PROGRESS REPORT ON USE AND MANAGEMENT OF ELECTRONIC COMPUTERS

This report covers the following:

Summary highlights of new computer applications.
Reduction in costs and improved efficiency through the use of computers
Improvements in the management of computer activities.

New computer applications

The search for new and better ways to use computers to improve the public service has extended to virtually every governmental activity and has produced results. Examples include—

Improvements in air travel safety through the more rapid and comprehensive computer analysis of aircraft accident data. Recommendations for corrective action are being made within weeks instead of months;

Detection of previously unknown adverse health hazards which may accompany the beneficial uses of modern drugs. This is being accomplished through a computer drug monitoring system;

Overcoming a serious threat to the Columbia River salmon industry. This was accomplished through a computer based system that automatically determined the flow of reservoir releases needed to combat fish-killing conditions in the river;

An improved UHF television channel assignment system. Computers were used to identify channels in areas where they were needed badly;

Simplification in the scheduling, validation and scoring of nationwide written examinations for the approximately 750,000 people who annually seek Federal jobs; and

Improved information on the funds expended by the Federal activities in the War on Poverty. This information assists Federal, State, and local officials in assessing programs and assigning priorities.

The computer has been applied to achieve significant results which would not have otherwise been feasible. Examples include:

The use of computers on the Lunar Orbiter spacecraft at every stage of its lunar picture-taking mission. These uses run all the way from computations of trajectories to improving the quality of the pictures themselves.

Collection of critical weather information data and dissemination of this data to air operational units. The currency of the data has been considerably improved by the use of computers.

Increased productivity and the more effective use of scarce engineering skills by the application of computers to engineering design and survey operations by many agencies. These applications are compressing time, providing greater precision in design, with a result in savings in construction costs.

Application of basic research to the solution of problems in a wide range of environmental sciences. Among the significant areas which vitally affect future human welfare and safety are those concerning the long-range behavior of the atmosphere and the seas and the dispersion of pollutants.

Reduced costs and improved efficiency

The introduction or extension of computer techniques and the standardization of systems has in many cases reduced costs and improved the efficiency of operations. Examples include:

Completion of the recent Census of Agriculture, covering 3 million farms. This was accomplished with a net saving of approximately $2 million, including 700,000 man-hours—an overall reduction of over 7 percent from the cost of the previous, more limited, Census.

The reading of over 20 million earnings items per quarter from employer tax reports. This is now done through the use of optical scanning techniques. This new method has greatly increased the efficiency of the operation of earlier punched card procedures, and will lead to substantial operating savings.

The processing of dividend payments to about 4.6 million veterans insurance policyholders. By the use of computer procedures, the cost of dividend payments per unit has been reduced from 27 cents to 4 cents in five years.