



UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D.C. 20548

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JULY 29, 1981

MISSION ANALYSIS AND  
SYSTEMS ACQUISITION DIVISION

B-200622

The Honorable Drew Lewis  
The Secretary of Transportation

Subject: [FAA's Communications Equipment Replacement Plans  
(MASAD-81-37)]

Dear Mr. Secretary:

We have completed our review of the Federal Aviation Administration's (FAA's) voice communications equipment replacement plans. The review was requested by the chairman of the House Subcommittee on Transportation, Aviation and Materials, Committee on Science and Technology. We discussed our results with subcommittee staff during early February 1981, and they agreed that we should submit a written report to you and copies of it to selected congressional committees. We later discussed our results with staff of the House Subcommittee on Transportation, Committee on Appropriations, during late February 1981.

Our draft report entitled "Revisions Needed in FAA's Communications Equipment Replacement Plans" was sent to you on May 11, 1981. As explained in more detail below, FAA has recently taken actions which generally follow the proposed recommendations in the draft report. Consequently, this report contains no recommendations. However, we intend to monitor FAA's implementation of its revised communications equipment program.

FAA had planned a two-phased effort to replace the existing leased telephone switching and FAA-owned radio control equipment. Some equipment would be replaced during the early 1980s with interim off-the-shelf leased or purchased equipment while the follow-on Voice Switching and Control System (VSCS) was being developed. FAA planned to replace the interim equipment and remaining existing equipment with the standardized FAA-owned VSCS during the late 1980s and early 1990s. The VSCS program was to cost nearly \$614 million (inflated dollars). Unlike the current hard-wired or patch panel controlled equipment, the interim and VSCS equipment were to be computer controlled for automated circuit reconfigurations.

We felt VSCS was not required because (1) hard-wired and patch panel controlled equipment, rather than computer controlled equipment, would satisfy the circuit reconfiguration requirement,

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(2) much of the in-use equipment would last for many years, and (3) the replacement of older equipment with off-the-shelf equipment, rather than VSCS, would be more cost effective. Furthermore, FAA's cost-benefit study did not adequately support VSCS because of errors and omissions. Also, FAA's proposed contract specifications for the interim computer controlled, off-the-shelf equipment would likely attract only one qualified bidder.

Accordingly, we recommended that you direct FAA to

- discontinue research and development on VSCS and cancel its planned purchase;
- use the planned interim buy of off-the-shelf equipment to obtain needed equipment to meet new requirements and replace equipment no longer cost or operationally effective; and
- revise the draft specifications for the interim equipment to allow more competition and the selection of the lowest cost equipment (hard-wired, patch panel controlled, or computer controlled equipment).

Shortly after receiving our draft report, FAA officials said they had recently taken actions which followed our recommendations. We discussed these actions with them and examined FAA's April 20, 1981, draft specifications for the interim equipment, called the Integrated Communications Switching System (ICSS).

Concerning our first proposed recommendation that FAA discontinue research and development on VSCS and cancel its planned purchase, FAA has reduced the fiscal year 1982 VSCS research and development budget request from nearly \$4 million to \$1.62 million and deferred (or canceled depending on the success of the ICSS acquisition) the VSCS planned purchase. The \$1.62 million research and development request is for (1) an outside contract to develop signaling and control equipment, a replacement subsystem which FAA claims is needed with or without VSCS, (2) in-house studies of automation at enroute centers and flight service stations, and (3) in-house support of the ICSS acquisition.

Our second proposed recommendation called for FAA to use ICSS in new facilities and to replace equipment in existing facilities as needed. FAA now plans to use the proposed ICSS equipment, rather than VSCS, at towers and flight service stations and hopes to be able to use an expanded version of ICSS at enroute centers. FAA plans to install over 130 ICSSs at towers and flight service stations from mid-1982 until 1985.

Our third proposed recommendation wanted the revision of specifications for the ICSS equipment to allow more competition. FAA's draft specifications, dated April 20, 1981, do not require time division multiplexing and distributed processing; both were

required under earlier draft specifications. Also, patch panel controlled equipment can now be used at small facilities. Computer controlled equipment, however, is still required to satisfy the rapid circuit reconfiguration requirement for large facilities. Although we question the claimed need for computer controlled equipment at many of the large facilities, we believe these proposed revisions in the ICSS specifications will allow more cost competition and basically satisfies the third proposed recommendation in our draft report. Therefore, we are making no further recommendations at this time.

Sincerely yours,



W. H. Sheley, Jr.  
Director