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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

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Dear Senator Proxmire:

In response to your request, received on June 9, 1971, we have inquired into (1) a decision by the Department of the Air Force that certain automatic data processing equipment located at its Environmental Technical Applications Center, Washington, D.C., would not be purchased and (2) Air Force policy concerning purchase of such equipment.

The equipment in question consisted of eight International Business Machines Corporation (IBM) tape drives (Model 729) which were located at the Environmental Technical Applications Center. Five of the tape drives were leased initially in 1964 and three in 1966. We did not examine into the reasons they were not purchased initially because the decision questioned was a later one, made in 1970.

At Headquarters, U.S. Air Force, we were informed that the Air Force considered purchasing that equipment in 1970 but had not done so primarily because (1) it did not have sufficient procurement funds and (2) it planned to replace those units with Government-owned units by September 1972. As an interim measure the Air Force subsequently replaced the IBM tape drives with comparable units leased from the Ampex Corporation at lower rentals.

We found that the Air Force decision might result in additional cost to the Government of about \$28,000 through September 1972, unless the Ampex units are replaced by Government-owned units at an earlier date. Because of this additional cost, the decision was not the most economical with respect to this particular equipment. The broader aspect of the problem involves, however, the selection of priorities for the best uses of limited Air Force funds, as discussed on page 5. The acquisition of the tape units and the Air Force decision not to purchase them are discussed in more detail below.

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BACKGROUND

The Environmental Technical Applications Center provides weather data to the Air Force and other defense components for designing equipment and installations, and planning future combat, airlift, and other operations. For this purpose it uses a Government-owned IBM 1401 computer system and a partially owned IBM 7044 computer system.

The IBM 7044 system was installed at the Center in February 1966 on a rental basis. In July 1966 the Air Force purchased the system, excluding 10 tape drives, at a cost of \$1,250,000. Two of the tape drives were subsequently replaced by Government-owned units.

In February 1970 the Office of Management and Budget (formerly the Bureau of the Budget) directed all agencies to determine whether any leased tape drives could be replaced by comparable and less costly units offered by independent peripheral equipment vendors. As a result of that directive, in July 1971 the Air Force replaced the eight IBM tape drives being leased at the Center with units leased from the Ampex Corporation under a contract awarded to Ampex in March 1971 by the General Services Administration. That replacement, on the basis of cost data provided by Air Force Headquarters, cost the Government about \$1,800 a month less than it would have cost it to lease the IBM tape drives.

PURCHASE OF THE IBM TAPE DRIVES WOULD
HAVE RESULTED IN SAVINGS

IBM offered to sell the eight tape drives to the Air Force in May 1970 for \$80,767. At that time the purchase of the tape drives represented potential savings of about \$119,000 from June 1970 through February 1974. This period was the remaining portion of an 8-year economic life established in the pertinent Department of Defense instruction for comparison of lease-versus-purchase costs of automatic data processing equipment. Had the Air Force purchased the tape drives, the Government's investment would have been recovered through rental savings in about 16.5 months. Our calculation

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of the potential savings through February 1974, which is based on the present-value method, is shown below.

Present value of the cost to lease IBM tape drives during the period June 1970 through February 1974 (excluding mainte- nance charge)	\$200,156
Less purchase price of tape drives in May 1970	<u>80,767</u>
Total potential savings during the period June 1970 through February 1974	<u>\$119,389</u>

We used a 10-percent discount rate in calculating the present value of the lease payments as that rate is prescribed by the Department of Defense instruction. We did not consider in our computation any residual value of the IBM tape drives at the end of the 8-year period, although such consideration can be significant in making lease-versus-purchase decisions. In this instance, however, we believe that the residual value of the tape drives would not be very significant because the availability of tape drives from independent peripheral equipment manufacturers has greatly reduced the demand for the IBM Model 729 units.

T REASONS FOR AIR FORCE DECISION
NOT TO PURCHASE IBM TAPE DRIVES

Air Force Headquarters officials agreed that the purchase of the tape drives would have resulted in savings to the Government. They advised us, however, that other important considerations had affected their decision. One consideration was that limited procurement funds dictated that investments be made that would yield the greatest return. In this situation the Air Force preferred to purchase major electronic components, such as central processing units, which have a longer life because they are not subject to deterioration to the same degree as electromechanical devices, such as tape drives. This factor contributes to a more favorable rate of return.

Another important consideration was the pending availability of Government-owned tape drives which indicated that the Center's tape drives could be replaced by Government-owned units at an early date. The Air Force anticipates that 57 Government-owned tape drives will become available in fiscal years 1972 and 1973. Also the IBM tape drives had already been designated for replacement by units leased from Ampex.

Air Force Headquarters officials have stated that leasing the tape drives preserves various options available for subsequent replacement of the units at the lowest cost to the Government, permits application of investment funds to purchase opportunities more advantageous to the Air Force, and permits the Air Force to achieve additional savings through the use of excess Government-owned equipment expected to become available by September 1972.

EVALUATION OF AIR FORCE DECISION

The Air Force decision not to purchase the eight IBM tape drives in May 1970 will result in additional cost to the Government of about \$28,000 through September 1972--the date by which the Air Force expects to replace the Ampex tape drives with Government-owned units. If the replacement is made at an earlier date, however, that amount will be reduced accordingly. Our calculation of the additional cost, shown below, also is based on the present-value method and does not include any residual value of the tape drives for the reason stated on page 3.

Present value of the cost to lease IBM and AMPEX tape drives during the period June 1, 1970, through September 30, 1972 (excluding maintenance charge)	\$109,061
Less purchase price of IBM tape drives in May 1970	<u>80,767</u>
Additional cost to the Government	<u>\$ 28,294</u>

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In view of the additional cost to the Government because the IBM tape drives were not purchased, the Air Force decision on this particular equipment was not the most economical. The problem, however, is one of selecting priorities for the best applications of limited funds.

The Air Force has a large quantity of leased equipment in its inventory, which Air Force Headquarters estimated would cost from \$225 million to \$250 million to purchase. It would be economical to buy much of that equipment; however, according to the Air Force, it has not had sufficient funds in any one fiscal year to purchase more than a small part of it. (For fiscal years 1970, 1971, and 1972, Air Force procurement funds budgeted for automatic data processing equipment have averaged about \$23.7 million annually.) Consequently the Air Force selects and buys equipment on a priority basis within the limits of its annual funding. We were informed by agency officials that in fiscal year 1971 the Air Force purchased \$28.6 million worth of leased equipment, none of which was tape drives.

In view of the Air Force's limited procurement funds, it appears reasonable to give priority to purchases of major electronic components since such purchases generally result in a better rate of return on the investment through rental savings than the return on an investment in electromechanical devices. Also electromechanical devices are subject to more frequent replacement and greater maintenance. The practice of purchasing the major electronic components of systems is also followed by other Government agencies and in some known cases by commercial concerns.

It also appears appropriate to replace those tape drives which cannot be purchased because of insufficient funds with tape drives presently available from independent peripheral equipment manufacturers since those units are comparable to units leased from the major systems manufacturers and are generally less expensive as indicated on page 2.

The Air Force has formal procedures for selecting leased equipment from its inventory for purchase on a "best buy"

basis. We did not include the selection process in our review since a determination of the appropriateness of the buy decisions that were made during the period under discussion would have involved an examination of the decision process affecting the entire leased-equipment inventory. As part of our continuing effort in the automatic data processing area, however, we are examining into the factors considered and the validity of data used by the Air Force and the other military departments in making such decisions.

AUTHORITY FOR AUTOMATIC DATA PROCESSING
EQUIPMENT DECISIONS

Public Law 89-306, which was enacted in October 1965, granted the General Services Administration the exclusive authority to acquire all general purpose automatic data processing equipment for the departments and agencies of the Government. The Congress, with recognition that the implementation of a Government-wide equipment acquisition program would be gradual, provided that the Administrator could delegate his acquisition authority to the departments and agencies. It was intended that, through delegation of authority, the Administrator could implement a more effective program on an orderly, step-by-step basis.

This delegation, as provided in Federal Property Management Regulations, is on a case-by-case basis and has been granted regularly. These regulations also provide that the using agencies make periodic lease-purchase analyses and decisions.

Within the Department of Defense the authority to make lease-purchase determinations and to acquire automatic data processing equipment has been delegated by the Secretary of Defense to the Secretaries of the military departments, the Director of Defense Research and Engineering, and the Directors of the various defense agencies. The delegated authority is subject to the policies and guidelines established by the Office of the Secretary of Defense.

AIR FORCE POLICY ON PURCHASE

The Air Force acquires automatic data processing equipment through purchase, installment purchase, lease, and lease with option to purchase arrangements. Its policy, as prescribed by the Department of Defense, is to select, on the basis of a comparative cost analysis of alternatives available, that method of acquisition which offers the greatest benefit to the Government under the circumstances in each situation.

The policy applies to computers and all peripheral or auxiliary equipment and thus does not preclude the purchase of tape drives such as the IBM Model 729. This is evidenced by the large quantity of Government-owned tape drives in the Air Force inventory. (See p. 4.)

At Air Force Headquarters, we were advised that the purchase of tape drives, as well as the purchase of computers and other components, was dependent primarily upon the availability of procurement funds. As previously indicated, where sufficient funds are not available to purchase all equipment which is economical to buy, the Air Force prefers to purchase the major electronic components of computer systems.

GOVERNMENT-WIDE PERIPHERAL
EQUIPMENT REPLACEMENT PROGRAM

The leasing of tape drives and other peripheral equipment in lieu of purchasing them is prevalent throughout the Government. The General Services Administration, as a result of the Office of Management and Budget direction (see p. 2), has established a Government-wide program to reduce the cost of that equipment by replacing much of it with less costly equipment available from the so-called independent manufacturers. These are manufacturers of peripheral equipment who, for the most part, do not manufacture complete systems.

In that program the General Services Administration has identified 2,867 units of peripheral equipment leased by the Government which could be replaced at a substantial savings

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with comparable modern equipment, either leased or purchased from independent manufacturers or commercial leasing companies. The Federal agencies reviewed the status of that equipment and, as of July 1970, determined that 2,138 units would be replaced at a savings in excess of \$6 million annually.

Since July 1970 many of the replacements have been made. For example, in August 1970 the Department of the Navy acquired 457 peripheral units under lease with option to purchase contracts with a number of peripheral equipment manufacturers. These replaced IBM peripheral equipment, including 100 Model 729 tape drives, at 51 Navy and Marine Corps locations. In calendar year 1971 the Department of the Air Force replaced about 38 IBM Model 729 tape drives installed at various Air Force locations with comparable modern tape drives leased from Ampex Corporation and other peripheral equipment manufacturers. Other replacements have been made by the Department of the Army, Defense Supply Agency, and Veterans Administration.

The replacement policy was attributed to the General Accounting Office report to the Congress on June 24, 1969, entitled, "Study Of The Acquisition Of Peripheral Equipment For Use With Automatic Data Processing Systems" (B-115369). We are enclosing a copy of this report for your use.

We trust the information presented is responsive to your needs. We shall be pleased to meet with you to discuss this matter in greater detail should you so desire.

We plan to make no further distribution of this report unless copies are specifically requested, and then we shall

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distribute copies only after your agreement has been obtained or public announcement has been made by you concerning the contents of the report.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "James B. Parsons".

Comptroller General
of the United States

Enclosure

The Honorable William Proxmire
United States Senate