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BY THE U.S. GENERAL ACCOUNTING OFFICE

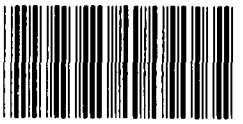
Report To The Director Of The Office Of Management And Budget And The Secretary Of Defense

113629

Deficiencies In The St. Louis Defense Telephone Service Should Be Avoided In Future Consolidations

The Department of Defense has established a long-range program to develop consolidated local area telephone systems for its activities. As future systems are created, expanded, or modernized, steps should be taken to avoid the kinds of design and operational management problems at the St. Louis, Missouri, system which was recently modernized.

This report restates an earlier GAO recommendation to the Director, Office of Management and Budget, to develop a policy for Government-wide consolidated local telephone systems. GAO also recommends that the Secretary of Defense develop a uniform management plan for Defense systems that is consistent with potential Government-wide consolidations.



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Logistics and
Communications
Division

B-200143

The Honorable Harold Brown
The Secretary of Defense

The Honorable James T. McIntyre, Jr.
Director, Office of Management and
Budget

This report describes Department of Defense experiences with a recently modernized consolidated local area telephone system. Defense has established a long-range program to develop consolidated local area telephone systems, and discussions between Defense and the General Services Administration are underway to create Government-wide consolidated local area systems.

We made this review to demonstrate consolidated telephone system design and management problems which should be avoided in the future when consolidated systems are created, expanded, or modernized.

This report contains recommendations on pages 18 and 19. As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Secretaries of the Army, Navy, and Air Force; the Director of the Defense Logistics Agency; and the Administrators of General Services and National Telecommunications and Information.

We wish to express our appreciation for the cooperation and assistance provided during our review.

R. W. Gutmann
Director

GENERAL ACCOUNTING OFFICE REPORT TO THE DIRECTOR OF THE OFFICE OF MANAGEMENT AND BUDGET AND THE SECRETARY OF DEFENSE

DEFICIENCIES IN THE ST. LOUIS DEFENSE TELEPHONE SERVICE SHOULD BE AVOIDED IN FUTURE CONSOLIDATIONS

D I G E S T

In a November 1979 report, GAO demonstrated that individual agency telephone systems were more costly than consolidated systems in metropolitan areas. GAO recommended that the Office of Management and Budget develop a policy for local telephone service programs that required consolidation and modernization, where economically and operationally beneficial, on a coordinated Government-wide basis. (See p. 2.)

The Department of Defense (DOD) has established a long-range program--Defense Metropolitan Area Telephone Systems--to develop consolidated local area telephone systems for its activities. Discussions between DOD and the General Services Administration (GSA) are underway to create Government-wide consolidated local area systems. (See p. 1.)

DOD's experience with consolidated systems is limited to the Defense Telephone Service in Washington, D.C., and in St. Louis, Missouri. The Washington system, which is unique in size and complexity, serves military users almost exclusively. The St. Louis system, modernized in April 1979, uses modern technology and serves both DOD and a growing number of Government civil agency subscribers. Thus, the St. Louis system is a more appropriate model for many proposed DOD consolidated systems. (See p. 1.)

DOD officials, responsible for developing the Defense Metropolitan Area Telephone Service program, and Army officials, currently procuring facilities for the initial DOD consolidated system at Boston, were generally unaware of the details of the operational defects, design flaws, and management problems experienced with the St. Louis system. Failure to recognize the problems at

St. Louis and to take corrective action could seriously hinder creation, expansion, or modernization of future consolidated systems. (See p. 10.)

ST. LOUIS SYSTEM DEFICIENCIES

Modernization of the St. Louis system included installation of special devices to automatically route outgoing calls via the least costly circuit available and to simultaneously create a call detail record for use in billing subscribers for services used. Similar devices were used by the Washington system, but experience in Washington was not considered by the Army officials responsible for the St. Louis modernization. (See ch. 2.)

Anticipated reductions in commercial toll costs and improved system management associated with these special devices were not realized at St. Louis. For example:

--System users could arbitrarily bypass the least cost routing device and use commercial toll circuits even though prepaid Government circuits were available. In the first 6 months after modernization, commercial toll costs increased 27 percent--a 15-percent decrease had been anticipated. (See pp. 7 and 8.)

--Improper programing of the least cost routing device resulted in the inadvertent routing of some calls over commercial toll circuits and the denial of prepaid Government circuits to certain calling areas. (See p. 8.)

--Positive identification of out-calling station numbers (users) was obtained for only 40 percent of the system--the remaining users were on an "honor" system. In 1 test month, one of every nine calls recorded was from a nonexistent station number or from a station with no out-dialing capability. (See pp. 9 and 10.)

The Director of the St. Louis system derives authority from the Army to operate the system and concurrently holds a staff position on two local Army commands. The uncertainty of his

authority to deal with non-Army subscribers and local superiors generally reduced the Director's role to that of a financial manager acting as an intermediary between subscribers and the local telephone company. In direct contrast, the Director of the Washington system was chartered by the Secretary of Defense and enjoyed many management prerogatives denied his counterpart at St. Louis. (See ch. 3.)

The Director of the St. Louis system failed to control abuse and misuse of system resources or to perform many functions normally associated with good telephone system management. For example, he did not require:

--A cost-effectiveness analysis of common-use Outward Wide Area Telecommunications Service circuits costing $468,000 a year. (See p. 12.)

--A cost-effectiveness analysis of dedicated Inward Wide Area Telecommunications Service costing about $525,000 a year. (See p. 13.)

--Controls over issuance and use of telephone credit cards. (See pp. 14 and 15.)

--Users to refrain from using commercial toll calling from the St. Louis area when toll free access was available to the system operator for connection to prepaid Government circuits. (See pp. 15 and 16.)

--Surveys of telephone station equipment to insure that least cost configurations were employed. (See pp. 16 and 17.)

CONCLUSIONS

Anticipated operational and cost benefits of the St. Louis modernization were lost, or at least diminished, because of inadequate planning and system design flaws. The Director lacked authority to operate the system in a manner most cost effective to the Government, and he was unable to control abuse and misuse of system facilities.

The Defense Metropolitan Area Telephone System presents an excellent opportunity for DOD to eliminate inefficient independent military telephone systems in metropolitan areas. However, the increased sophistication and high costs of modernized telephone facilities require a new style of management to control potential abuse and misuse of the facilities which can be used by both military and civil agency users. (See p. 18.)

A Government policy on consolidated local telephone service is still needed. GSA and DOD now operate separate consolidated systems in St. Louis. Both agencies soon will have separate consolidated systems in Boston. (See p. 18.)

RECOMMENDATIONS

GAO reiterates the 1979 report recommendations to the Director, Office of Management and Budget, particularly with regard to development of a policy for Government-wide consolidated local telephone service that assigns organizational responsibilities and contains implementing guidelines, procedures, and/or standards.

In the interim, GAO recommends that the Secretary of Defense clarify and strengthen the role of the Defense Metropolitan Area Telephone Service Director. The Secretary should (1) make the Director's position independent of local military command control to preclude conflict of interest, (2) define the Director's responsibilities and authority over other military department and civil subscribers of the system, and (3) structure the position and supporting staff resources consistent with potential Government-wide metropolitan area consolidation situations.

GAO further recommends that the Secretary of the Army:

--Devote the necessary resources to correct the design deficiencies at St. Louis.

--Provide the Director of the St. Louis system with an operating charter, either under the Defense Metropolitan Area Telephone Service program or independently, which is consistent with the system's technology and the community of interest being serviced by the system. (See pp. 18 and 19.)

AGENCY COMMENTS

GSA agrees with GAO's findings, conclusions, and recommendations and states that it is negotiating with DOD for an agreement on Government Metropolitan Area Telephone Systems. GAO believes that the Government-wide concept is a step in the right direction. (See p. 19 and app. I.)

OMB agrees that (1) economic and operational benefits could be achieved by consolidating and modernizing the Government's local telephone services, (2) lessons learned in St. Louis should be applied, as appropriate, in future consolidation programs, and (3) more attention should be directed to all aspects of Government telephone equipment and service management to achieve and maintain economies. (See p. 19 and app. II.)

DOD states that GAO's draft report did not adequately recognize the chaotic conditions occasioned by relocating a major subscriber involved in the St. Louis modernization and limitations on the telephone company's capabilities at that time. DOD also states the report should give greater recognition to certain actions taken or in process to correct the problems noted at St. Louis, as well as to ensure effective and uniform management of telephone consolidations DOD-wide.

Where necessary and appropriate, this report has been revised to more clearly present factors affecting the modernization at St. Louis. GAO recognizes and applauds the actions taken or being taken on many of the

deficiencies noted at St. Louis. GAO believes that if the management actions underway incorporate the principles and concepts recommended in this report, repetition of deficiencies noted at St. Louis will be avoided in future consolidations. (See p. 20 and app. III.)

Contents

ABBREVIATIONS

AUTOVON	Automatic Voice Network
DARCOM	Department of the Army Readiness Command
DOD	Department of Defense
DMATS	Defense Metropolitan Area Telephone System
DTS-STL	Defense Telephone Service, St. Louis, Missouri
DTS-W	Defense Telephone Service, Washington, D.C.
FTS	Federal Telecommunications System
FX	foreign exchange lines
GMATS	Government Metropolitan Area Telephone System
GAO	General Accounting Office
GSA	General Services Administration
IN-WATS	Inward Only Wide Area Telecommunications Service
OMB	Office of Management and Budget
OUT-WATS	Outward Only Wide Area Telecommunications Service
USACC	United States Army Communications Command
WATS	Wide Area Telecommunications Service

CHAPTER 1

INTRODUCTION

Today's technology enhances the benefits of consolidated telephone systems. A well conceived and properly managed consolidated telephone system, serving a community of interest in a given geographic area, can provide cost savings and operational benefits when compared to small independent systems. Conversely, a poorly designed and improperly managed consolidated telephone system can be ineffective and costly to operate.

The General Services Administration (GSA) has adopted the consolidation concept to serve Federal civil activities in many metropolitan areas. The Department of Defense (DOD) has only two consolidated metropolitan area systems in operation. DOD has established a long-range program--Defense Metropolitan Area Telephone Systems (DMATS)--to develop consolidated local telephone systems for its activities in other metropolitan areas. Discussions between DOD and GSA are underway on a program--Government Metropolitan Area Telephone Systems (GMATS)--to create Government-wide consolidated systems in metropolitan areas.

DOD's experience with consolidated metropolitan area telephone systems is limited to the Defense Telephone Service, Washington, D.C. (DTS-W), and the Defense Telephone Service, St. Louis, Missouri (DTS-STL). DTS-W, which is unique in size and complexity, provides most of its service to military users. Conversely, DTS-STL as modernized in 1979, is generally comparable in size, technology, and physical complexity to that contemplated for many DMATS locations. DTS-STL provides service to a growing number of civil activities. These civil activities receive telephone service from DTS-STL, rather than from the GSA consolidated system in St. Louis, because of their proximity to DTS-STL switch locations.

This report deals with the planning, design, and management of the modernized DTS-STL.

TECHNOLOGICAL ADVANCES

Technological advances have created changes in local and long-distance telephone operations from operator-assisted connection to automatic connection (programed electronic switches requiring operator assistance only for exceptions)

of circuits for completing telephone calls. With this technology, multiple switching locations can be consolidated, using centralized attendant service--staffed operator consoles are installed at a single location to provide assistance to all switching locations. At the same time, some service features have been added to increase the user's capabilities.

Special computer-controlled equipment is available which can monitor all available outgoing circuits of a system and automatically route each call over the least expensive available circuit. Denial of toll circuits to selected users can be incorporated, and queuing (the ability to "stack" calls until a circuit is available) can be used. Thus, properly programed, special equipment of this nature can effectively prevent user abuse or misuse of the system's capabilities.

In conjunction with or independent of the least cost routing device, other specialized equipment can be used to record and detail all outgoing telephone calls. The information usually consists of the time, date, duration, origin, destination, routing, and cost of each call, but not the actual conversation. Information recorded can be used to analyze call patterns, evaluate circuit use, determine cost benefits of alternative services, and prepare customer billings.

OUR PRIOR REPORT

In our report, "Economic and Operational Benefits in Local Telephone Services Can Be Achieved Through Government-wide Consolidation" (LCD-80-9, Nov. 14, 1979), we discussed weaknesses in the Government's management of its increasingly expensive and growing telecommunications activities. We demonstrated that costs for continued operation of individual agency telephone systems were higher when compared to the cost of Government-wide consolidated systems in metropolitan areas. We demonstrated that further economic and operational benefits could be achieved through Government-wide consolidation at St. Louis, Missouri, even though GSA and DOD operated separate consolidated telephone systems there.

Our recommendations to the Director, Office of Management and Budget (OMB), included the development and promulgation of a policy for a local telephone service program that (1) required consolidation and modernization, where economically and operationally beneficial, on a coordinated Government-wide basis, (2) assigned organizational responsibilities under the program, (3) directed development of implementing guidelines, procedures, and/or standards, and (4) defined a reporting system for monitoring the program's progress.

OMB officials had no immediate response to this recommendation. However, DOD officials commented that a memorandum of understanding would be negotiated with GSA concerning establishment of the GMATS program. The program's objective would be to achieve improved and economical telephone service on a Government-wide basis. As of June 1980, the GMATS memorandum of understanding had not been executed.

DMATS PROGRAM RESPONSIBILITIES

A DOD directive established the DMATS program in February 1979. The directive defines the policy, responsibilities, and organizational relationships for the establishment and management of DMATS. Directive provisions apply to all DOD components and other Government agencies the Secretary of Defense may approve.

The Assistant Secretary of Defense (Communications, Command, Control, and Intelligence) is responsible for (1) providing general policy and guidance with respect to the establishment and management of DMATS, (2) identifying the regional areas to be considered for DMATS and assigning DOD components to conduct appropriate feasibility studies and to implement and operate approved systems, and (3) reviewing and approving specific implementation plans for DMATS.

The Secretary of a military department or the Director of a DOD agency is responsible for implementing and operating a DMATS. Normally, such responsibility will be assigned to the DOD component having the major telephone requirements in the area.

The selected DMATS manager, operating under the authority, direction, and control of the applicable Secretary or Director, shall develop appropriate documentation for each DMATS implementing the intent of the directive.

DOD has identified 19 possible DMATS locations. Four DMATS have been approved--Boston (Army), San Diego (Navy), Norfolk (Navy), and Dayton (Air Force). A fifth possible DMATS, which is currently under study, is Oahu (Navy). The contract award for Boston is scheduled for August 1980. 1/

1/GSA currently operates a consolidated telephone system in Boston serving civil activities.

The Dayton installation is funded for fiscal year 1981; San Diego and Norfolk are scheduled for funding in fiscal year 1982, while Oahu is scheduled for funding in fiscal year 1983.

DEFENSE TELEPHONE SERVICE, ST. LOUIS

DTS-STL, created in 1966 and operated by the Army, currently provides administrative telephone service to about 125 Government activities (or subscribers). It includes a growing number (25) of civil activities with offices on or near military facilities in the St. Louis metropolitan area.

In April 1979 the Army modernized DTS-STL and changed the system layout to accommodate new switch locations when a major DOD component was relocated in the city. The local telephone company was unable to upgrade existing switching equipment consistent with new requirements generated by the relocation. DTS-STL consists of 7 switching locations and provides service to about 8,000 telephone instruments, about 5,000 station numbers, and about 3,000 extensions (of which about 200 and 150, respectively, are civil agency instruments). The system costs about $4 million annually, including DTS-STL overhead of about $450,000.

The 1979 modernization added special equipment to automatically route outgoing long-distance calls and record specific details of calls routed by this equipment. The modernization was accomplished under a noncompetitive procurement (lease) from the local telephone company. The increased cost of the modernization was to be offset in part by reducing personnel requirements (operators) and long-distance commercial toll costs.

OBJECTIVES, SCOPE, AND METHODOLOGY

We made the review to determine system design and operational management deficiencies at DTS-STL so that these deficiencies might be avoided in the future when consolidated systems are created, expanded, or modernized.

We made our review at DTS-STL from January through May 1980. Our review included analyses of the September 1979 operations--the latest month's billings processed by DTS-STL when we began our review. We analyzed computer tapes of commercial toll calls provided by the serving telephone company. We also analyzed computer tapes from the least cost routing and call recording device to isolate and identify programing

errors in the routing device and abuse of the call recording equipment. We tested subsequent monthly billing-call record data (through April 1980) to confirm continued existence of system faults and abuses.

At DTS-STL we interviewed management and examined records concerning creation of the 1966 system and the subsequent equipment and management evolution. We provided management with selected computer analyses to facilitate interaction with the telephone company concerning modifications to the system equipment and billing corrections.

Discussions were also held with officials and other responsible personnel of the Office of the Secretary of Defense, OMB, GSA, DTS-W, certain DTS-STL subscribers, Department of the Army Communications Command, and the local telephone company.

CHAPTER 2

INADEQUATE PLANNING AND DESIGN OF DTS-STL MODERNIZATION

Consolidated local telephone systems provide service to local areas and access to various long-distance services. Good system planning and design can result in better service and reduced costs.

Inadequate planning and design of the DTS-STL modernization has caused operating costs to increase and has created additional management problems. These deficiencies might have been avoided, or at least mitigated, if the Army had adequately considered the system design and operational experience of DTS-W, where modern equipment was added in early 1978.

DTS-STL SERVICES

DTS-STL provides local telephone service and access to long-distance service. The long-distance service includes services described generally as follows:

--Foreign exchange (FX)--Sixteen circuits are leased for a fixed charge 24 hours a day, 7 days a week between cities which permit toll-free calls between certain exchanges in those cities. An exchange is a specified area; exchanges are identified by the first three digits of the seven digit number assigned to a telephone.

--Outward Wide Area Telecommunications Service (OUT-WATS)--Thirty-two circuits are leased for outward calling only which permit toll-free calls to other public exchanges. DTS-STL's interstate OUT-WATS circuits are Band 5, which permit calls to all public exchanges in the continental United States. The mix of OUT-WATS circuits is as follows:

  --Two intrastate full-period circuits and three intrastate measured circuits. 1/

  --Eleven interstate full-period circuits and 16 interstate measured circuits.

1/Full-period means 240 hours a month and measured means 10 hours a month use. The charge for these periods of use is fixed and overtime is charged on a reduced cost basis.

--Commercial toll service--Connection to the public network which permits calls to any public exchange (worldwide) with a toll charge for each call.

--Federal Telecommunications System (FTS)--GSA's leased voice network, which is interoperable with public telephone services, was established to provide communications services for the Federal Government.

--Automatic Voice Network (AUTOVON)--DOD's worldwide voice network which permits toll-free calls to any telephone in the network.

Good planning dictates that outgoing calls be routed by the least expensive means and that accurate records of usage be made available. Equipment is available from various manufacturers to perform the "least cost routing" and "call recording" functions automatically. Since the least cost routing equipment has been developed for commercial users, available equipment readily provides routing for FX, OUT-WATS, and commercial toll services. We know of no equipment which provides least cost routing of FTS or AUTOVON in a routing scheme. Call recording equipment is widely available to record calls of all types of service.

Generally, it is most economical to use services available at a fixed cost and then services which incur a toll charge or surcharge for each call. Thus, generally, the least cost routing should follow the sequence of FX, full-period OUT-WATS, measured OUT-WATS, and then commercial toll service.

SYSTEM DESIGN NOT COMPATIBLE WITH LEAST COST ROUTING

The modernization of DTS-STL included least cost routing equipment. However, the ability to arbitrarily bypass the equipment defeated its purpose and resulted in additional costs rather than savings.

The Army's economic analysis of the modernization projected a 15-percent savings in commercial toll costs and a 15-percent savings in OUT-WATS costs. Our analyses revealed a 27-percent increase in commercial toll costs and a 7-percent increase in OUT-WATS costs for the first 6 months of operation after the device was installed compared to the preceding 6 months. Neither tariffs nor the number of system users materially increased during the comparative periods.

The failure of the least cost routing device to produce anticipated savings was partly due to a basic system design flaw and errors in programing the device.

System design flaw

The DTS-STL has a basic system design flaw in that users have the option of either going through the least cost routing device or directly dialing commercial toll service. Conversely, the DTS-W is designed so that users cannot bypass the device. If commercial toll service is required (restricted to emergency situations), the call must be placed through a DTS-W operator.

Thus, the purpose of the device--to route calls by the least costly means--was defeated by the basic system design flaw at DTS-STL. As a measure of the effectiveness of the two systems, DTS-W incurs about $15,000 a year for commercial toll calls placed from system telephones compared to about $160,000 at DTS-STL--even though DTS-W serves 10 times as many users.

Device programing errors

The least cost routing device at DTS-STL contained several basic programing errors. For example, the device was supposed to be programed to eliminate the possibility of routing calls via commercial toll service. We found the programing did, in fact, permit calls via commercial toll service to certain States and locations outside the continental United States. The situation remained undetected for 7 months after the modernization. We advised the Director, DTS-STL, of this matter on October 26, 1979, a cost settlement was negotiated with the telephone company in November, and the device was reprogramed effective December 1, 1979.

The device was also supposed to include all distant telephone exchanges accessible by Government-leased FX circuits. We found that 363 exchanges in the Washington, D.C. area had not been included because the Director, DTS-STL, had failed to properly advise the telephone company. During September 1979, about 2,000 calls, valued at about $3,000, were routed using higher cost services (commercial toll or measured WATS), whereas FX circuits were available and could have been used without any additional charge to the Government. We found that this situation existed from the beginning of the DTS-STL modernization in April 1979 until April 1980, when we brought it to the attention of the Director and corrective action was taken.

INADEQUATE PLANNING FOR CALL RECORDING EQUIPMENT

Equipment to record each call processed by the least cost routing device was included in the DTS-STL modernization. Information produced by this equipment was used to bill subscribers for part of the services provided. Inadequate planning for use of call recording equipment has resulted in inaccurate recording and problems in administration and billing.

The call recording equipment used at DTS-STL could only record calling station numbers accessing the switch where the recording equipment was located. The one recording device used was located at the primary switch which served about 40 percent of the DTS-STL stations. To capture the calling station number from users serviced by the six secondary switch locations, the secondary location users were required to include the last four digits of their station number in the dialing sequence. Thus, about 60 percent of the stations (users) were on the "honor" system since the equipment could not discern the validity of the calling station number.

In contrast, DTS-W has call recording equipment at everyone of its 21 switching locations, and information is sensed and recorded automatically on all outgoing calls. Army officials responsible for planning and designing DTS-STL had not contacted DTS-W officials to gain their experience. In our analysis of calls made during September 1979, one of every nine OUT-WATS calls--valued at about $4,800--was recorded as being from nonexistent station numbers or from stations that were supposed to have no outcalling capability (intrasystem station calling only). DTS-STL received numerous complaints from subscribers regarding OUT-WATS calls charged to their accounts which they maintained were not placed by their personnel. These problems caused additional billing and administrative problems and, eventually, the contested costs were absorbed in the overhead rate and passed on to all subscribers.

At the time of the DTS-STL modernization, the telephone company could only provide call recording equipment at the primary switch. Shortly thereafter, however, such equipment was available for use at secondary switches.

In May 1980 the Director, DTS-STL, stated an additional call recording device would be installed at one of the six secondary switch locations serving about 15 percent of the stations in the system (one major subscriber). The one-time installation cost would be about $300 with a $200 a month recurring charge. After the completion of our site work,

some users were relocated, resulting in 60 percent of the total users being serviced by the primary switch. Thus, the calls of 25 percent of the system's instruments will still be on the honor system and will be subject to the inaccuracies and problems noted above.

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In January 1980, we advised DOD and Army officials of our initial findings concerning system design deficiencies at DTS-STL and the potential implications for future DMATS operations. Army officials responsible for developing the DMATS-Boston were generally unaware of the details of the DTS-STL system design and special equipment problems. These officials stated staff was concentrating on successful implementation of the Boston system, and they were unable to immediately deal with the St. Louis organizational and system design problems.

As discussed in the next chapter, the Director, DTS-STL, was uncertain of his authority to make changes in the system's long-distance services. Consequently, no attempt was made to analyze the cost effectiveness of services provided or to enforce good telephone usage discipline on system users.

CHAPTER 3

INEFFECTIVE MANAGEMENT WASTES RESOURCES AT DTS-STL

Consolidated telephone systems using modern technology need a high degree of management control in order to fully realize cost and operational benefits. Management of a consolidated telephone system must have clear authority to be allowed to function free of parochial influences, to be allowed to exercise professional judgment as to the cost effectiveness of services provided, and, ultimately, to be held accountable for total system operations. The Director, DTS-STL, enjoys none of these management prerogatives.

In contrast, DTS-W is chartered by the Office of the Secretary of Defense, thus assuring the system Director a single-point accountability and a degree of independence from parochial interests.

DTS-STL MANAGEMENT STRUCTURE AND DIRECTOR'S RESPONSIBILITIES

The Army's executive agency for DTS-STL is the Department of the Army Readiness Command (DARCOM), with the Army's Communications Command (USACC) designated as the operating agency. The Director, DTS-STL, concurrently holds the staff position as Communications-Electronics officer for two DARCOM elements in St. Louis (the principal subscribers to DTS-STL), and is also the Commanding Officer of the USACC Agency--St. Louis. Since the Director's authority derives from the Department of the Army, his authority to deal with non-Army system subscribers is uncertain and is subject to challenge.

Accordingly, the Director's responsibility is generally limited to that of a financial manager who serves as the intermediary between subscribers and the local telephone company. Telephone company's charges for telephone station equipment, commercial toll calls, and dedicated circuitry are passed directly to applicable subscribers. Telephone company charges for OUT-WATS are passed to subscribers on the basis of minutes of use. General and administrative costs are passed to subscribers on the basis of telephone instruments in use. Thus, a situation is created where subscribers can generally obtain any desired service or telephone equipment (compatible with the DTS-STL system) if they are willing and able to pay for it, regardless of cost effectiveness.

NO ANALYSES OF LONG-DISTANCE CIRCUIT USAGE PERFORMED

Even with the system design faults (see ch. 2), management data was being produced which could be used to identify the inefficient configuration of the system's long-distance service features and the misuse of these service features by the subscribers. The Director cited as reasons for not using the data, lack of resources and uncertain authority to change system service features and to enforce cost-effective telephone discipline on subscribers.

Common-use WATS

DTS-STL pays about $468,000 annually for common-use OUT-WATS services which is recovered from subscribers through monthly billings on a cost per minute of use basis. There are generally accepted analyses techniques to determine the most effective configuration of WATS circuits consistent with experienced calling patterns and peak demands.

DTS-STL has 32 OUT-WATS circuits--27 for calling within the continental United States and 5 for calling within the State of Missouri only.

No analyses had been made of the use of these common-use circuits in the past 2 years; more importantly, none had been made since the 1979 modernization. Before the modernization, all OUT-WATS circuits were accessed through a Government operator, but after the modernization, all OUT-WATS calls were electronically connected through the least cost routing device. This significant change in user access to WATS circuits would dictate reevaluation of the service, but the number and type of WATS circuits remained the same as before the modernization.

The high ratio of measured versus full-period OUT-WATS circuits (19 versus 13, respectively) and recurring overtime charges on each of the 19 measured circuits indicate an analysis is warranted. The Director stated that, after the modernization, the local telephone company would not provide circuit-by-circuit usage data on OUT-WATS which he considered necessary for the analysis. However, using total overall usage data provided by the telephone company for September 1979, we found that the per minute cost to use the 19 measured OUT-WATS circuits was 59 percent more than the per minute cost to use the 13 full-period OUT-WATS circuits.

Subscriber dedicated WATS

One military subscriber to DTS-STL has 60 Inward-Only WATS (IN-WATS) circuits--21 full period and 39 measured, costing about $525,000 a year. These circuits are dedicated to the exclusive use of the subscriber who pays the full cost of the circuits. DTS-STL management contends it has no authority to question the cost effectiveness of these circuits since they are not part of the common-use facilities of DTS-STL. The subscriber advised us it did not have the capability to perform an economic analysis of these circuits because of the lack of circuit-by-circuit usage data. We then asked the Army's 7th Signal Command to analyze telephone company data. Using statistical traffic tables to estimate usage on individual circuits, the Army concluded that 15 of the 39 measured IN-WATS circuits were not cost effective. In fact, 4 circuits had no usage at all for the entire month tested. The cost of these 15 circuits was about $44,000 a year. We notified the subscriber of the analysis results, but no action had been taken at the time we completed our review.

We noted another situation where a subscriber had a dedicated measured IN-WATS circuit that was incurring excessive overtime charges. The subscriber agreed to change to full-period service rather than measured service, which should produce a 52-percent reduction in cost or save about $22,000 a year.

Common-use FX circuits

Sixteen FX circuits are available to DTS-STL subscribers at a cost to the Government of about $73,000 a year. These circuits, many of which have existed for 10 years, are paid for by USACC, and the cost of the circuits is not recovered through the DTS-STL billing process. Since these circuits are not controlled by DTS-STL, no attempt had been made by DTS-STL to analyze usage, nor was there any evidence of any recent analysis by USACC.

FX circuits can be very cost effective if there is a heavy demand (number of calls) to a specific location or metropolitan area. An FX circuit to a major metropolitan area may provide toll-free access to hundreds of local exchanges in that area. With heavy demand, such circuits are less expensive than commercial toll. Ongoing analyses of calling patterns can establish the economies of existing FX circuits and the need for additional circuits to other high-volume calling areas.

Our examination of September 1979 FX circuit usage showed it was extremely small except for three FX circuits to a nearby, primarily residential locale. We found numerous commercial toll calls had been placed to exchanges serviced by the other 13 FX circuits. These commercial toll calls might have been placed partly due to the fact users could make direct toll calls without trying the FX circuits and, as stated in chapter 2, many exchanges accessible by FX circuits were omitted from the least cost routing device programing.

CONTROL OVER CREDIT CARDS NOT EFFECTIVE

The management of DTS-STL does not question the need for, nor subsequent use of, credit cards which local telephone companies issue to DTS-STL subscribers. Army regulations state that applicable Communications-Electronics officers--which in this case is the Director, DTS-STL--must (1) approve issuance of credit cards, (2) maintain records, and (3) obtain certifications that charges against the credit cards are for official purposes. Army regulations further provide that justifications for credit cards must be in writing and that the cards are to be used for official purposes only when the holder is away from his/her duty station and when access to a Government system is not available.

The Director, DTS-STL, was uncertain of his authority to challenge requests for credit cards, particularly from subscribers who were his military superiors or who were not subject to Army regulations (that is, other military services and civilian agencies). DTS-STL management provided us a listing of 99 credit card holders, but doubts were raised concerning its validity. We later obtained a listing from the local telephone company which showed that 138 credit cards had been issued to individual system users. We examined the telephone company's record of DTS-STL credit cards and found that four different cards had been issued to one named Army officer and one had been issued to an individual who had been retired for over a year.

As a further indication of the lack of credit card control, during our review, a civil agency served by DTS-STL submitted a request to DTS-STL for 30 credit cards. Although no justification was given, DTS-STL passed the request to the telephone company without comment. The telephone company then issued the cards directly to the agency. Had this civil agency been served by the St. Louis GSA consolidated telephone system, the credit card request would have been denied by GSA.

In January 1980, the St. Louis GSA consolidated system manager canceled all credit cards for its system subscribers. GSA advised subscribers that official calls from private residences should be dialed direct, and a claim for reimbursement should be made against the employee's agency. If a call is placed from a temporary residence, the hotel/motel operator should be used and the call should be placed collect (to the employee's office) or charged as a third-number call against the employee's office telephone number. Army regulations state essentially the same procedures should be used instead of credit cards.

In our analysis of September 1979 commercial toll calls, we noted numerous credit card calls had been made from distant cities to private residences in the St. Louis area. Some of these calls, usually made during the evening hours, had been made to credit card holders' residences. We did not pursue this matter since only through personal interrogation could it be established who placed the call and the nature of the call. However, we did refer the matter to local military investigative personnel. At our request, DTS-STL management began a program to confirm the identity of the Government employees holding the 138 credit cards. Also, DOD officials advised us that other steps have been taken to improve control over credit cards.

COMMERCIAL TOLL USAGE NOT ANALYZED

Army regulations specify long-distance calls should be placed over Government circuits unless urgency will not permit waiting for such Government circuits. In September 1979, 14 percent of all DTS-STL commercial operator-assisted calls were placed from local St. Louis area telephone exchanges (other than DTS-STL). These callers had toll-free access to the DTS-STL operator for connection to AUTOVON, FX circuits, and WATS circuits. The DTS-STL operators are on duty 24 hours a day, 7 days a week.

Recognizing that an urgency might require use of commercial toll calling during normal working hours when Government circuits are busiest, we found over 6,000 minutes of commercial toll calls, costing about $1,100 for September 1979, had been made by DTS-STL users after normal working hours. We contacted one significant commercial-toll call user and found that many of these after-working-hours calls had been made to transmit data to computer sites. The user said in the past the DTS-STL operators manually controlled access to OUT-WATS circuits and frequently disconnected the circuit while transmissions were in process. Thereafter, data transmissions were made on

commercial toll circuits to insure continuous connections. The user was not aware that, following the April 1979 modernization, connections to OUT-WATS circuits (through the least cost routing device) were automatic and not subject to arbitrary disconnection. After discussing the matter, the user agreed to use OUT-WATS in lieu of higher cost commercial toll.

Since the 11 full-period, common-use OUT-WATS circuits had about 64,000 minutes of unused capacity in September 1979, we believe that the cost for the 6,000 minutes of commercial tolls could be eliminated at an annual savings of about $13,200.

The law requires that all long-distance commercial toll calls (credit card, collect, third number) by a Government employee be certified as being for official purposes. DTS-STL provides each subscriber, for certification, a listing of all commercial toll calls charged to the subscriber's station numbers each month. During our test month, we found 73 subscribers had incurred commercial toll charges; yet only 19 had executed the certifications. These 19 billing accounts represented about 10 percent of the month's commercial toll charges for DTS-STL. The Director, DTS-STL, said obtaining the certifications was a continuous problem. He had established local procedures, where it was presumed the calls were certified as official if the subscriber did not take exception to the billing within 15 days of receipt.

DOD officials advised us that the heavy workload associated with the DTS-STL modernization and the relocation of a major subscriber precluded proper management analysis of commercial toll usage.

SUBSCRIBER'S TELEPHONE STATION EQUIPMENT NOT EVALUATED

Complicated tariffs and rapidly changing technology make it essential that telephone system users be constantly aware of telephone station equipment costs and be advised by system management of cost-effective equipment and circuit configurations.

The telephone company proposal for the 1979 modernization of DTS-STL anticipated a minimum 5-percent reduction in existing pushbutton telephone instruments, or a savings of about $32,000 a year. The elimination of such instruments would be possible because of the added station features under the modernization. However, when the system was modernized, virtually all instruments were merely changed from rotary to touchtone dialing (pushbuttons retained). No station equipment surveys

were conducted by the Army or DTS-STL management before the modernization, and none has been performed since. DTS-STL management recognizes that station equipment surveys are needed, but contends it lacks the personnel to make such surveys. DTS-STL management is also uncertain of its authority to act on survey results.

We selected one non-Army subscriber for detailed telephone equipment analyses. During our examination, the subscriber decided to redesign its telephone equipment configuration. As a result, 41-percent reduction, or about $2,400 a year, occurred in telephone equipment cost. This subscriber was a relatively small activity compared to the other DTS-STL subscribers. After our site work was completed, a major subscriber conducted a survey of station equipment which we were advised would result in annual savings of $100,000.

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The Army stated the DMATS management plan under development will be applied to DTS-STL as well as DMATS-Boston. The Army believes this plan will provide overall management improvements. However, we believe the DMATS management plan must deal with intermilitary department issues and must also recognize the inclusion of civil agency subscribers to provide effective Government-wide management.

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

Anticipated operational and cost benefits of the DTS-STL modernization were lost, or at least diminished, because of inadequate planning and system design problems. In our opinion, the Army failed to consider experience at DTS-W which could have mitigated the system design problems and the improper use of special equipment items installed at DTS-STL during the 1979 modernization.

The Director, DTS-STL, lacks clear authority to operate the system in a manner most cost effective to the Government, and generally, is unable to control abuse and misuse of the of the system facilities by subscribers. The Director did not analyze system operational results to identify correctable deficiencies in the special equipment devices and did not advise subscribers of telephone usage disciplines that could reduce costs.

The DMATS program presents an excellent opportunity for DOD to eliminate inefficient independent military telephone systems in metropolitan areas. However, the increased sophistication and high costs of modernized telephone facilities require a new style of management to control potential abuse and misuse of the facilities which can be used by both military and civil agency users.

In our opinion, DTS-STL in particular, and the DMATS program in general, exemplifies the continuing need for a Government policy on consolidated local telephone service. GSA and DOD now operate separate consolidated local telephone systems in St. Louis, and soon will have separate consolidated systems in Boston. We believe our November 1979 recommendation to OMB regarding development of a Government policy for consolidated local telephone service remains pertinent.

RECOMMENDATIONS

We reiterate our prior recommendations to the Director, OMB, particularly with regard to development of a policy for consolidated local telephone service that (1) assigns organizational responsibilities and (2) contains implementing guidelines, procedures, and/or standards.

In the interim, we recommend that the Secretary of Defense clarify and strengthen the role of the DMATS Director to (1) make the position independent of local military command control to preclude conflict of interest, (2) define the DMATS Director's responsibilities and authority over other military department and civil subscribers to the system, and (3) structure the position and supporting staff resources consistent with potential Government-wide metropolitan area consolidation.

We further recommend that the Secretary of the Army:

--Devote the necessary resources to correct the design, operating, and management deficiencies of DTS-STL.

--Provide the DTS-STL Director with an operating charter, either under DMATS or independently, which is consistent with the system's technology and the community of interest being serviced by the system.

AGENCY COMMENTS AND OUR EVALUATION

We requested written comments on our draft report from OMB, DOD, and GSA.

GSA's comments are in appendix I. GSA agreed with our findings, conclusions, and recommendations. GSA recognized that a strong management charter was necessary to control the operational integrity and cost effectiveness of consolidated telephone systems. GSA was negotiating an agreement with DOD on GMATS. However, GSA stated that DOD did not accept the position that GSA was responsible for management oversight of Federal administrative telephone services.

Irrespective of existing law and interagency agreements which fragment responsibility for Federal administrative telephone services, we believe it should be possible to develop uniform policy and procedures to encourage metropolitan area consolidated telephone systems on a Government-wide basis, where technically and economically feasible. The GMATS concept is a step in the right direction.

OMB's comments are in appendix II. OMB agreed that (1) savings and improved operations could be achieved by consolidating and modernizing the Government's local telephone services, (2) the lessons learned in St. Louis should be applied as appropriate to other consolidations undertaken by the Federal Government, and (3) more attention should be directed to all aspects of Government telephone equipment and service management to achieve and maintain economies.

DOD's comments are in appendix III. DOD contended that our draft report did not fairly present the situation at the time of the modernization of DTS-STL nor the current situation because:

--The telephone company was unable to provide better service at the time.

--The workload of assigned staff at DTS-STL associated with the modernization and the relocation of a major subscriber precluded appropriate management actions at the time.

--Corrective action is being taken on all deficiencies identified.

DOD also contended that the military departments are jointly working on a detailed DMATS management document which will insure a standarized approach based on good management principles. Further, DOD contended our auditors were satisfied that the only major issue remaining at DTS-STL was the question of organization and management philosophy. In addition, DOD said our auditors indicated full satisfaction that the problems at DTS-STL had been fully and adequately addressed at DMATS-Boston with the possible exception of DOD's management approach.

Where necessary and appropriate, this report has been revised to recognize telephone company limitations, the chaotic conditions and increased workload occasioned by the modernization and the relocation of a major subscriber, and the actions taken or being taken after our findings were brought to the attention of cognizant officials. We applaud such actions. Nevertheless, the fact remains that DOD officials either were unaware of many of the deficiencies or lacked the authority and resources to take timely corrective actions. Furthermore, action had not been taken to resolve the basic system design deficiency whereby users have unrestricted access to commercial toll circuits.

Since the military departments are still developing the detailed DMATS management document, we have not reviewed it. However, to preclude repetition of the deficiencies noted at DTS-STL in future consolidations, we believe, as stated in our recommendations to the Secretary of Defense, that the DMATS Director should have the appropriate responsibility, authority, and adequate resources consistent with potential Government-wide metropolitan area consolidation.

We do not agree now, nor have we ever agreed, with the system concept at DTS-STL whereby users may indiscriminately access commercial toll circuits when prepaid Government circuits (AUTOVON, FTS, WATS, FX) are available. Since negotiations are continuing with vendors for DMATS-Boston, we have no basis to assume the system will preclude recurrance of the kinds of design and operational problems experienced at DTS-STL.

APPENDIX I

General Services Administration
Automated Data and Telecommunications Service
Washington, DC 20405

AUG 21 1980

Mr. R. W. Gutmann
Director, Logistics and Communications Division
United States General Accounting Office
Washington, DC 20548

Dear Mr. Gutmann:

This is in response to your July 28, 1980, request for comments on your draft report on "Deficiencies in the Modernization of the St. Louis Defense Telephone Service Should Be Avoided In Future Consolidations", code 941194, CIM-80-24.

We agree with the findings, conclusions, and recommendations in your report.

The General Services Administration (GSA) has been operating consolidated telephone systems for more than twenty years. Presently, ADTS is operating and/or managing more than 260 consolidated full-service telephone systems in the United States and Puerto Rico. Because of our experience, we have recognized for some time that a strong charter is necessary to control the operational integrity and cost effectiveness of the services being provided.

The GSA is proceeding cautiously in developing an agreement with the Department of Defense (DoD) on Government Metropolitan Area Telephone Systems (GMATS). A draft agreement was provided to DoD in May 1980, and subsequently revised in June 1980. Within the draft agreement we require a single manager and identify policies. At this time, DoD has not agreed with GSA's position that we are responsible for management oversight of administrative telephone service in the United States. The GSA will hold the draft agreement in abeyance and attempt to reach an agreement with DoD to conduct studies to collect the necessary data to determine more specifically the economic and operational advantages of very large consolidations. There are certain economies of scale - proportional to system size - but the savings and size of the consolidations

APPENDIX I

are not infinite. Changes in technology are raising the economical upper limits on system size, and the number of individual locations that may be included in a single consolidation. Once we analyze the data, DoD and GSA will be in a better position to negotiate an agreement with more meaningful policies, guidelines, and objectives.

Thank you for this opportunity to comment on your draft report. Should you have any questions or require additional information, please contact Mr. Donald E. Scott, Program Manager, Competitive Procurement of Telecommunications Program, on 472-4232.

Sincerely,

FRANK J. CARR
Commissioner

APPENDIX II

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

AUG 28 1980

Mr. William J. Anderson
Director, General Government Division
United States General Accounting Office
Washington, D.C. 20548

Dear Mr. Anderson:

We appreciate having an opportunity to review your draft report, "Deficiencies in the Modernization of the St. Louis Defense Telephone Service Should Be Avoided in Future Consolidations," Code 941194, CIM-80-24. The deficiencies which you have noted in the St. Louis telephone service should certainly be examined with a view toward improving the economy and effectiveness of this system. The lessons learned in St. Louis should be applied as appropriate to other local telephone service consolidation programs undertaken by the Federal Government.

OMB generally agrees that savings and improved operations can be achieved by consolidating and modernizing the Government's local telephone services. However, we believe that more attention should be directed to all aspects of government telephone equipment and service management in order to achieve and maintain economies. We believe that the guidance given to agencies to improve their telecommunications management programs with support provided by OMB to GSA to carry out its responsibilities in this area is the best way to achieve overall effective management of telecommunications.

Sincerely,

Jim J. Tozzi
Assistant Director for
Regulatory and Information Policy

APPENDIX III

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

COMMUNICATIONS,
COMMAND, CONTROL,
AND INTELLIGENCE

September 17, 1980

Mr. R. W. Gutmann, Director
Logistics and Communications Division
U. S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Gutmann:

This is in reply to your letter to the Secretary of Defense regarding your draft report dated July 28, 1980 on "Deficiencies in the Modernization of the St. Louis Defense Telephone Service Should be Avoided in Future Consolidations" (GAO Code 941194) (OSD Case #5496).

The draft report fails to present many pertinent facts regarding the situation under which Defense Telephone Service (DTS) - St. Louis was upgraded. As a result, we believe that the conclusions of inadequate system design and management are misconceived.

Contrary to the draft report findings, in a joint OSD/Army/GAO meeting of June 25, 1980 GAO agreed that the only major issue concerned the question of organization and management philosophy. Additionally, in this and other meetings, the technical and management approaches on DMATS-Boston were discussed in detail, and GAO indicated full satisfaction that the problems raised in the draft report had been fully and adequately addressed with the possible exception of DoD's management approach.

It is our contention that, under the circumstances, the Army did the best job possible for DTS-St. Louis. In this regard, the telephone company was unable to provide better service at that time. Also, the audit itself was untimely coming only 6 months after the initiation of a major mission reconfiguration which included many problems beyond the control of the telecommuniicator. Enclosure 1, which provides a detailed description of the DTS-St. Louis project from its inception, clearly depicts the site problems and the shortcomings of the telephone company offerings. GAO was well aware of these circumstances; yet, the report fails to point up these key considerations.

Since the inception of DMATS, all technical shortcomings cited in the report have been considered. From the management standpoint, DoD Directive 4640.5 addresses the DMATS management matter in some detail. In developing this directive, we took special pains to insure that the manager has proper

APPENDIX III

authority and the necessary tools to carry out the job. Since a DoD directive is basically a policy document, the military departments are jointly working on a detailed DMATS management document which will insure a standardized management approach based on good management principles. The results of this effort will be ready in sufficient time for use in the implementation of DMATS-Boston. These same procedures will apply to DTS-St. Louis which is subject to the DMATS directive.

It is DoD's contention that the draft report does not represent the situation or the current status at DTS-St. Louis, and it fails to recognize that DMATS planning has accounted for all the system discrepancies discussed therein. It is recommended that the draft report be withdrawn since it will mislead the readers and serve no constructive purpose.

Enclosure 2 provides additional specific comments. (See GAO note.)

Sincerely,

Harry L. Van Trees

Harry L. Van Trees
Principal Deputy

Enclosure 2
a/s

GAO note: Our final report has been modified where appropriate to deal with DOD's specific comments, and their thrust has been summarized in DOD's letter and its enclosure I. Therefore, enclosure 2 has been omitted from the report.

APPENDIX III

SUMMARY OF ACTIONS (1977-1980)

DTS-ST. LOUIS

As a result of project "STEADFAST"(a 1973 study to realign the U.S. Army), a plan was developed to reorganize and relocate major Army elements in the St. Louis metropolitan area, necessitating significant alterations to buildings within the 4300 Goodfellow complex. In August 1977, Congress approved funding for the plan which called for the relocation of approximately 2000 people from the Federal Office building in downtown St. Louis to the Goodfellow complex with an April 1978 implementation date.

In order to accommodate the large increase of telephone requirements at 4300 Goodfellow, the Army placed an order with the local telephone company (TELCO), S. W. Bell Telephone Company, to increase the CENTREX I-CU serving 4300 Goodfellow from 2000 to 3000 lines. In October 1977, the TELCO informed the Army that the CENTREX switching equipment serving 4300 Goodfellow was obsolete and could not be expanded. Consequently, the TELCO presented a proposal to the Army in November 1977 to provide service from a new service - CENTREX II CO system.

Based upon an essential operational date of 1 April 1979, the Army was prevented from seeking competitive procurement action for a different system; thus, the Army had no choice but to accept the TELCO offer. To optimize telephone service costs and operations, enhancements available with CENTREX II CO were explored. The two significant options included means for automatically collecting call detail and for automatic route selection (ARS). In each case, however, there were service limitations which prevented the Army from achieving maximum advantage.

The ARS offered by the TELCO was relatively new and did not offer all that was desired by the Army, such as queuing and tone warning before spillover to toll circuits. It was determined that calls within a 50-mile radius zone cost less than WATS calls; therefore, it was planned that these calls would be placed through the ARS automatically via toll circuits and all other toll calls would be denied. Based on assurances from the TELCO that the basic desired features mentioned above would be available by 1 April 1979 and the 50-mile radius situation could be accommodated by the ARS, the ARS system was configured for only FX, WATS, and the limited 50-mile radius toll. Any toll calls other than to those locations within the 50-mile zone would require the caller to direct the call via the ninth level toll facilities. These calls would be recorded on the normal toll recording equipment associated with the CENTREX system and be subject to management review.

The only tariffed offerings available from TELCO to collect call detail included Station Message Call Detail (SMDR) and Call Detail Automatic Recording (CDAR). SMDR was only available at a primary CENTREX location and CDAR being the only offering for secondary CENTREX locations; this configuration was dictated by the technology as well as tariffs governing the system at that time.

APPENDIX III

SMDR allowed the caller to be identified to the machine automatically while CDAR required the caller to dial a 3-4 digit code into the machine to identify himself. (This necessitated the caller to dial up to 17 digits in order to place a long distance call).

While the ARS, with SMDR/CDAR, were not considered the optimum solution, other alternatives such as installation of a customer-owned device, i.e., WATSBOX, were considered and proved to be cost prohibitive due to the number of tielines that would be required to be leased by the Army in order to interconnect the devices(s) with the CENTREX II system. Therefore, it was decided to utilize the TELCO offering and live with the configuration until the enhancements promised by the TELCO became available. Contact was made with operations personnel from the DTS-W to determine the effectiveness of these devices since it was learned that the DTS-W had placed an order (July 1977) for similar services; however, since the service was not yet operational in the DTS-W, no information was available. (Operational in spring 1978)

Changeover from CENTREX-CU to CENTREX II CO necessitated a 100% inventory of all existing station equipment (this was the largest cutover S.W. Bell TELCO ever experienced). Also, an individual order had to be written for each telephone instrument designating class of service, location and service features. Approximately 30,000 transactions were processed in 1979 by the three assigned communications specialists. This work was accomplished as an addition to their normal job duties. At the same time, these specialists were developing a data base which would be used to automate the entire DTS-SL billing system. Cutover to CENTREX II CO was successfully effected 7 April 1979; however, construction delays resulted in significant delays in the movement of major elements in the St. Louis area. These moves are now approximately 90% complete and are still continuing. Over 20,000 actions involving telephone services have taken place in 1980.

As the situation is beginning to stabilize in St. Louis, the DTS-SL management is reviewing the total system and taking corrective action regarding deficiencies identified in the GAO report. A good example is the recent TSARCOM survey which will result in annual savings of approximately $100,000 in station equipment alone. Additonally, the DTS-SL is now providing comprehensive telephone usage reports to its customers for use in achieving telephone economy and discipline.

One shortcoming that has not yet been overcome is the accessibility of detailed ARS circuit usage which is essential in order to "fine-tune" the system for optimum FX, WATS and toll configuration. Actions are presently being taken with the TELCO to obtain this data and will continue until a satisfactory arrangement is achieved.

It is unfortunate that the time period covered by the GAO study was one of turbulence in which a major mission reconfiguration was taking place and a period of intensive adaptation to new equipments and services had just begun. It is unfortunate too that certain TELCO services were limited and could not provide fuller benefits. As the TELCO offerings improve and the major cutover requirements are met, efforts are underway to achieve economies and improve operations to the maximum.

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