

Installation of the AUTODIN system in CONUS has permitted phaseout of 11 teletype relays and nine data relays previously operated by the military departments.

Installation of the overseas system will permit phaseout of 13 and phasedown of 10 teletype relays. It also permits phaseout of 14 manual data relays.

Mr. DAHLIN. Could you provide the breakdown and cost and location of those phaseouts present or planned?

General KLOCKO. Yes, sir; we shall. We have that.

(The information referred to follows:)

Cost and personnel savings on the closeout of manual relays replaced by AUTODIN, \$40.8 million; 3,578 military and 320 civilian, for a total of 3,898. (Other information was furnished for committee files.)

[Deleted.]

IMPROVEMENT PLANS

General KLOCKO. My preceding remarks have reviewed the switched networks which select the paths for interconnecting customers. I will now discuss the transmission system which provides these paths or channels in the DCS. This system is made up of several types of transmission media including radio, tropo, microwave, submarine cable, landline, and satellites. These media having varying characteristics and capabilities must be installed and interconnected to meet the quality and quantity standards required by the many types of traffic being passed. It provides the long-haul backbone capability. However, these long-haul requirements may range from short-leg lengths of 10 or so miles to long-leg lengths such as those from Southeast Asia to Washington. Our task in transmission is to insure proper selection, installation, and interconnect of the various media in an economical, efficient, and effective manner to meet these varying requirements.

The transmission systems within the DCS require almost continuous review, improvement, or realignment to insure that the systems meet the demands placed upon them. Transmission improvements are required in terms of improved quality, increased capacity, and greater reliability. It is expected that all DCS systems meet DCS standards and that improvement projects be planned and implemented in time to satisfy user requirements.

With these views in mind, I would like to review the many programs for improving the effectiveness of the DCS transmission system.

As you probably know, high frequency radio has, in the past, been the mainstay of military long-haul and transoceanic trunking. However, because of the rapidly changing technology, other means of communications now surpass HF in the ability to meet most customer demands. We are, therefore, reducing our HF long-haul trunking. Concurrent with this reduction is a quality improvement program—better antennas, transmitters, receivers, frequency utilization, et cetera—of a selected number of the remaining trunks. The present program extends through fiscal year 1970. Depending upon the success of the follow-on military satellite program (phase II), we will be initiating another HF program in which we expect even further reductions in HF trunking.

I would now like to turn our attention to the DCS plans for improving communications in the Pacific and Southeast Asia. [Deleted.]