivalent number of defense activities as the three previous rounds combined. On the basis of a 1995 round of this size, we estimate potential costs could be in excess of \$8 billion more than shown in the FYDP.

DOD has maintained that the 1995 round of base closures and realignments is an important element in its plans to reduce infrastructure costs to help pay for future programs and operations. However, the estimated costs for the 1995 round contained in the FYDP bear no resemblance to the experience of the three earlier rounds. As shown in table 4, round four costs in the FYDP are estimated to be much less than the costs for rounds 1 through 3 and cover only a 3-year period. Experience from the first base closure round indicates it takes 5 to 6 years to close a base.

Table 3: Comparison of Estimated Costs for the First 4 Years of Base Closures

In millions of current dollars					
	Year 1	Year 2	Year 3	Year 4	Total
Rounds 1-3	\$1,374	\$3,986	\$3,995	\$1,630	\$10,985
Round 4	702	899	1,029	0	2,630
Difference	\$672	\$3,087	\$2,966	\$1,630	\$8,355

Note: Estimates do not include environmental costs

Source: GAO analysis of DOD data.

According to the Director of DOD's Base Closure and Utilization Office, the dollars programmed in the FYDP for the round four realignment and closures are insufficient. In order to pay for the closures, under current fiscal guidance, DOD would have to delay or terminate other programs. Hence, because DOD underestimated the costs of round four closures in the FYDP, it was able to include billions of dollars in additional programs.

Weapon Systems Cost Overruns

Program cost increases and schedule delays, two of the most prevalent acquisition problems, are among the oldest and most visible problems associated with weapon systems. Program cost increases of 20 to 40 percent have been common for major weapon programs, with numerous programs experiencing increases much greater than that. In August 1992, we reported that the potential total cost for completing 165 ships under construction had increased by 24 percent.⁵ In April 1994, we testified that the cost growth being experienced on a number of current major Navy systems was as much as 100 percent.⁶ A recent RAND study of weapon system cost growth prepared for the Air Force concluded that there has been no substantial improvement in the average weapon system cost growth over the last 30 years, despite the implementation of several initiatives intended to mitigate the effects of cost risk and the associated cost growth.⁷

DOD currently has about \$192 billion in planned weapon systems or weapon-related acquisitions in the procurement pipeline over the next 5 years, and about another \$100 billion in research and development. Many

⁵Navy Contracting: Cost Growth Continues on Ship Construction Contracts (GAO/NSIAD-92-218, Aug. 31, 1992).

⁶Navy Modernization: Alternatives for Achieving a More Affordable Force (GAO/T-NSIAD-94-171, Apr. 26, 1994).

⁷An Analysis of Weapon System Cost Growth (RAND, MR-291-AF, 1993).

of these programs are complex modern weapon systems involving considerable technological risks. Because of the enormous cost and complexity of these programs and historical experience, we do not believe DOD can deliver planned quantities in the time frame and for the funding proposed in the FYDP. Appendix I discusses some of DOD's current weapon systems that we believe are at particular risk for substantial cost growth.

On the basis of a conservative growth estimate of 20 percent, we expect current procurement estimates for weapon systems to rise by at least \$38 billion for the planning period. Similar cost growth may also be experienced among development programs. Programs in development are on average more technically challenging, involving higher risk and uncertainty. Programs currently in the advanced phases of research and development, such as in engineering and manufacturing development, may account for at least another \$20 billion in unanticipated cost growth over the planning period.

Given the fiscal environment, it will be difficult for DOD to obtain nearly \$60 billion in additional funding to pay for unplanned costs growth over the FYDP period. Therefore, as weapons program plans are not achieved because of cost increases, programs are likely to be stretched out, reduced, or terminated after billions of dollars have been invested.

Environmental Costs May Be Significantly Understated

At current funding rates, DOD would spend about \$28 billion on environmental costs for fiscal years 1995-99. In recent testimony before the Senate Budget Committee, the Secretary of Defense characterized environmental restoration and pollution prevention as one of the fastest growing items in the defense budget.

According to a March 1994 report by the Congressional Budget Office, DOD's estimates of environmental restoration costs might be understated by \$20 billion, or by about \$4 billion annually over the next 5 years.⁸ To the extent that Congressional Budget Office estimates are correct and DOD does not receive additional funds, DOD may have to defer environmental remediation programs or adjust other programs to fund the additional cost of planned remediation programs.

As an example of escalating environmental costs, Congressional Budget Office officials testified that the average cleanup costs at military bases

⁸Planning for Defense: Affordability and Capability of the Administrations's Program (Congressional Budget Office Memorandum, Mar. 1994).

stated for closing are 60 percent higher than initially projected and that increasingly strict cleanup standards will drive DOD's costs even higher. The impending closure of a substantial number of military bases has raised several difficult environmental problems. Under the Comprehensive Environmental Response, Compensation, and Liability Act, also known as "Superfund," the U.S. Government cannot transfer land outside federal ownership until it warrants that all remedial action necessary to protect human health and the environment has been taken. There are serious possibilities for conflict between the interest of economic development and the interest of environmental restoration.⁹ The communities adjoining the bases to be closed generally wish to obtain the land quickly, and the decontamination process that may be necessary to restore the environment can be time-consuming.

Military and Civilian Pay Raises

Last year, the Administration proposed to freeze federal salaries—both military and civilian—in 1994 and to reduce the future rates relative to current law. Congress, however, granted pay raises and the Administration increased DOD's budget to accommodate the impact of the raises. According to the Congressional Budget Office, a similar risk looms for 1995 through 1999. The Administration proposes holding military and civilian pay raises below those called for under current law and does not distinguish between an amount for across-the-board pay raises and locality pay raises. According to the Congressional Budget Office, if Congress adheres to current law on across-the-board pay raises only, DOD would have to pay about \$13.9 billion. Adhering to current law also on locality pay would add another \$12.1 billion.¹⁰

According to DOD, its FYDP is priced with the Administration's economic assumptions for pay raises, as is the entire Federal Budget. Therefore, if the FYDP is underpriced due to increased civilian and military pay rates in fiscal year 1995, the entire budget is similarly underpriced. We acknowledge that DOD's FYDP estimates for pay raises are based on the Administration's policy. However to the extent that Congress approves higher pay raises, DOD must either receive additional funds for the raises or reduce programs.

⁹Military Base Closures: Issues for the 103rd Congress (Congressional Research Service Issue Brief-IB92113, Mar. 3, 1994).

¹⁰An Analysis of the President's Budgetary Proposals for Fiscal Year 1995, Congressional Budget Office (Apr. 1994).

Both the House and Senate versions of the National Defense Authorization Act for fiscal year 1995 provide a 2.6-percent pay raise for military personnel. The FYDP provided for only a 1.6-percent pay raise.

Potential Costs for Peacekeeping Operations

According to DOD, the FYDP does not include funds for DOD's participation in peacekeeping activities. DOD requested a supplemental appropriation of \$1.2 billion to fund its peacekeeping operations for fiscal year 1994.

According to DOD, the fiscal year 1994 budget included a modest request for peacekeeping and this request was disapproved by all four Defense oversight committees. DOD has indicated it may continue to seek supplemental appropriations to fund peacekeeping operations. For example, in testimony before the Senate Budget Committee on March 9, 1994, the Secretary of Defense stated that if there was a peace settlement in Bosnia, and United States troops were sent as part of that commitment, DOD would be requesting a supplemental appropriation for that purpose.

GAO Has Reported on DOD's Optimistic Planning Assumptions for 10 Years

Regardless of the size of the overall defense program, during the cold war or post cold war era, there has existed a plans/reality mismatch between the defense program proposed in the FYDP and the funds available to execute that program. We have been reporting on this mismatch since 1984. The planning bias most often falls into one, or more, of three categories: (1) overestimation of future savings to be generated from management initiatives, (2) underestimation of costs, and (3) use of overly optimistic inflation forecasts (including pay rates).

We have reported that this planning bias perpetuates an environment of program instability that manifests itself in cost overruns, program stretch-outs, and even the cancellation of major weapon systems after substantial investments have been made in their development. This is not an effective way for DOD to manage and it does not facilitate congressional oversight of the defense budget.

Matter for Congressional Consideration

Congress may wish to consider enacting legislation that would explicitly prohibit DOD from using negative adjustments for unspecified programs as substitutes for resource decisions necessary to bring programs, projects, and activities in conformance with the President's budget. Such a provision need not preclude the use of legitimate negative accounting adjustments such as offsetting receipts and foreign currency fluctuations.

Views of Agency Officials and Our Evaluation

As you requested, we did not obtain written comments from DOD. However, we held an exit conference with officials to discuss a draft of this report. The officials disagreed with our positions on the issues. We have incorporated their views in the report where appropriate. The following discusses some of the principal concerns expressed by the officials.

The officials said that our matter for congressional consideration, if enacted into law, may prohibit DOD from using all negative accounting entries in the FYDP. We recognize that there are legitimate negative entries in the FYDP and have clarified this point in our report. The officials also said that the \$20 billion negative entries labeled "undistributed future adjustments" reflected last minute changes in inflation indices by the Office of Management and Budget for which DOD could not adjust its programs. Consequently, DOD decided to show the undistributed adjustments. The officials stated that in their opinion it was better for DOD to clearly reflect these future adjustments rather than "bury them" by arbitrarily reducing programs. We agree that DOD should not bury the reductions or make arbitrary changes. We also agree with the Congressional Budget Office's analysis that the \$20 billion indicates funding problems beyond inflation. DOD must make the hard decisions necessary to bring its programs, projects, and activities within its budget projections. Failing to do so provides an unclear picture of defense priorities and delays program decisions.

The officials also disagreed with our methodology for estimating the risk in projected savings and costs. They said that our reliance on historical patterns in such areas as weapon systems and base closures raises unnecessary doubts and unfounded concerns about DOD's planning assumptions and related funding levels. For example, the officials said that it is unreasonable to apply a 20-percent cost growth to today's weapon systems because (1) many of those systems are mature and historically much of cost growth usually occurs early in a weapon system's development and (2) DOD has new initiatives to better manage its acquisition programs. We believe that a 20-percent projected cost increase is reasonable because of the reasons stated in our report. Further, DOD has numerous systems such as the C-17 cargo aircraft and the F-22 fighter that are not mature and continue to experience cost growth. Also, as we state in this report, the historical cost growth in weapon systems was experienced despite the implementation of several DOD initiatives intended to mitigate the effects of cost risk. The officials also said that it is unreasonable to use the costs of the first three rounds of base closures to

estimate the cost of round four closures because the first three rounds required considerably more relocations of forces and associated infrastructure costs. We believe that the cost associated with the first three rounds of base closures represents a reasonable approximation of the cost of round four closures because round four is expected to close an equivalent number of defense activities as the three previous rounds combined. Moreover, officials with DOD's Base Closure and Utilization Office told us that our cost estimating methodology was reasonable. In summary, we used the most current estimates available to us in computing the risk in projected savings and costs and believe that our methodology is sound.

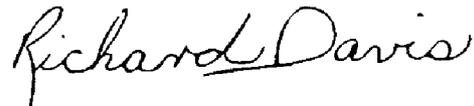
Scope and Methodology

To evaluate the major planning assumptions underlying DOD's fiscal year 1995 FYDP, we interviewed officials in the Office of the Secretary of Defense, DOD Comptroller, DOD Office of Environmental Security, DOD Office of Economic Security, Base Closure and Utilization Office, Congressional Budget Office, and Office of Management and Budget. We examined a variety of DOD planning and budget documents, including the FYDP and associated annexes. We also reviewed the President's fiscal year 1995 budget submission, prior GAO reports, and pertinent reports by the Congressional Budget Office, the Congressional Research Service, and others.

To determine whether the FYDP submission complies with the law, we compared its content with the requirements established in section 221 of Title 10 of the United States Code. We also reviewed references to the reporting requirement in various legislative reports to clarify congressional intent. Our work was conducted from March to July 1994 in accordance with generally accepted government auditing standards.

We are providing copies of this report to appropriate House and Senate Committees; the Secretaries of Defense, Air Force, Army, and Navy; and the Director, Office of Management and Budget. We will also provide copies to other interested parties upon request.

If you have any questions concerning this report, please call me on (202) 512-3504. The major contributors to this report are listed in appendix II.

A handwritten signature in cursive script that reads "Richard Davis".

Richard Davis
Director, National Security
Analysis

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Abbreviations

DOD	Department of Defense
FYDP	Future Years Defense Program
GAO	General Accounting Office

Weapon Programs at Risk for Substantial Future Cost Increases

An important factor in the Future Years Defense Program (FYDP) affordability equation is the effect that unplanned cost increases in weapon programs has on future funding requirements. Over the last several years we have issued a number of reports concerning cost growth, schedule delays, and quantity reductions among weapon programs currently in the Department of Defense's (DOD) research and development or procurement pipeline. These programs include, but are not limited to, the FA-18 E/F, C-17 cargo aircraft, F-22 fighter, V-22 tilt-rotor aircraft, SSN-21 Submarines, and the DDG-51 Destroyers. On the basis of historical experience, we expect cost increases to be a continuing problem for these and other weapon programs.

FA-18 E/F Fighter

DOD plans to procure 1,000 aircraft for the FA-18E/F program. The estimated total program cost of this acquisition is \$89 billion. This represents a total program cost increase of 10 percent in just the last year. Although the Navy claims that the FA-18E/F is simply an upgrade of the current C/D version of the aircraft, some critics have argued that, given the extensive changes being incorporated into the new model, the FA-18E/F is essentially a new aircraft. This enhances the potential for cost growth and technical problems in the program.

C-17 Cargo Aircraft

We are very concerned about the affordability of the C-17 cargo aircraft. The C-17 has been a troubled program almost since its inception and has fallen far short of original cost, schedule, and performance objectives. The Air Force originally planned to buy 210 aircraft. In 1990, the program was reduced to 120 aircraft at a currently estimated cost of about \$43 billion. This cost exceeds the last DOD estimate to acquire 210 aircraft by \$1.3 billion. We do not believe that a cargo aircraft, even one with the projected sophistication of the C-17, should cost in the area of \$300 million to \$350 million each. By November 1995, DOD will have invested another \$5 billion in the problem-plagued program, bringing the cost for the first 40 planes to about \$21.3 billion, or about \$534 million each. On the basis of increasing cost, recent test problems, and slips to the flight test schedule, we believe cost estimates will increase again in the near future.

F-22 Fighter

The F-22 program, we believe, is a premature venture to develop an air superiority fighter with limited versatility for joint service or multiple use. From December 1992 to December 1993, DOD changed the program from the purchase of 648 F-22 fighters at a total program cost of nearly

**Appendix I
Weapon Programs at Risk for Substantial
Future Cost Increases**

\$87 billion, to 442 aircraft at \$72 billion. Because of this change, the cost per aircraft rose from \$134 million to \$162 million.

Since the F-22 program entered full-scale development in 1991, the severity of the projected military threat in terms of quantities and capabilities has declined. U.S. Air Forces are now expected to confront potential adversary air forces that include few fighters that have the capability to challenge the F-15—the U.S. front line fighter. The F-15's performance characteristics exceed that of the most advanced fighter threat system expected to exist in substantial quantity for many years and can be economically maintained in a structurally sound condition until 2015 or later.

V-22 Tilt-Rotor Aircraft

In May 1986, the Navy expected full-scale development of the V-22 tilt-rotor aircraft to be completed in June 1992 and cost about \$1.8 billion. By December 1989 DOD determined that the V-22 would cost \$42 million each and was not affordable when compared with helicopter alternatives that cost from \$16 million to \$33 million. In 1992, the Navy terminated the basic V-22 full-scale development contract and concurrently awarded a new contract to develop a V-22 variant. By this time the V-22 had been in development for 6 years, and contractors had spent \$2 billion. The Navy currently estimates the variant development will take an additional 6 years and cost \$2.5 billion. V-22 unit procurement cost are projected to be between \$49 million and \$64 million.

SSN-21 Submarines

Justification for the Seawolf Class nuclear-powered attack submarine and its concurrent design/construction was based on countering the former Soviet Union's submarine force. Almost from the beginning, however, concerns have been voiced about the program's level of concurrency and the submarine's affordability. In August 1993, we reported that the design cost estimate more than doubled and construction cost estimates increased by 45 percent for the first Seawolf submarine (SSN-21). As of December 1993, the construction cost was estimated at about \$1.1 billion, 59 percent over the original estimate.

DDG-51 Destroyers

In September 1992, we reported that the cost estimates for the DDG-51 showed that the first three ships cost \$1.1 billion, double the original cost estimates. The Navy currently plans to build 15 additional ships over the 1995-99 FYDP period.

Major Contributors to This Report

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Related GAO Products

DOD Budget: Future Years Defense Program Needs Details Based on Comprehensive Review (GAO/NSIAD-93-250, Aug. 20, 1993).

Transition Series: National Security Issues (GAO/OCG-93-9TR, Dec. 1992).

High Risk Series: Defense Weapon Systems Acquisition (GAO/HR-93-7, Dec. 1992).

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