Statement of

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Mr. Chairman, it is a pleasure to appear before your Committee today to discuss Congressional oversight of acquisition management in the Department of Defense (DoD).

Real cost growth in the acquisition of weapon systems continues to be large and to present budget and management problems. The dramatic increases in budget authority and outlays in the Administration's 1983 budget proposal highlight the need for a most careful Congressional scrutiny of procurement management. To facilitate Congressional oversight, the information that the Congress now receives about weapons acquisition needs to be, and can be, improved substantially.

My statement today will begin with an overview of the problem of cost growth in weapon systems. I will then discuss the most recent reports of Defense Department acquisition management, and will conclude with some suggestions about how the Congress can obtain better information about weapon system procurement.

HISTORICAL OVERVIEW

Cost overruns have plagued the weapons acquisitions process as far back as records go, and recent DoD management initiatives designed to curb cost growth are by no means the first such efforts. In fact, the attention paid to cost growth over the past three decades has apparently met with some success: net of

inflation and adjusted for quantity change, cost growth in weapon systems during the 1970s was only about half as great as that during the 1950s and 1960s. Nevertheless, the typical weapon system entering development today can still be expected to experience real cost growth totaling about 50 percent by the time the system is introduced into service.

Cost growth in weapon systems is a pervasive problem. No branch of service and no type of weapon is entirely immune. The Army's record, on balance, is slightly worse than that of the Air Force and the Navy. Because of the larger scale of their procurement budgets, however, the overruns faced by the Air Force and the Navy typically are larger in terms of dollars. Moreover, acute cost growth can be found in all types of weapon systems--aircraft, ships, tracked vehicles, missiles, command, control, and communications, and others.

The causes of cost growth vary widely. Unanticipated inflation accounts for the largest share of nominal-dollar cost overruns. Taken together, unexpected inflation in the costs of original programs, plus the inflation component of costs of program changes, have accounted in recent years for about 75 percent of reported cost growth, after adjustment for changes in quantity. Real cost growth is frequently caused by unforeseen problems in system development or production. Many systems

experience performance problems during the development phase, leading to costly engineering changes and schedule slippage. Changes in mission requirements often call for redesign, with concomitant cost increases.

Moreover, rapid inflation has negated much of the earlier success in reducing real cost growth. Dramatic increases in costs inevitably create funding problems leading to program stretchouts, inefficient production rates, and obsolescence of systems in the field. One reflection of these problems is that cost growth in real terms has again begun to rise, reversing the trend of the preceding three decades.

COST GROWTH IN THE LATEST SAR

Our most comprehensive and consistent data on costs are contained in the Selected Acquisition Report (SAR). The SAR is a quarterly status report to the Congress on major defense acquisition programs. It presents each system program manager's current "best estimate" of key performance, schedule, and cost goals; compares these estimates with baseline parameters established at the time the programs were approved for full-scale development; and explains all variances from the baselines. It reports on the progress and the problems in meeting designated performance, schedule, and cost targets of the programs. Cost and schedule data for each of the 45 to 55 weapon systems included in the SAR

cover the full period from the decision to proceed with full-scale development until the completion of planned procurement. For fiscal year 1983, the 47 SAR systems account for 48 percent of the Administration's overall defense procurement request of $88.7 billion. The SAR's voluminous documentation typically fills 900 pages.

The most recent SAR, that of December 1981, contains the largest quarterly increase in total SAR costs ever reported--$150.1 billion in nominal dollars, a 50 percent increase over the preceding quarter. The total cost of all SAR programs is frequently viewed as a measure of DoD's success in controlling cost growth in weapon systems; thus, the latest increase seems to suggest that weapon system costs are again accelerating out of control. More detailed analysis, however, shows that much of the reported cost growth stems from factors other than inadequate management.

New programs and additions to planned procurement accounted for 85 percent of the $150.1 billion total increase in the December SAR, as shown in Table 1. Two small systems totaling $1.3 billion were dropped from SAR. One program was added--the B-1B bomber, with a projected acquisition cost of $29.5 billion. The net increase in the SAR total cost from these changes was $28.2 billion, or 19 percent of the overall increase.

TABLE 1. SAR DOLLAR CHANGES FROM SEPTEMBER TO DECEMBER 1981
(In billions of nominal dollars)

Total Program Cost September 1981 (48 systems)		304.7
Changes September-December 1981		150.1
Programs Eliminated (2 systems)	-1.3	
Program Added (1 system)	29.5	
Net Quantity Change	99.2	
Net Cost Growth	22.7	
Total Program Cost December 1981 (47 systems)		454.8

Additional planned procurement quantities associated with the expansion of defense programs accounted for a further $99.2 billion, or 66 percent of the total increase. Two-thirds of this quantity variance reflects the cost of additional tactical aircraft. Large increases are also planned in ship and missile procurement.

The overall result of these program changes was to add $127.4 billion to the September SAR cost, or 85 percent of the total increase reported between September and December.

COST GROWTH IN EXISTING PROGRAMS

After these adjustments for system and quantity changes, the December SAR still reported an increase of $22.7 billion in the cost of 46 systems at the quantities programmed in the September SAR. Moreover, this cost growth is not spread evenly over all the SAR weapon systems. In some cases, the cost growth increases reported in the December SAR are far higher than the average. Table 2 shows the percentage increases in unit prices, and the effect on total procurement costs for the remaining years of the program, for several systems that had no quantity increases in the December SAR.

For these ten systems, the primary causes of cost growth fall into four categories: unanticipated inflation, schedule changes, estimating changes, and engineering modifications. For three systems, over 50 percent of the cost growth was the result of revised economic indexes. For six systems, estimating and schedule changes together caused most of the unit price increases. For one system, engineering changes accounted for 93 percent of the overall change in unit price.

Focusing solely on 1983, unit cost growth is even higher for selected programs. For the ten SAR systems shown in Table 3, the increases in unit prices between September and December 1981 led to an increase of $1.4 billion in 1983 budget authority. One

TABLE 2. UNIT PRICE INCREASES FOR SELECTED SAR SYSTEMS AND THE EFFECT ON POST-1981 TOTAL PROCUREMENT COSTS

System	Procurement Unit Price Increase (percent)	Increase in Post-1981 Total Procurement Costs (millions of nominal dollars)
Pershing II Missile	93	1,022
Defense Satellite Communications System	65	500
AH-64 Helicopter	54	1,329
AIM-7M Sparrow Missile, Navy	38	322
NAVSTAR Global Positioning System	28	294
Maverick Missile, Air Force	17	659
AV-8B Aircraft	17	1,405
Fighting Vehicle	17	1,621
F/A-18 Aircraft	15	4,383
HARM Missile, Air Force	14	486

NOTE: Increase from September to December 1981.

TABLE 3. UNIT PRICE INCREASES FOR SELECTED SAR SYSTEMS AND THE EFFECT ON THE 1983 PROCUREMENT PROGRAM

System	Procurement Unit Price Increase (percent)	Decrease in 1983 Buy Size (percent)	Increase in 1983 Budget Authority (millions of nominal dollars)
HARM Missile, Air Force	152	74	97
Pershing II Missile	120	32	272
Phoenix Missile	104	60	127
AH-64 Helicopter	73	38	348
AIM-7M Sparrow Missile, Navy	42	43	40
AV-8B Aircraft	40	25	204
HARM Missile, Navy	39	16	50
Patriot Missile	35	34	211
AIM-7M Sparrow Missile, Air Force	25	9	39
Maverick Missile, Air Force	18	30	51

NOTE: Increase from September to December 1981.

feature common to all these systems, which contributes greatly to their large percentage increases in unit prices, is that the planned procurement rates were lowered between September and December.

The data in the foregoing tables suggest that there are still areas of substantial cost growth. The Administration has taken several steps, however, to control acquisition management within DoD, and some favorable evidence of these efforts is apparent in the December SAR.

In press releases accompanying the President's budget in February, the Administration claimed SAR system savings of $4.2 billion resulting from improved acquisition management. Specific initiatives cited included economic production rates, multiple-year procurement, elimination of marginal programs, and selection of lower cost alternatives. Unfortunately, as reported in the December SAR, these savings are offset to some extent by schedule delays and program stretchouts, which caused a $3.9 billion increase in program costs.

CBO reviewed the four 1981 SARs to determine whether the savings claimed by DoD appeared in the SAR tabulations. The SAR data revealed savings of $5 billion--$800 million more than the Administration's total.

While these amounts are similar, however, there was substantial overreporting or underreporting for individual systems. The

SAR substantiated DoD's claimed savings of $2.3 billion for a group of seven systems. For six other systems, however, DoD claimed five-year savings of $1.5 billion, but only $300 million could be supported on the basis of SAR data. And in eight further systems, the SAR reported savings of $1.9 billion, but DoD claimed only $400 million.

We are concerned that the SAR, which is our best source of information about DoD acquisition programs, does not contain data adequate to enable us to review the Administration's claims of management efficiencies.

OTHER PROBLEMS WITH SAR DATA

In addition to the Administration's efforts to control acquisition cost growth, DoD itself has taken steps to improve SAR reporting. Several points should be made, however, about the accuracy of the current SAR in assisting the Congress to evaluate weapon system cost growth.

A persistent problem in the SAR is the treatment of unanticipated inflation and its effect on program cost. DoD has improved its inflation accounting in the December SAR by employing disaggregated inflators for different types of systems. And by forecasting that the inflators will increase at higher rates than the overall GNP deflator, DoD has enhanced the realism of its budget projections.

Our review found, however, that program managers continue to have difficulty in accurately applying the inflation rates prescribed by the Office of Management and Budget (OMB) and the Office of the Secretary of Defense (OSD). For example, four systems have inflation computational errors totaling $4 billion. Many other systems have errors of a lesser order of magnitude.

A related problem concerns the level of projected inflation. OMB/OSD projections of inflation have been revised upward since the September SAR, bringing them more nearly in line with CBO inflation rate projections. Nonetheless, application of these new OMB/OSD projections still results in underestimation of system costs in comparison to the CBO rates. Use of the CBO inflators would add a total of $15.5 billion to DoD's projections in the December SAR.

Indeed, the extent to which the December SAR understates inflation costs may be greater than $15.5 billion. The CBO review turned up 14 systems whose total estimated program costs were arbitrarily adjusted downward "due to refinement of estimate to offset new economic indices." In essence, this action means that for these 14 systems, SAR program cost was further understated by $3.4 billion.

IMPROVING THE SAR

The SAR clearly provides a great deal of useful information about specific systems and the overall management of weapons

acquisition. There are, however, a few changes that could greatly enhance the utility of the SAR without imposing additional paperwork requirements.

Annual Reporting

Although the SAR currently is compiled quarterly, the preponderance of changes are reported only annually, in the December SAR. The Congress certainly needs to receive early notification of changes in system status, but this does not necessitate quarterly reproduction of the full SAR, replete with detailed system descriptive data. The Congress might still be well served if the full SAR was compiled only annually, in phase with preparation of the President's budget, as long as DoD continued to report changes quarterly. This change would still provide timely notification of significant changes in system status, but would save compilation time and cost.

Noncomparable Base Years

For each major weapon system, the SAR currently reports estimates of program costs in both nominal and base-year dollars, the latter computed with reference to the year when the system entered full-scale development. This use of scattered base years has several adverse effects. It distorts comparisons of real cost growth experienced by programs with different base years. Perhaps

more important, inflation becomes the dominant source of cost increase for programs with very early base years, thus making increases resulting from acquisition mismanagement and inefficiency seem insignificant. These problems could be solved by inclusion in the SAR of constant-dollar cost estimates calculated each year in that budget year's dollars.

Criteria for Inclusion

At present, a system qualifies for inclusion in the SAR if it has planned development costs over $75 million or procurement costs over $300 million. The Secretary of Defense may, however, exclude any eligible acquisition program if he determines that it is not a "major program." Since the number of eligible systems far exceeds the 45-55 that typically appear in the SAR, the Secretary has in the past felt obligated to exercise considerable discretion. In some cases, the selections may appear arbitrary, as when the B-1B bomber was excluded from the September 1981 SAR. To avoid this problem, the Congress could modify the selection criteria. One approach would raise the dollar thresholds for eligibility, index the new thresholds to forestall unintended future inclusions, and eliminate the authority for secretarial discretion.

Variance Reporting

The SAR apportions cost changes into seven categories: economic, quantity, schedule, engineering, estimating, support, and other. Although these categories provide a complete accounting of cost changes, they do not always illuminate the reasons for cost variances. Several additions to the variance report should be considered.

Engineering Changes. The SAR should indicate whether engineering changes result from modifications to upgrade system performance, or whether the changes are needed to meet performance objectives as set forth in the development estimate. If upgrades are the reason, the SAR should identify the changes in mission requirements that justify the modification. If engineering changes are required merely to meet the development estimate objectives, the SAR should discuss the related shortfalls in performance that necessitate the change.

Schedule Variance. Several studies of real cost growth conclude that a major factor is funding limitations, which lead to stretchouts and inefficient production rates. But another source of schedule slippage may be equally important--development problems that delay the transition to the production phase. At present, the SAR does not distinguish systematically among these or other causes of schedule change, although occasionally there

are references to funding cutbacks as causes of schedule variance. As with engineering changes, the schedule-related cost variance should be identified in the SAR as stemming from some underlying cause: funding, development problems, mission change, or any other.

One aspect of schedule variance is the cost of changing from the economic buy size. The Defense Department has identified economic buy size as one of its principal management initiatives. The SAR needs to show the economic buy size for each system, and to show the cost of deviating from that procurement rate. Only then will the Congress be able to make well-informed decisions about funding levels for different systems.

Supporting Documentation. Detailed analysis and validation of the SAR currently are precluded by the unavailability of backup data. These data obviously exist, for without them preparation of the SAR itself would not be possible. The Congress needs to ensure its access to backup worksheets, with proper safeguards for proprietary contractor information, in order to permit across-system and over-time analyses of the acquisition of individual systems. The SAR itself should contain enough of this information to permit validation of the calculations leading to the reports on cost variances. This would militate against inconsistent procedures and arbitrary assignment of cost increases to variance categories.

CONCLUSION

The problems I have mentioned with regard to the SAR, and the improvements I have proposed, should not be viewed as a panacea for the ills of acquisition management. As many others have written and testified, the acquisition process suffers generally from distorted or inadequate incentives. Program managers frequently strive to complete or upgrade systems without primary reference to cost. Contractors often compete to win awards even at the cost of deliberately underbidding, in the hope of profiting from follow-on work. And the military services may distort their evaluations of system importance in efforts to win larger procurement budgets.

Solving these problems, and improving the incentives of participants in the acquisition process, is primarily the responsibility of the Defense Department and its budget, contract, and program officers. The Congress can help by ensuring that it has up-to-date, accurate information, and by sending DoD the clearest possible signal, through hearings such as this, that the principal Congressional objective is efficient acquisition of essential systems. The proposals I have made today are intended only to improve the information available to the Congress as it pursues this goal.