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Mr. Howell/nf/21734

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SUBJECT: FY 75 Annual Historical Summary (ROC-CSHS-6(R-2))

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Subject Agency history is transmitted herewith.

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Off	Date	Initials
Howell	10 May 76	EJH
FMD	12 May 76	EJH
TP	13 May	K
PM		
By Sinc. Concurrence Reg'd		
Howell 13 May 1976		

HL SPACE II (31)

ANNUAL HISTORICAL SUMMARY

Reports Control Symbol CSHIS-6 (R2)

UNITED STATES ARMY SATELLITE COMMUNICATIONS AGENCY

1 July 1974 - 30 June 1975

HL SPACE II (31)

BACKGROUND

The United States Army Satellite Communications Agency (USASATCOMA), based at Fort Monmouth, New Jersey is the focal point for military satellite communications. As Army Project Manager for satellite communications, the Agency is responsible for the earth environment of Department of Defense (DOD) satellite communications systems. The SATCOMA Project Manager also acts as the Army's agent for all international military satellite communications programs, represents the Army in special DOD satellite projects, provides the ground environments for the Global Positioning System (GPS) and exercises complete life-cycle management and support for the Tri-Service satellite communications earth terminals.

The Agency is an integrated facility performing satellite communications system engineering, research and development testing and evaluation, and support functions for the Army under Headquarters, US Army Materiel Development and Readiness Command (DARCOM).

From its Fort Monmouth Headquarters, the Agency also directs the operations of the 235th Signal Detachment (TACSATCOM), a Forces Command element, while it is in garrison at Lakehurst (N.J.) Naval Air Station. This unit and the training area are employed in testing and demonstrating tactical satellite communications equipment.

TACTICAL SYSTEMS

Development of a family of tactical satellite communications terminals has been proceeding under contract to RCA Corporation, Camden, NJ. The program consisted of a Trailer Terminal AN/MS-59; S-250 Shelter Terminals AN/TSC-85 V1 and V2 mounted on 1 1/4 ton vehicles; and S-280 Shelter Terminal AN/TSC-86 mounted on a 2 1/2 ton vehicle. These terminals are characterized by their ease of setup and high degree of transportability, maintainability, reliability and low-cost production. They are configured to provide point-to-point and multi-point capabilities where conventional ground communications equipment cannot operate.

In December 1973, an additional contract for the TACSAT Control Terminal was awarded to RCA. The control terminal is designed to increase the utility of tactical satellite communications by organizing user access to the satellite and managing the radio frequency assets, including that portion of the DSCS satellite power assigned by the Joint Chiefs of Staff for tactical Army use.

Deliveries of SHF Terminals commenced in April 1975 with final delivery in June 1975. The Tactical Control Facility (AN/TSQ-118) was also delivered in June. Testing of all SHF terminals commenced in June 1975.

In June 1974, a contract was awarded to Cincinnati Electronics for the design and development of a UHF manpack terminal, incorporating development of a modem to be installed in a future UHF vehicular and shelter terminal. The terminal will be capable of communicating in a paging mode to a man in motion. When the paging signal is received, the manpack terminal 6 dB antenna is deployed and communications back to the base station initiated in either the voice or burst modes.

A letter contract for the European Test Bed, consisting of 21 UHF Ground Terminals was awarded in October 1974 and definitized in June 1975. These terminals will provide a satellite communications capability to selected Special Ammunition Storage (SAS) sites. This will make possible a thorough test of their communication mode for their application.

STRATEGIC SYSTEMS

The contract for Heavy Terminals, with Aeronutronic Ford, has been proceeding very well. An effort associated with the contract has been the coordination, with the military department and NSA, to assure timely availability of sites to accept the terminals.

A contract was awarded the Harris Corporation (Electronic Systems Division) for the development of a 20 foot antenna (with a G/T 26 dB). The antenna is intended for use with the Satellite Communication Terminal AN/TSC-86. It will furnish the terminal with a greater communication capability than the 8 foot antenna which is generic to the AN/TSC-86.

Four AN/TSC-90 Satellite Communications Terminals were delivered to the White House Communication Agency during FY-75. These special transportable terminals were developed under contract with International Telephone and Telegraph Corporation. The terminals are intended for special purpose, contingency operation with the DSCS. The packaging design makes possible easier installation and operation in difficult-access locations.

In 1974, the Agency completed modifications of 14 AN/MS-46 terminals in the DSCS. Thirteen AN/TSC-54 terminals also were modified and deployed to their field locations. These terminals were modified to improve availability by addition of redundant systems.

During 1975, as a result of these modifications, there was a marked increase in the availability of these terminals.

Tobyhanna Army Depot is involved in the fabrication and assembly of Digital Communication Subsystems (DCSS) for use with strategic satellite communication terminals. They have completed the assembly of the prototype unit.

During the past year, procurements were placed for equipments which are to be integrated into the DCSS. These equipments are the A/D Converter CV 3034, BPSK modem 920/921, and a QPSK modem.

It is noteworthy to report that the final FY 76 Program Budget Decision in the DSCS Program was released in December 1974. This decision indicated that beginning in FY 76, the DSCS Program would be totally funded by Army. Heretofore, OPA funds from Navy, Air Force and NSA were provided to USASATCOMA by MIPR.

Strategic Systems (Cont)

As part of the Agency's life-cycle support responsibilities as Satellite Communications Project Manager, on-site technical assistance was provided to deployed Tri-Service earth terminals on 40 different occasions between 1 July 1974 and 30 June 1975 for the resolution of operational or maintenance problems which were determined to be beyond the capability of site personnel.

The Program Plan 74-80 (which provides the information normally included on the MN/QMR, basis of issue, baseline cost estimate and the Training Device Requirements) was approved by DTACCS June 1975.

GLOBAL POSITIONING SYSTEM (GPS)

The Global Positioning System (GPS) is included for the first time in Annual Historical Summary, therefore, a short description is given:

The Global Positioning System (GPS) is a Joint-Service Program in which the Army, Navy and Air Force are funding and participating in Contractual/Study efforts to develop a network of satellites and a family of Ground/Sea/Airborne equipment which will permit the accurate determination of three dimensional position and velocity in near real time. The Air Force has been designated the executive service for the GPS.

The basic GPS contract for the Control Segment and User Equipment was awarded in October 1974.

One of the user equipments of greatest interest to the Army is a terminal capable of being transported by men. Such a terminal is being developed under the basic GPS contract. To provide competition for this equipment, the JPO was authorized to undertake an alternate development of a manpack (MP) terminal.

At year's end, a contract award for an alternate development contract was pending.

235th SIGNAL DETACHMENT (TACSATCOM)

The 235th Signal Detachment (TACSATCOM), a FORSCOM element based at Lakehurst Naval Air Station, continued to provide satellite communication support to the President, and the Military Departments.

In July 1974, a TACSATCOM team was deployed to the city of Minsk, USSR. There, it established a satellite link to an earth terminal at Fort Monmouth, NJ with circuit extensions to the WHCA switchboard in Washington, DC for communications support of the President of the United States during his visit to Minsk.

In October and November 1974, TACSATCOM teams provided UHF and SHF communications support between elements of the 1st Infantry Division in the Federal Republic of Germany and its headquarters in Fort Riley, Kansas, as part of the annual Reforger exercise.

During May 1975, support was provided to XVIII Airborne Corps at Fort Bragg, N.C. for Exercise Solid Shield using both SHF and UHF TACSATCOM assets.

In June 1975, TACSATCOM personnel introduced the RCA SHF Multichannel terminals during a live demonstration at the Pentagon. During this demonstration, a satellite circuit between Germany and Washington was terminated both at the Pentagon and, by remote leased wire lines, at the National AFCEA convention in Washington, DC.

AGENCY INTERNAL EFFORT

Following the loss of the Under-the-Sea Cable with the capture of NHA-Trang, a modified AN/TSC-54 Terminal was airlifted to Saigon RVN to provide 12 channels of communication to the US. It performed without failure from 28 March 1975 until the last day of the evacuation (29 Apr 75) at which time the terminal was destroyed.

As a basis for logistic support implementation of the operational DSCS, the initial Logistic Support Plans for the Earth Terminal Complexes using Satellite Communications Terminals, AN/MS-46 and AN/TSC-54, for Phase II Stage 1B operations were issued in May 1974. These were tri-service coordinated and distributed worldwide to the tri-service and military depot users.

A special IPR of the Tactical Program was held in July 1974 at which time the Agency presented a Draft TACSATCOM SDP to the appropriate Army elements for preliminary coordination.

A baseline cost estimate for the TACSATCOM program was approved in September 1974.

The Agency completed staffing assignments for the GPS JPO and SAMSO to interface with the Air Force and to assure that the Army requirements are met.

During March 1975, the Agency accepted the new 7200 sq ft prefab building in the rear of USASATCOMA Hq and began installation of the Integrated Test Facility. This is a unique facility dedicated to satellite communications research and development testing.

During June 1975, WHCA was provided with a Digital Communications Subsystem consisting of two (2) MD-921 BPSK Modems, one (1) TD-660 PCM multiplexer and one (1) ES-2 Echo Suppressor. This equipment was interfaced with the AN/TSC-90 Satellite Communications Terminal and was used for the presidential system during his visit to Helsinki, Finland in July 1975.