General MV4000 system has now been installed in Paris and additional Data General machines have been planned for Hong Kong, Bonn and Washington. In Washington a service bureau has been used to date for processing financial transactions.

(6) TELECOMMUNICATIONS

For telecommunication purposes the Department has installed a sophisticated switching system (known as NOCAMS), using Data General minicomputers, which provides essential switching and network control services between the Posts and HQ in a secure environment.

(7) PERSONAL COMPUTERS

A recent and rapidly accelerating trend has been the acquisition of micro-computers to perform a variety of administrative tasks from budgeting to project monitoring. To date over 30 personal computers have been installed in the Department, most of which are IBM PC's.

The general trends within the Department are towards the adoption of micro-computers for specific applications developed primarily by the users. The results to date have been mixed but user enthusiasm has been fired and the demand for more hands-on computing facilities is increasing.

(8) MICRO COMPUTER BASED WORKSTATIONS

Included in this category are networks of multifunctional terminals providing electronic messsaging, wordprocessing, telephony, and spreadsheet capability. This equipment, consisting of 65 Mitel Kontacts and 7 Grid Compasses, has been installed as pilot projects involving Senior Management at HQ, the Consulate General in New York, and the USA Branch, for evaluation purposes. The results of the evaluation will enable more informed decisions to be made on the acquisition of appropriate office automation equipment and systems.

(9) WORD PROCESSING

The installed base of word processing and office equipment includes over 100 wordprocessor systems, including machines produced by four different manufacturers, AES, MICOM, WANG, and Olivetti. The AES systems were acquired at Headquarters as a result of consolidation. The Wang machines were purchased to meet the Department's requirement for a secure system. At that time AES did not manufacture appropriately secure machines. Lack of compatibility among the various kind of machines is a problem.

(10) SOFTWARE

Most application systems for "Old External" have been developed using the COBOL programming language. The largest systems inherited from IT&C use ADABASE/NATURAL. The many personal computers tend to use packages such as dBase II or Lotus 1-2-3. Some high level program development tools have also been employed by the systems development team in Management Services Division as shown in the following list:

- Screen Generator System - SGU
- Application Generator - IRIS (running under COBOL)
- Data Dictionary - IRIS
- Data Base CODASYL
- Report Generator - IQL:/OQL (DEC), Present (Data General)

(11) TECHNOLOGY ISSUES

There is a realization that commercial service bureaus (traditionally used by Trade systems) are very expensive computing resources and a much