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**Proposed Programme Budget for the Biennium 1978-1979 - Revised estimates under section 23A. Department of Conference Services - Report of the Secretary General + Annex 247/A01 Estimated costs of text processing and reproduction equipment for 1978-1979**

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PROPOSED PROGRAMME BUDGET FOR THE BIENNIUM 1978-1979

Revised estimates under section 23A. Department of  
Conference Services

Technological innovations in the production of the publications  
and documentation of the United Nations

Report of the Secretary-General

1. The Secretary-General herewith submits revisions to the proposed programme budget of the Department of Conference Services for the biennium 1978-1979, involving a request for an additional appropriation of \$950,200 for the installation in the English, French and Spanish units of the Stenographic Services of text-processing equipment, for installation in other areas of associated reproduction equipment, computer terminals, as well as for the engagement of consultants. These estimates update, and should be read in conjunction with, those for similar items as presented to the General Assembly at its thirty-first session in document A/C.5/31/77, the consideration of which was deferred due to the shortage of time towards the close of the session.
2. These updated estimates are closely based on the conclusions of a study undertaken in 1976 by Arthur D. Little, Inc., a firm of management consultants. This firm was selected by a group representing the Electronic Data Processing Information Service (EDPIS), the Administrative and Management Service (AMS) and the Department of Conference Services. The basic conclusion reached by the consultants was that, through the gradual introduction of a range of interrelated modern computer-assisted equipment in the various operations involved in the United Nations documentation system, major improvements in efficiency would be achieved, together with significant potential savings. An important additional benefit would be the ease with which information could be stored and retrieved.

3. The basic element in the system is the text-processing machine, consisting essentially of a keyboard with both typewriter and command keys, a television-like screen on which the typed text is displayed and a mini-computer. With associated printers, this equipment will (a) record electronically all information typed into it and (b) produce clear, high-quality copy which is particularly well suited for photo-offset reproduction. The cost-benefit advantages can be summarized under three headings:

- (a) Increased productivity in the typing operation;
- (b) Savings on paper supplies in the reproduction process; and
- (c) Further applications based on electronically stored data.

Typing productivity

4. The system extensively reduces retyping of material, once it has been edited or revised. The consultants estimated that, after the typing units had been fully equipped with, and trained for the use of, the new equipment, productivity should increase by about 50 per cent. On the assumption there would be an eventual reduction of 61 staff-years of typing per year, this would represent at 1977 prices a potential saving of some \$850,000 annually. However, as the introduction of the equipment is to be phased over two years, and since any reduction in the staff of the typing units will be made through the normal process of attrition and transfer, savings will be limited in the short-run but would increase substantially over time.

Savings in paper supplies for reproduction

5. The output from the typing operation will be in large format sheets containing roughly two and a half times the amount of material on a typed page. This will be photo-reduced and reproduced by photo-offset. The economies on paper, once the system is fully operational, are estimated to be sufficient, at 1979 prices, to cover the annual rental costs of the text-processing and associated reproduction equipment.

6. A number of advantages can be derived from the text-processing equipment's capacity for the electronic storage of data. Such data will constitute a necessary input for the photocomposition and computer output microform processes which, as indicated in paragraph 10 below, are due to be studied for cost-effectiveness. The equipment can also be used for the automatic extraction of production statistics and for assistance to the Dag Hammarskjöld Library in connexion with its indexing process.

7. Word-processing systems based on text-processing equipment are in operation in the case of a number of newspapers and periodicals where their cost effectiveness has been amply demonstrated. Virtually all of these operations are monolingual whereas the system to be introduced in the United Nations would initially be trilingual (English, French and Spanish) and would be extended to the other official languages as and when the required equipment and software became available. It was therefore, considered prudent to run a pilot project with the text processing

equipment to confirm the technical feasibility of the trilingual operation and the suitability of the equipment to United Nations requirements. The results of the pilot project have reassured the Secretary-General in his view that implementation of the first phase of the consultants' recommendations should proceed. This experimental approach will characterize each further stage of implementation in the sense that the validity of the consultants' conclusions and recommendations will be tested in each case before the next stage is begun.

8. The schedule shown in the annex indicates estimated costs in a total amount of \$869,400 for the biennium 1978-1979 in respect of text-processing equipment and hard-copy reproduction equipment. These estimates are based on the assumption that initially the United Nations will rent, rather than purchase, the basic equipment required for this scheme. After sufficient experience has been gained, the question will be explored whether or not it would be more economical in the long run that the equipment should be purchased. Of the estimated requirements of \$869,400, an amount of \$74,400 would relate to costs to be incurred by the New York Computing Centre in respect of auxiliary equipment to be located in that area.

9. Since the time when the estimates contained in document A/C.5/31/77, paragraph 7, were computed there have been no significant changes in unit costs for either rental or acquisition of the equipment involved. However, it should be noted that an additional item is proposed for the Reproduction Section, namely, the one-time purchase, at a cost of \$35,000, of a multi-image platemaker which will work from fair copy produced by the text-processing equipment. After further study of available equipment and some experimentation with hard-copy reproduction equipment, it was decided that a combination of the platemaker and hard-copy reproduction would result in more efficient and economic production of short- and medium-length documents than would reliance on hard copiers alone.

10. Within the over-all system proposed by the consultants were four further elements: the possible introduction of photocomposition or photo-typesetting in the Reproduction Section; a glossary subsystem; a distribution, sales and library subsystem; and a computer-based management information system. Partial implementation of these schemes is proposed for 1978-1979, as follows:

(a) Photocomposition: An eight-month consultant study would be undertaken during 1978, at an estimated cost of \$15,000, to determine the cost-effectiveness of acquiring a self-sufficient computer-based photocomposition system; alternatives could be partial systems, or reliance on highly specialized contractual services, as present. Whatever the results of this study, editing terminals are considered necessary. The output of the text-processing equipment in "machine readable" form (as recorded on magnetic tape) must go through an intermediate stage of processing before photocomposition. Editing terminals are employed at that intermediate stage. The consultant will be asked to recommend the most appropriate for United Nations use for purchase in 1979. On the basis of current prices, editing terminals and associated equipment and supplies would cost \$28,000.

(b) Glossary subsystem: A computer-based subsystem is recommended to increase the capacity of the Translation Division in terminological work and the production of more comprehensive and easily accessible glossaries and terminology bulletins. Seven months of consultants would be required for the detailed design of the system and the adaptation of existing software packages. The estimated cost of consultants would be \$14,000 and that of software \$10,000 in 1978. In 1979, four display terminals and one printer terminal would be installed in the Documentation and Terminology Section at a cost in the first year of \$13,800, of which \$10,300 relates to annual rental charges and the balance to installation. The equipment requirements will not be affected by the systems design, as a display terminal would be required for each of the languages to be included in glossary preparation, i.e. English, French, Russian and Spanish.

(c) Distribution, sales and library subsystem: This would be based on the utilization of computer output microform (COM) equipment. It is proposed to carry on a series of studies during the biennium, but no appropriation is sought at this time.

(d) Management Information System (MIS): While all the equipment and software that will be acquired during 1978-1979 is being considered with a view to its eventual integration into an over-all management information system, the final design of such a system will not be undertaken until the completion of the equipment phase of the new documentation system. An appropriation for system design and associated software would be requested for 1980-1981.

11. As noted in document A/C.5/31/77, the consultants also recommended that an automation co-ordinator be appointed for the period of implementation of the new systems, i.e. from four to six years. The consultants stressed the importance of securing the services of an individual with knowledge of computer information technology, as well as experience in the United Nations system and a background in the field of administration. In their view, none of the present officials in the Department of Conference Services has the requisite knowledge in the field of information technology. A post at the D-1 level, as well as a secretarial post, to be financed from temporary assistance, is, therefore, requested for the period of implementation.

12. Although the consultants' study related primarily to the Department of Conference Services at Headquarters, the impact of any system proposal on the other United Nations offices, particularly the United Nations Office at Geneva, was taken into account by the consultants as part of their terms of reference, as well as by the Administrative and Management Service, the electronic data processing Information Service and the Department of Conference Services in the course of their subsequent reviews and evaluation. In evaluating both equipment and computer software, the availability in Geneva of identical or compatible components and services must be a major consideration. It is proposed in this context to introduce an essentially similar word-processing system in Conference Services, Geneva, beginning in 1979. Detailed proposals and cost estimates will be presented to the General Assembly at its thirty-third session.

13. The estimated requirements under section 23 A for the biennium 1978-1979, based on prices currently quoted by manufacturers, can be summarized as follows:

		\$
(a) Text processing and hard-copy reproduction	1978	343,400
	1979	526,000
	Subtotal	<u>869,400</u>
(b) Photocomposition - Editing Terminals	1978	15,000
	1979	28,000
	Subtotal	<u>43,000</u>
(c) Glossary subsystem	1978	24,000
	1979	13,800
	Subtotal	<u>37,800</u>
	Grant total	<u><u>950,200</u></u>

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ANNEX

Estimated costs of text processing and reproduction  
 equipment for the biennium 1978-1979

1978

\$

First six months

Rental and maintenance charges

First typing unit - 1 central processing unit (CPU), 9 work stations, 3 slow-speed printers, 1 high-speed printer, 1 communications system	23 000
Second typing unit - 1 CPU, 2 work stations and 1 slow-speed printer	5 100
Third typing unit - 1 CPU, 2 work stations and 1 slow-speed printer	5 100
1 disk drive, 1 set of modems, connectors, etc. (to be located in New York Computing Centre)	11 000
Hard-copy reproduction equipment	16 000
Shipping and installation	1 900
Equipment (tables, stands and covers)	7 100
Equipment (multi-image platemaker)	35 000
Supplies (diskettes and printwheels)	15 000
Software (text-processing)	5 000
	<hr/> 124 200 <hr/>

Second six months

Rental and maintenance charges

First typing unit - as for first six months	23 900
Second typing unit - as for first typing unit above	23 900
Third typing unit - as for first and second typing units above less 1 work station	22 400
Correspondence Unit - 1 CPU, 4 work stations, 2 slow-speed printers, 1 communications system	13 900

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	\$
1 disk drive, 4 sets of modems, connectors, etc. (New York Computing Centre)	14 300
Hard-copy reproduction equipment	32 000
Shipping and installation	2 300
Equipment (tables, stands and covers)	10 200
Supplies (diskettes and printwheels)	3 600
Software (text-processing)	5 000
	<u>151 500</u>
<u>General temporary assistance (throughout 1978)</u>	
Automation co-ordinator (D-1) and secretary (1 G-4/1)	67 700
	<u>Total - 1978</u> <u>343 400</u>
<u>1979</u>	
Rental and maintenance charges (annual)	
7 CPU, 56 work stations, 20 slow and 6 high-speed printers, 7 communications systems	313,400
2 disk drives, 7 sets of modems, connectors, etc. (New York Computing Centre)	49,100
Hard-copy reproduction equipment	62 500
Shipping and installation	2 700
Equipment (tables, stands and covers)	10 800
Supplies (diskettes and printwheels)	16 600
	<u>455 100</u>
<u>General temporary assistance</u>	
Automation co-ordinator and secretary	70 900
	<u>Total - 1979</u> <u>526 000</u>
Total for the biennium 1978-1979	<u>869 400</u>