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Fact Sheet for the Chairman, Subcommittee on Defense, Committee on Appropriations House of Representatives

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TELECOMMUNICATION

Air Force Cost Estimates for Scope Exchange Telephone Systems

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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

INFORMATION MANAGEMENT & TECHNOLOGY DIVISION

July 3, 1986

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The Honorable Bill Chappell, Jr.
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives

Dear Mr. Chairman:

At the request of former Chairman Addabbo, we examined the cost estimates provided to your staff by the Air Force on Scope Exchange, a telecommunications replacement project. In addition to briefing your staff on the cost estimates, we have summarized our observations in the attached document.

Scope Exchange began in 1982 as an effort to replace 169 leased telephone systems, including switches, cabling, and telephones, at continental U.S. bases. To date, 19 contracts for Scope Exchange systems have been awarded and funded by major commands. Sixteen are lease-with-option-to-purchase; one is straight lease; and two are direct purchase. The Air Force is planning to incorporate Scope Exchange into a new initiative called Base Information Digital Distribution System (BIDDS) after fiscal year 1987.

The Air Force presented cost estimates to your Subcommittee for three acquisition alternatives for Scope Exchange--straight lease, lease-with-option-to-purchase, and direct purchase. These cost estimates were for replacement systems at six bases and for three different sized models representing future system replacements. The Air Force presentation showed that it was less costly to acquire systems through lease-with-option-to-purchase than through direct purchase.

We could not determine the most economical acquisition strategy because Air Force data were inadequate. The Air Force presented purchase and lease cost estimates that were not based on actual purchase and lease prices obtained from vendors. Instead, the Air Force devised a formula to estimate purchase prices.

Furthermore, the Air Force

--calculated the present value of systems costs using a rate that we believe may not have shown the true cost of leasing and

--did not develop total life cycle costs, as discussed in Office of Management and Budget (OMB) Circular A-109, for Scope Exchange system replacements.

In performing our work, we not only examined the data developed by the Air Force but also interviewed Air Force officials responsible for implementing Scope Exchange.

If you have any questions please contact Mr. Vince DeSanti, Group Director, on 275-3195.

Sincerely yours,

Thomas P. Giammo
Associate Director

Fact Sheet on Air Force Cost Estimates for Scope Exchange Telephone Systems

When presenting cost estimates for Scope Exchange replacements to the Subcommittee on Defense, House Committee on Appropriations, the Air Force discussed lease, lease-with-option-to-purchase, and direct purchase options for six replacement systems and three different sized models representing future system replacements. All Air Force comparisons showed that direct purchase was more costly than lease-with-option-to-purchase; the difference between those two alternatives ranged from $130,000 to $2,540,000 for individual systems over a 10-year period.

We could not determine whether the Air Force estimates showed the most cost-effective alternative since actual vendor purchase and lease prices were not used in all cases. Air Force officials did not request actual purchase prices from vendors in their early requests for proposals. Instead, they devised a formula for estimating purchase costs for five out of six replacement systems. In addition, both purchase and lease costs had to be estimated for the three system models.

The estimates for the three system models did not take all factors into consideration. In estimating purchase and lease-with-option-to-purchase prices for the system models, the Air Force assumed that the cost-per-phone-line was the same for similar sized switches. However, actual cost-per-phone-line data show that the cost-per-line decreases as the number of lines increases, even for similar sized switches. Furthermore, these estimates did not consider other variables, such as geographical conditions, that could complicate system installation and add to its cost.

The Air Force also presented various cost estimates in terms of present value of constant[1] dollars, as described by OMB Circular A-94. OMB Circular A-94 favors an inflation-adjusted interest rate of 10 percent in determining present value and advocates expressing costs in constant dollars. As the Comptroller General stated in a letter to the Director, OMB (May 19, 1983), using an inflation-adjusted discount rate and constant dollars can yield acceptable results. However, we advocate discounting current dollar[2] outlays using the average rate on Treasury obligations that mature during the period of anticipated outlays. This rate is unadjusted for expected inflation; conceptually, it is the sum of

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[1]Constant dollars are dollars adjusted for inflation. Costs in constant dollars are measured in the prices prevailing in a base year. If economy-wide price levels rose 10 percent between a base year (such as 1985), and the current year (1987), then the price of an item costing $1,100 in 1987 would be $1,000 in constant dollars.

[2]Current dollars are dollars unadjusted for inflation. Costs in current dollars are the dollar outlays actually made in a given year; they are not corrected for changes in purchasing power due to real or expected inflation since the base year.

the inflation-adjusted interest rate and expected inflation. Unlike OMB's constant discount rate, the Treasury bond rate varies with market conditions and thus is more desirable.

We believe that OMB's 10 percent inflation-adjusted discount rate is too high. Since it appears that the U.S. Government's market rate of interest is usually only several percentage points above the expected inflation rate, OMB's policy implies an unadjusted discount rate for government decision-making that exceeds market rates substantially. For example, in 1983 when forecasted inflation was almost 5 percent, Treasury bond rates averaged 10.5 percent. By contrast, OMB's approach would have implied an unadjusted rate of 15.5 percent, not 10.5 percent.

Using a higher interest rate tends to reduce the cost of leasing compared to the cost of purchasing, in our opinion. An interest rate that is too high reduces the present value of costs occurring late by more than it does those occurring early, and leasing is the alternative with the largest share of its costs occurring late in the period being analyzed. We did not try to determine if the decision on lease versus purchase would have changed in this case, largely because data on the purchase option were inadequate.

Finally, OMB Circular A-109 discusses the need for the development of life cycle costs for major acquisitions. The Air Force did not develop total acquisition and life cycle costs for Scope Exchange. Therefore, life cycle costs were not considered in the overall budget process. Instead, individual equipment replacements were financed using command operating budgets as funds became available.

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