



Nineteenth session

Architectural and engineering survey of the Headquarters
buildings

Sixth report of the Advisory Committee on Administrative and Budgetary
Questions to the General Assembly at its nineteenth session

1. The Advisory Committee has considered the report of the Secretary-General on the architectural and engineering survey of the Headquarters buildings dated 14 November 1963.^{1/}
2. At its thirteenth session, the General Assembly authorized the Secretary-General to proceed with an architectural and engineering survey, the purpose of which was to develop plans for the expansion of facilities to meet the requirements arising from anticipated increases in the membership of the United Nations, as well as to evaluate the need for improvements in other physical features of the Headquarters buildings.
3. The consulting architects designated by the Secretary-General to perform the survey addressed themselves in the first place to the problem of accommodation in the Plenary Hall and Main Committee rooms, and to the provision of adequate facilities for the Organization's expanding television operations. After consideration of the architects' report, the General Assembly, at its seventeenth session, authorized the Secretary-General:
 - (a) To proceed with the development of plans for the expansion of meeting-room facilities at Headquarters;

^{1/} Official Records of the General Assembly, Eighteenth Session, Annexes, agenda item 58, document A/C.5/993.

(b) To prepare a comprehensive plan for the development of the basement area of the General Assembly building so as to provide for the optimum use of this area not only for additions to television and other visual facilities but also for office space, and to provide detailed estimates for this work; and

(c) To complete in 1963 an architectural survey of the Headquarters buildings.

4. At its eighteenth session, the General Assembly approved plans submitted by the Secretary-General for the expansion of facilities in the Plenary Hall and Main Committee rooms and for the development of the basement area of the General Assembly Hall at a total cost of \$3,066,370, thus completing action on the first part of the architectural and engineering survey.

5. The present report deals with the second part of the survey as presented by the Secretary-General in document A/C.5/993.

6. For the second part of their survey, the architects were requested to study in particular the following items:

(a) Expansion and improvement of delegates' dining facilities;

(b) Increased lounge area for delegates;

(c) Extension of the air-cooling system to various working areas of the basement;

(d) Expansion of facilities such as telephone, coat-room, coffee and tea services and of staff facilities;

(e) Review and adjustment of safety and security installations throughout the Headquarters buildings.

Additionally, the architects were invited by the Secretary-General to advise on other related matters in the course of their study.

7. The architects completed their study in November 1963 and the Secretary-General made their report available to the General Assembly at its eighteenth session (A/C.5/993). However, as their major recommendations affected primarily the facilities and convenience of the delegates, he believed that it was for the Member States to decide to what extent they would wish to implement the proposals put forward by the architects, as well as to determine the order of priority to be followed in the timing and financing of construction. Since the proposals were extremely comprehensive and involved an expenditure in excess of 11 million dollars,

the Secretary-General suggested to the General Assembly, as he did in the case of the construction and major maintenance requirements of the Palais des Nations in Geneva,^{2/} that the Advisory Committee on Administrative and Budgetary Questions be asked to study the proposals of the architects during 1964 with a view to submitting its conclusions and recommendations to the General Assembly at its nineteenth session. Such a course of action would afford the Advisory Committee an opportunity to consider any views expressed by Member States and the Secretariat in the formulation of its recommendations. Furthermore, it would have the added advantage of providing at the nineteenth session of the General Assembly reports from the Advisory Committee on the needs both at Headquarters and at Geneva,^{3/} and would thus permit the General Assembly to review these requirements in totality.

8. In making this suggestion, the Secretary-General stated that he realized that any positive action on the recommendations of the architects would be postponed for a further year. Following decisions which might be taken by the General Assembly at its nineteenth session, and before any work could be commenced, it would be necessary to prepare detailed plans and specifications upon which firm estimates could be based. This, of course, could not be done until 1965. On this assumption, the commencement of any construction work could not begin before 1966. In the event that the Advisory Committee would require more detailed drawings and specifications in connexion with its study in 1964, the Secretary-General assumed that the related costs could be met, with the prior concurrence of that Committee, under the terms of the resolution relating to unforeseen and extraordinary expenses.

9. A summary of the proposals arising from the second part of the architectural and engineering survey of Headquarters and the Committee's comments and recommendations thereon are set forth in the paragraphs which follow.

The architects' proposals

10. The major problem to which the architects' report is addressed is the overcrowding of the delegates' lounge and dining facilities occasioned by the continuing

^{2/} Ibid., document A/C.5/982.

^{3/} The Advisory Committee's comments and recommendations concerning Geneva have been submitted to the General Assembly in document A/5709.

growth in the membership of the United Nations. Other ancillary matters arising from the general increase in the activities of the Organization have also been studied, as well as improvements needed in various servicing, security and safety facilities.

11. In respect of the first problem, the architects propose the expansion of the delegates' lounge by extending the Conference building approximately thirty feet to the north. As a part of the remodeling of the lounge, a balcony overlooking the main part of the lounge is suggested. This balcony, which would be connected with the main lounge by a circular staircase, could be used for coffee service, as well as additional lounge space. The architects consider that this arrangement would provide the most economical means of expanding the lounge without impairing the general design of the building. This extension of the Conference building would also enlarge somewhat the delegates' dining room and would provide a small amount of additional office space on the first basement and first floor levels, as well as office and related facilities for the Visitors' Service, adjacent to the present ticket and dispatch counter. Space now used for the Visitors' Service offices in the first basement of the General Assembly building would be released for other use.

12. The enlargement of the delegates' dining facilities, although partially dependent upon the expansion of the Conference building to the north, would primarily be accomplished by the extension of the delegates' dining room to the south to occupy approximately one-half of the present staff cafeteria. The space thus added to the dining room would serve, for the most part, to alleviate the present shortage of private dining rooms. Included in the redesigned delegates' dining room would be an area which could be appropriately arranged to hold State functions. The remainder of the present cafeteria would be utilized as a coffee shop. It should be noted that the major part of this plan for the expansion of delegates' dining facilities is dependent upon the construction of new facilities at the south end of the Conference building, which is described in paragraph 14 below.

13. These major improvements in delegates' facilities would be supplemented by the installation of three additional elevators and an escalator servicing the delegates' lounge and dining room, as well as additional telephone facilities in the delegates' lounge and a room off the lounge which could be used for a delegates' reading or quiet room. On the first floor, adjacent to the delegates' entrance, the coat room would be expanded to double its present capacity.

14. At the south end of the Conference building, the architects propose an extension, two floors in height, which would house a new cafeteria and kitchen, as well as locker room and related facilities for kitchen staff. The architects have commented, not only on the obvious need for additional cafeteria facilities, but also on the fact that the kitchen now servicing the dining room and cafeteria is inadequate to handle the volume of work efficiently. In addition to a cafeteria and kitchen, a little over half of the new extension would be devoted to office space. The structural steel and related framing would be so designed that, should it prove necessary at some future date to develop an additional conference room, the floor slab between the first basement and first floor levels could be removed and the office accommodation transformed into a typical conference room.

15. Other important proposals in the study include recommendations for air-conditioning the second and third basements; improvement of safety and security installations; additional lighting in Conference Rooms 1, 2 and 3, as well as along certain driveways; and automation of the Secretariat building elevators.

16. The Secretary-General considered that two proposals contained in the report of the architects fell particularly within his province; these two projects relate to

(a) The extension of the air-cooling system in the second and third basements in order to improve working conditions for the staff in those areas;

(b) The automation of elevators in the Secretariat building which would considerably reduce annual expenditures for contractual services in future years. The Secretary-General commanded these two proposals for early consideration by the Advisory Committee in the course of its study.

The Advisory Committee's comments and conclusions

17. For its examination of the architects' proposals, the Advisory Committee found it convenient to group them in three broad categories:

(a) Improvements to the delegates' lounge, dining-room and ancillary facilities;

(b) Improvements to various servicing, security and safety facilities;

(c) Improvements to working conditions in the second and third basements.

(a) Improvements to the delegates' lounge, dining-room and ancillary facilities

18. In 1947, when the construction plans of the Headquarters building were drawn up, there were fifty-seven Member States and provision was made for an increase in

membership to seventy. By 1955, this increase had already been exceeded^{4/} and it was in anticipation of continued increases that the General Assembly, at its thirteenth session in 1958, decided that an architectural survey should be undertaken with a view to developing plans for the expansion of facilities in the light of foreseeable needs. A programme of expansion subsequently approved by the General Assembly and to be completed in 1964, provides accommodation for a membership of 126.

19. The Advisory Committee does not doubt that the increased membership has resulted in a degree of over-crowding in the delegates' lounge and dining rooms during sessions of the General Assembly. At the same time, the Committee is not aware that such over-crowding constitutes a hazard, nor does it believe that any inconvenience that it may cause is prejudicial to the effective functions of the Organization or that it requires measures, costing some \$9 million, at the present time. The Committee would recall that improvements in conference facilities have already cost the Organization some \$3 million in the course of the past year or so at a time when the demands on its limited resources are becoming more and more pressing.

20. Accordingly, while the Advisory Committee is unable to recommend any additional major structural improvements such as the architects have suggested, it suggests that the Secretary-General continue to explore ways and means of improving delegates' facilities in the conference areas within existing appropriations for this purpose.

(b) Improvements to various servicing, security and safety facilities

21. On pages 34 to 36 of their report, the architects recommended for consideration a number of additions and improvements in the interest of security, safety and operational efficiency. Their total estimated cost is \$1,316,000.

22. The Secretary-General informed the Committee that he considered each of the proposals a desirable improvement and recommended that they should be undertaken as soon as possible. It seemed to the Committee, however, that desirable as the

^{4/} At the end of 1950, there were sixty Member States; sixteen were added in 1955, making a total of seventy-six.

improvements might be, some were less urgent than others and that the total programme could well be carried out over a period of years. Accordingly, in response to a request by the Committee, the Secretary-General indicated the following order of priority for the nine items referred to by the architects:

A. Automation of Secretariat building elevators (estimated cost - \$664,000)

The Secretary-General considered that the savings to be achieved from this project particularly commended it for early action.

B. Finishing of the nineteenth and twentieth floors

The Secretary-General recommended that the north end of the twentieth floor be finished in 1965 at an estimated cost of \$84,480. He pointed out that this space would be vacated upon completion of the construction work in the basement of the General Assembly building, and from the standpoints of ease of construction, as well as cost, it would be better to finish the area before it was reoccupied than at a time when it was being utilized by staff.^{5/} The completion of this area would permit its use on a more flexible basis for offices and would not restrict, as was now the case, the types of functions which could be accommodated in this space.

C. Replacement of the existing smoke detectors in the air-conditioning system (estimated cost - \$33,000)

The Secretary-General informed the Committee that the existing smoke detection system was one of the first fire detection systems of its type which had been developed. In recent years substantially more effective systems have been devised which afford a far greater degree of protection.

D. Emergency lighting system (estimated cost - \$28,000)

This proposal would provide for a battery-operated lighting system for areas of major use in the Conference and General Assembly buildings. Its purpose would be to provide auxiliary lighting in case of a power failure and afford sufficient illumination to permit orderly evacuation.

^{5/} The estimated cost of this project if the space were occupied would be \$130,560.

E. Electronic fire alarm system in the General Assembly and conference buildings
(estimated cost - \$56,000)

This fire detection device would afford protection during periods when the air-conditioning and distribution system was not operating. It is considered by the Secretary-General to be an extremely desirable safety feature but not as urgent as a new smoke detection installation.

F. Additional means of egress from the General Assembly public lobby (estimated cost - \$10,000)

The Secretary-General believes that with the increase in public attendance, additional doors for emergency use should be installed on the east side of the public lobby.

G. Additional lighting for driveway along General Assembly building delegates' entrance (estimated cost - \$15,000)

H. Finishing of the nineteenth and twentieth floors

This project would include completion of the south end of the twentieth floor and the north end of the nineteenth floor, which areas would remain unfinished should approval be given to the work described under priority item "B". The Secretary-General informed the Committee that it was not possible to estimate the total cost of this work at present since the extent of the area which would require completion on the nineteenth floor depended upon the requirements for the installation of the electronic computer. He estimated that the cost of completing the south end of the twentieth floor would be approximately \$175,000, assuming that the space would be occupied while the work was in progress. If the staff could be moved to other areas, the cost would be somewhat less.

I. New lighting for service drive (estimated cost - \$50,000)

J. Increase light level in conference rooms 1, 2 and 3 (estimated cost - \$60,000)

23. The Secretary-General indicated that the listing in the order of priority set forth above took into consideration the importance of safety and security factors, as well as effective utilization of space, in relation to the financial commitments which would be involved.

24. As regards item A on the Secretary-General's priority list (automation of the Secretariat building elevators), the Committee inquired in some detail into the plan for the conversion of the elevators and the economies that would result from automation. It was informed that the plan would require the withdrawal from use of six elevators at a time, two from each bank. Eight months would be required to convert each of the groups of six elevators. The total period required for conversion would be twenty-four months. It will be seen from the following tables that in the fifth year after commencing the work of automation the entire cost of the conversion would be amortized and a saving of the order of \$145,000 per year would be realized. The expenditure level has been estimated on the basis of current wage rates for the elevator operators; however, on the basis of experience, it would not be unreasonable to assume that wage rates will rise further and, in consequence, the actual savings would be greater.^{6/} The estimated savings also take into consideration the fact that the cost of maintenance for the automated elevators will be approximately 15 per cent greater than current maintenance costs.

Table 1
Cost of operation, maintenance and conversion
of 18 elevators in the Secretariat building

Year	Cost of elevator Operation		Cost of elevator conversion a/	Cost of elevator maintenance		Total operation, maintenance and conversion costs
	Manual	Automatic		Manual	Automatic	
	\$	\$		\$	\$	
1965	173,000	-	-	62,690	-	235,690
1966	96,120	2,070	332,000	34,840	8,010	473,040
1967	19,220	10,335	332,000	6,960	40,050	408,565
1968	-	18,600	-	-	72,095	90,695

a/ The cost estimate for the conversion of the elevators was obtained by the architects in 1963 and may require some revision if labour and materials costs increase between 1963 and the date that the plan is initiated.

6/ When the proposal to convert the elevators was submitted in 1958, an annual saving of only \$111,000 was anticipated; at present, due to increases since that time in the wage rates for operators, the difference is expected to be \$145,000.

Table 2

Schedule of amortization of the capital expenditure of \$664,000
 for automating the elevators in the Secretariat building

							<u>Reduction in annual costs</u>		
							\$	\$	
1965	Cost of elevator operation and maintenance	- manual							
		arrangements				235,690			
1966	" " " " " "	- manual and							
		automatic				141,040	94,650		
1967	" " " " " "	- manual and							
		automatic				76,565	159,125		
1968	" " " " " "	- automatic							
		arrangements				90,695	144,995		
1969	" " " " " "	- automatic							
		arrangements				90,695	144,995		
1970	" " " " " "	- automatic							
		arrangements				90,695	<u>144,995</u>		
								<u>688,760</u>	

25. In the light of the numerous pressing demands which are being made on the Organization's limited resources and the need to devote as much as possible of these resources to furthering its essential aims, the Advisory Committee found difficulty in endorsing an expenditure of this nature and extent, following so soon upon a series of structural improvements costing some \$3 million. On the other hand, considering that economies of the order of \$145,000 per year could be achieved in the fifth year after commencing the automation, the Committee felt that, as a long-term proposition, the architect's recommendation had merit. Assuming that the work would be undertaken in 1966 and 1967, and subject to the Secretary-General submitting firm cost estimates at the appropriate time, the Advisory Committee would concur in the conversion of the elevators.

26. As regards items B to J on the Secretary-General's list of priorities (see paragraph 22), the Advisory Committee noted that he had accorded a high place to improvements recommended by the architects in the fire detection and alarm systems and to their suggested installation of an emergency lighting system (items C, D and E). The Committee accepts the expert advice of the architects on these matters

involving safety and recommends that they be implemented. As the urgency does not appear to have been such as to warrant provision for these items in the 1965 budget estimates, the Committee would suggest that the first two - the replacement of smoke detectors and the installation of an emergency lighting system - be undertaken in 1966, and the third - the installation of electronic fire-alarm system, which was said to be less urgent than the replacement of smoke detectors - in 1967.

27. The Advisory Committee considers that a case has not been made for the installation, at the present time, of additional doors in the public lobby of the General Assembly or of additional lighting in conference rooms and outside driveways (items F, G, I and J), and it recommends that they be set aside for reconsideration at some future date.

28. The remaining items on the Secretary-General's list - items B and H - both concern completion of the nineteenth and twentieth floors of the Secretariat building. From the architects' report (p. 34), it will be seen that the intention was, at the time the survey was conducted, "to complete these areas as typical office space with standard lighting, air-conditioning and sound-proof ceiling as provided on all other floors", at an estimated cost of \$400,000. The Secretary-General has, however, informed the Committee that the proposed installation of a new computer system^{7/} on the nineteenth floor will require prior structural changes on that floor, the cost estimates of which will be submitted later in the year. In any case, it will be noted in paragraph 22 above that he has accorded a relatively low priority to completion of the nineteenth floor.

29. Following an inspection of the nineteenth and twentieth floors, the Committee decided that it would be in the interest of the Organization to complete the north end of the twentieth floor as recommended by the Secretary-General in item B on his priority list. It is the Committee's understanding that the staff at present occupying this space would be transferred to the basement of the General Assembly building as soon as construction work in progress in this area has been completed and that the standard offices which would then be built on the twentieth floor would be available for reallocation. The Secretary-General has estimated that this transformation of the north end of the twentieth floor would cost some \$84,000.

^{7/} The Secretary-General has included a budgetary provision for this installation in section 10 of the 1965 budget estimates.

30. As regards the south end of the twentieth floor and the nineteenth floor, to which the Secretary-General has attached a lower priority, the Advisory Committee would require more precise proposals before being in a position to give a considered opinion on their completion.

(c) Improvements to working conditions in the second and third basements

31. In the architectural and engineering survey, the architects presented, on page 33, data with respect to four possible plans for the air-conditioning of the second and third basements. Scheme A provided for the supply of cool air to areas permanently occupied by approximately seventy staff members. The cost of this scheme included the installation of the basic refrigeration equipment which would be necessary for any extension of air-conditioning the second or third basements. It also provided for the installation of the necessary air ducts and controls to distribute cool air to the areas indicated. The cost of this scheme was estimated at \$565,835.

32. Scheme B provided, at an additional cost of some \$160,000, for the air-conditioning of documents storage areas which are permanently occupied by twelve to fourteen people. Under Scheme C, storage areas which are not occupied permanently by any staff members would be included. Scheme D related to a combination of Schemes A, B and C if undertaken at one time.

33. The architects indicated that "except for the main security and fire-control room and certain shops in the third basement, it is difficult to justify the cost of cool air to all areas proposed", and they included in the summary of costs on page 37 of their report only that portion of the air-conditioning of the second and third basements which was set forth in Scheme A.

34. In paragraph 13 of document A/C.5/993, the Secretary-General called the particular attention of the Advisory Committee to the architects' proposals for the extension of the air-cooling system in the second and third basements. He did not endorse specifically, at that stage, any one of the schemes outlined by the architects. When the matter was under consideration by the Advisory Committee, however, he informed the Committee that, of the plans described by the architects, he recommended as most desirable schemes A and B, in the light of the need to provide

adequate working conditions for the staff. In this respect he considered that it would be inappropriate to distinguish between the staff members who would be included under the provisions of scheme A as opposed to those who work in the areas covered under scheme B.

35. In the circumstances, the Advisory Committee decided to request clarification from the architects of the statement to which reference has been made in paragraph 32 above. The reply received was as follows:

"Of all the basement areas within the building complex, areas 1 through 9 (as enumerated in the report) were selected and grouped for investigation on the basis of (1) maximum population density, and (2) the mechanical feasibility of air conditioning said spaces.

Of the areas proposed, scheme A which includes areas 1 through 5 and area 7, best meets the criteria mentioned above and is, therefore, recommended.

The areas included under schemes B and C, being mainly storage spaces, have a low population density and an intermittent use. Air conditioning of these spaces is, therefore, economically questionable."

36. The Committee inquired into the population density of the areas covered by schemes A, B and C, taking into account only staff permanently occupying them. It was given the following figures:

<u>Scheme</u>	<u>Number of staff</u>	<u>Sq. ft.</u>	<u>Area</u>	<u>Sq. metres</u>
A	69	60,789		5,647.3
B	12-14	31,035		2,883.1
C	None	31,073		2,886.7

37. It is evident that, given the limited use to which the second and third basements can be put, the space involved and the relatively small number of staff permanently accommodated there, the cost of providing air-conditioning is extremely high - an average of \$8,000 per person for scheme A, and \$12,000 per person for scheme B. Even if the financial position of the Organization were more favourable, the Committee would hesitate to endorse such expenditure unless it were clearly demonstrated that there was no satisfactory alternative. Despite these considerations, however, it could not disregard the human factor. The Committee visited all of the areas concerned and was bound to conclude that conditions in general were considerably below those enjoyed by staff working at, or above, ground

level, and while it had no evidence to suggest that they might constitute a health hazard, it was doubtful whether the occupants could work at maximum efficiency. Given all the circumstances described above, the Committee reluctantly concludes that, unless the Secretary-General is able to propose alternative and less costly measures for dealing with the problem, a solution on the lines of that recommended by the architects in scheme A may well have to be adopted in 1966. Because of the magnitude of the expense involved, the Committee hopes that the Secretary-General will seriously explore, before this matter is considered by the nineteenth session of the General Assembly, the possibility of taking alternative measures which will deal with the most pressing aspects of the problem at a reduced cost. The Committee realizes that the adoption of scheme A would bring no relief to the twelve to fourteen staff members who work in the documents storage areas covered by schemes B and C but it is inevitable that there will always be small pockets of staff working in these and other parts of the building (e.g., the garage) which cannot be air-conditioned. The Committee would suggest that for them the Secretary-General should explore the possibility of rotation, or early release on days when conditions are particularly trying.

Summary of the Advisory Committee's conclusions

38. In the preceding paragraphs, the Advisory Committee has, subject to paragraph 39 below, indicated its endorsement in principle of the following action recommended by the architects:

- (a) Automation of the elevators in the Secretariat building in 1966 and 1967;
- (b) Replacement of existing smoke detectors in the air-conditioning system, installation of an emergency lighting system, and of an electronic fire-alarm system in the General Assembly and Conference buildings, the first two to be undertaken in 1966 and the latter in 1967;
- (c) Finishing of the north end of the twentieth floor in 1965;
- (d) Air-conditioning of certain specified areas in the second and third basements in 1966.

39. While endorsing in principle the foregoing measures, it is the Advisory Committee's understanding that the Secretary-General will prepare firm estimates for its further consideration and that pending its examination of these estimates it reserves its final position on each and every item.