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Capital master plan

Report of the Secretary-General**

Summary

The United Nations Headquarters complex in New York was built, some 50 years ago, with the unique cooperation of a major private donor, the host City and State of New York, the host Government and the Member States of the United Nations. In June 2000, the Secretary-General submitted a report to the General Assembly proposing a major refurbishment of the complex (A/55/117 and Add.1).

In its resolution 55/238, the General Assembly authorized the Secretary-General, without prejudice to a final decision, to proceed with the preparation of a comprehensive design plan and cost analysis.

The Secretary-General is pleased to submit his report on the outcome of the capital master plan study, including viable alternatives and approaches and measures to prevent cost overruns. It is the wish of the Secretary-General to replicate for the proposed fundamental refurbishment the type of cooperation that enabled the United Nations to establish its Headquarters in New York and to receive authorization by the General Assembly to proceed with the implementation of the capital master plan.

* A/57/150.

** The report was delayed to permit the inclusion of details of the offer from the City of New York related to swing space (see para. 40).

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I. Introduction

1. The Secretary-General reported to the General Assembly at its fifty-fifth session (see A/55/117 and Add.1) that the United Nations Headquarters in New York, built some 50 years ago, had aged significantly and that it was seriously deficient in safety, fire and building codes, energy efficiency and security requirements. Even the most efficient and effective maintenance activities would not be sufficient to prevent the cumulative effect of normal wear and tear. The current "reactive approach" to maintaining Headquarters and undertaking required remedial work as and when needed was inefficient and would become excessively expensive as the buildings aged further. The Secretary-General thus proposed a long-term capital master plan (CMP), to be implemented over a period of six years, to remedy those deficiencies in a comprehensive, systemic and cost-efficient manner. In response, in December 2000 the General Assembly authorized, without prejudice to its final decision, the preparation of a comprehensive design plan and cost analysis to develop viable alternatives, including measures designed to prevent cost overruns, and appropriated $8.0 million for that purpose. The Secretariat carried out a detailed analysis, with the assistance of a team of architectural and engineering firms, and developed a series of alternatives, covering technical equipment and systems, design, phasing, swing space and management. Those alternatives were organized into a number of design schemes with various options, which were then evaluated, and the viable alternatives were more fully developed and detailed costing was prepared for each. The present report reviews the scope of work, phasing and swing space, management and financing arrangements of the proposed plan, and recommends action by the General Assembly.

II. Background

2. In his previous report on the capital master plan (A/55/117 and Add.1), the Secretary-General described the condition of the physical infrastructure at the United Nations Headquarters complex in New York, and stated that if the conditions were not rectified the complex would become unacceptable for use over the long term. One option would be to continue to address the deteriorating condition on an ad hoc and emergency basis through the biennial programme budget. Under the "reactive approach", substantial expenditures would be required over the next 25 years. Moreover, all New York City building and safety code requirements would not be met, energy efficiency would not be attained, and security and safety requirements would be seriously compromised. The cost of the reactive approach over the 25-year period 2003-2027 was estimated to be $1,644 million, including energy costs. A detailed analysis of the reactive approach was contained in paragraphs 36 to 42 of the previous report.

3. Since the previous analysis was prepared, energy costs have significantly increased and the project start date has now been adjusted to October 2004. Taking account of those changes, the updated cost of the reactive approach over the period 2005-2029 is currently estimated at $2,088 million, an increase of $444 million over the original estimate.[1] It is worth noting that annual expenditures for emergency repairs, major construction and energy are expected to increase progressively to reach a high point of $116 million in 2019, under the reactive approach. For reference, the current level of those expenditures, including energy costs, is less than $30 million annually.

4. The alternative to the reactive approach proposed in June 2000 by the Secretary-General was to undertake a planned refurbishment programme over a six-year period, a capital master plan. The cost of CMP was estimated at $964 million, including $62 million for the leasing of swing space.

5. In response to that proposal and without prejudice to its final decision, in December 2000 the General Assembly:

(a) Authorized preparation of a comprehensive design plan and detailed cost analysis;

(b) Requested details of measures designed to protect the Organization from cost overruns;

(c) Called upon the Secretary-General to identify all viable alternatives in the most cost-effective and efficient manner;

(d) Allocated $8 million for that purpose (see General Assembly resolution 55/238/IV).

That work has been carried out and is referred to in the present report as the "preliminary design phase".

III. Preliminary design phase

6. In early 2001, a small project team was established within the Office of Central Support Services of the Department of Management to carry out the preliminary design phase authorized by the General Assembly. The selection of an architectural and engineering firm was initiated at the same time. A design team was selected through an international competitive process carried out from January to June 2001.

7. The comprehensive design plan and detailed cost analysis were prepared from July 2001 to May 2002. The findings of the design plan process confirmed that a fundamental refurbishment was required in order to bring the Headquarters complex into compliance with safety, fire and building codes, and to meet modern energy efficiency standards and security requirements. The earlier proposal of a six-year duration for the refurbishment was found to be a viable solution and the cost estimate for the refurbishment largely accurate, with the exceptions noted in paragraph 15 below. The CMP proposal was refined, including the in-depth analysis of technical alternatives.

8. In order to undertake a major refurbishment programme, large areas must be vacated and the occupants and functions temporarily relocated. The availability of adequate temporary space for meeting, office and support functions, known as “swing space”, is therefore indispensable for the implementation of the refurbishment programme. All of the options for swing space mentioned in the previous report, including both on-campus addition and construction and off-campus leasing, have been thoroughly examined. Negotiation was initiated with the City of New York to seek its support for CMP efforts in view of the desirability of securing leasing through the United Nations Development Corporation (UNDC), in preference to commercial leasing, as well as the desirability of vacating the entire campus during the implementation of the capital master plan. The City of New York has recently expressed its readiness to support the capital master plan project and has already begun to explore one option in greater depth: the construction through UNDC of a building that could be utilized as swing space on the east side of First Avenue, between 41st and 42nd Streets. Use of the site will require that the City make some provision of park amenities to the community to replace the loss of the Robert Moses playground. At the time of drafting of the present report, negotiations are still ongoing. There is a strong expectation that discussions with City authorities will cover such issues as the quality of the building, architectural harmony with the existing complex, land ownership and lease/purchase arrangements.

9. The General Assembly requested the Secretary-General to ensure that the preparation of a comprehensive design plan and detailed cost analysis would identify all viable alternatives and detailed measures to protect the Organization from cost overruns. A series of alternatives and options have been developed in the following four areas:

(a) Scope of work: what will be done, determining the extent of the refurbishment;

(b) Phasing: the way the refurbishment will be done, including time frames;

(c) Swing space: where the work of the Organization will continue during the refurbishment;

(d) Management: how the CMP project will be managed and costs controlled.

10. Following the review of the four areas above and a re-examination of financing alternatives, the Secretary-General has developed a set of recommendations, including a proposed implementation plan, for consideration by the General Assembly. A diagram of the preliminary design phase process is provided below.

IV. Scope of work

11. The previous report (A/55/117) described the scope of a proposed refurbishment programme for the seven buildings[2] and more than 17 acres that make up the immediate Headquarters complex. The proposed refurbishment programme was focused on building equipment and system replacements necessary to meet *current* building and life safety codes and modern security requirements. In addition, improvements were recommended to enable the facilities to better support the work of the Organization and to operate more efficiently. After re-examination and further scrutiny by 12 specialized companies of the design team, numerous scope alternatives were developed, which have been organized into a baseline scope (see paras. 13-30 below).

12. Recognizing that the implementation of CMP will provide a one-time opportunity to bring the Headquarters complex into the future and in the light of the General Assembly's request for examining all viable alternatives, a set of additional scope options (see paras. 31-34 below) have been identified to meet possible *future* building design standards and operating requirements, including (a) additional security work, some of which might be undertaken in cooperation with the host Government, and state and the City of New York; (b) measures which would provide a higher degree of redundancy and contingency in the building systems, comparable to those that would most likely be installed in a new building today; and (c) sustainable innovations which are considered environmentally desirable and are expected to become the norm in the near future.

A. Baseline scope

13. The recommended baseline scope includes refurbishment of the General Assembly, Conference, Secretariat, Dag Hammarskjöld Library, North Lawn extension, South Annex and UNITAR buildings, based on comprehensive examinations of existing conditions by the current design team as well as the results of the earlier study conducted in 1998-1999, as summarized in the previous report. For each problem, multiple technical solutions were proposed, which were assessed against specific criteria for viability. The viable solutions for each problem were divided into two categories: solutions that solved problems at a lower cost and with less intervention into the buildings, and solutions that, although desirable, were either more costly or exceeded the essential health, safety and efficiency objectives of the capital master plan. The first group of solutions were combined into a single proposal for refurbishment, termed the "baseline scope". The second group of solutions were organized into options which could be added to the baseline scope, and were termed "scope options".

14. In addition to the building deficiencies summarized in the previous report, the current study has identified a need for the further expansion of replacement work for plumbing/piping due to the presence of brass fittings that have become brittle and the observed deterioration of the Secretariat window assemblies (the curtain wall) that may lead to the necessity of replacing the entire curtain wall. It should be noted that in view of the continuing testing and assessment, the replacement of the Secretariat curtain wall is currently being treated as a scope option. However, it may become a baseline necessity, at an added cost of $36 million, depending on the outcome of the testing and assessment.

15. The cost of the work will depend on how the work is phased and what method is chosen to provide swing space. The six-year, $964 million proposal made in the previous report included a baseline scope of $902 million, with an additional $62 million budgeted for swing space. In comparison to the $902 million figure, the cost of the baseline scope is currently estimated at $991 million to $1,094 million. The overall increase, which is partially offset by a cost reduction based on more detailed phasing analysis, arises from the following:

(a) There is a need to enhance physical systems and equipment in order to strengthen security based on a more exhaustive analysis in the wake of the events of 11 September 2001 and the subsequent anthrax and other biological and chemical contamination threats. The baseline scope for such activity has increased significantly to $77 million from the previous forecast of $22 million. It should be noted that that sum of $77 million will be partly offset by the sum of $17 million which was appropriated by the General Assembly at its resumed fifty-sixth session, in May 2002, as part of the total appropriation of $26 million for the strengthening of security at Headquarters. That offset amount is reflected in the recommendations of the Secretary-

General contained in the conclusion of the present report;

(b) There is a cost escalation factor of 3.5 per cent per annum. Accordingly, there has been an increase of approximately $50 million due to the current projected start of construction in October 2004, as compared with the earlier projected date of January 2003;

(c) With a view to avoiding cost overruns, a more conservative assumption for construction contingency has been adopted, which has resulted in an increase in the provision for construction contingency to $87.8 million or $135.4 million, depending on the phasing scheme selected (see paras. 36-47 below). The original construction contingency was $40.0 million.

16. The baseline scope, which would total either $991 or $1,094 million, depending on phasing options, consists of the core refurbishment and improvements described below.

B. Baseline scope: core refurbishment

17. Core refurbishment is the portion of the baseline scope which refers to the building elements that must be addressed as a matter of priority in order to meet existing fire and building codes, including accessibility standards, life safety standards and modern security requirements, as well as to operate the complex in an energy-efficient manner. Alternatives were examined in each area, and the proposed core refurbishment reflects the most cost-effective of the viable alternatives, as follows:

(a) *Removal of hazardous materials*, including asbestos-containing materials, lead-based paints from impacted areas, polychlorinated biophenyls (PCBs) from electrical equipment, and systems or equipment that generate electromagnetic fields near occupied areas;

(b) *Installation of new fire/life safety systems*, including new fire alarm and public address systems, sprinklers in all areas, a smoke exhaust system and provisions for safe evacuation;

(c) *Provision of new backup electrical power for essential systems*, including sufficient on-site backup power, lighting and support systems for essential communications, safe evacuation and other life/fire safety requirements, perimeter security, security and fire command and crisis control centres, and critical data processing and storage;

(d) *Refurbishment/replacement/restoration of ageing mechanical, electrical and building infrastructure elements*, including incoming electric, steam, water, gas and river-water services; central plant heating and cooling equipment; heating, ventilating and air-conditioning equipment; piping and ductwork; electrical distribution systems, backup power systems; lighting and ceilings; facility-wide building management and environment control systems; elevators and escalators; damaged finishes; deteriorated paving, railing, walkways, site amenities and drainage; and diseased and decayed plantings;

(e) *Upgrade of interpreters' booths and the infrastructure of simultaneous interpretation, broadcast amd studio systems*;

(f) *Upgrade of facilities for handicapped accessibility*, including improvements to access paths for buildings and conference rooms, signage, doors, bathrooms, elevators and fire safety controls;

(g) *Refurbishment/replacement of curtain walls.* Every window assembly or curtain wall requires significant restoration. Ongoing observation and assessment of the Secretariat curtain wall will determine if there is deterioration to the extent that a full replacement may be necessary. If so, the estimated cost of the baseline scope would be increased by $36 million;

(h) *Enhanced technology backbone*, including the consolidation and modernization of communication and technology core and distribution systems, and the expansion of teleconferencing and video-presentation capacity;

(i) *Security improvements*, including installation of a complex-wide access control and alarm monitoring system; construction of a new on-site and backup security control room and crisis centres; installation of an intrusion detection system; upgrade and expansion of closed circuit camera systems; upgrade of physical perimeter security by providing security barriers and improved lighting and surveillance; installation of additional physical vehicle barriers; installation of bullet-resistant and/or blast-resistant glazing at key locations;[3] installation of sound-proof and ballistically protected viewing points for visitors at the Council Chambers and General Assembly Plenary Hall; provision of a screening building at the 42nd Street

entrance; relocation of key air intakes; and installation of monitoring equipment to safeguard against biological and chemical hazards.

18. It should be noted that the core refurbishment programme will result in improvements to the sustainability of the complex by:

(a) Improving indoor environmental quality by removing hazardous materials, using materials with low emissions, and providing ventilation and air-conditioning equipment, lighting, acoustics and other accommodations that promote a healthy work environment;

(b) Reducing resource consumption by using equipment and technologies that are more efficient in terms of energy usage and consumption of water and materials, from structural building components to floor coverings and finishes, resulting in a less adverse impact on the environment;

(c) Reducing resource waste by recycling materials and managing waste during construction, commissioning and occupancy;

(d) Increasing the use of renewable materials, energy and water sources;

(e) Improving the energy management of buildings by providing monitoring, controls and verification devices.

C. Baseline scope: improvements

19. Four additional improvements were proposed in the previous report to better support the work of the Organization and operate Headquarters buildings more efficiently. They have been examined and updated as part of the baseline scope, and include expansion of and improvements to meeting facilities; addition of a new full-sized conference room and a multipurpose room; consolidation of information technology service spaces; and improvements to public spaces, complementing the visitors' experience project to be funded through the United Nations Association of the United States of America (UNA/USA), as proposed in the report of the Secretary-General on a proposal for enhancing the United Nations experience for visitors (A/55/835). In addition, in the context of improving the efficiency of the buildings, rationalization of space utilization is also planned throughout the complex. The essential additional improvements are described below.

Improvements to meeting facilities

20. In order to meet the continuing demand for mid-sized meeting rooms comparable to the size of Conference Rooms 5 and 6, three mid-sized meeting rooms, with seating capacity of 60 persons each at table, would be created. The most feasible location for such rooms is the first basement of the General Assembly building in the area currently occupied by broadcast and studio facilities. Such a reconfiguration would also provide added office and support facilities adjacent to the conference rooms.

Creation of a new large conference room and a multi-function hall

21. To relieve long-standing overutilization and pressure of scheduling meetings for the six committees of the General Assembly in five full-size conference rooms, it is proposed to add one more full-size conference room, with seating for 250 delegates, 250 advisers, 25 observers and 135 members of the press and public.

22. In addition, with the Organization's increasing interaction with civil society, NGOs and the public, there are many requests for functions other than intergovernmental meetings, including concerts, lectures and special events. A multi-function hall, with flexible-use design to accommodate up to 500 seats in a lecture configuration, exhibition space or raised stage performance, with appropriate audio-visual and technology services, is therefore proposed. Such a hall would reduce the use of conference rooms as special events venues, and if properly located would improve access and openness without compromising security.

23. In the previous report, it was suggested that the proposed new conference room and multi-purpose room be located in an area occupied by the satellite dish, by extending the south end of the Conference building. However, since the south end of the Conference building extends over the FDR drive, it is no longer considered viable to build such an extension to the Conference building for security reasons. It is instead proposed that the proposed rooms be integrated into the first basement space by reconfiguring the first and second basement garage areas immediately adjacent to the existing conference facilities. Entry would be obtained from the first basement, opposite Conference Room 1.

Consolidation of technology

24. Currently, various computer servers and communications equipment rooms for different departments and functions are dispersed throughout the complex and in various office space areas. It would be technically and operationally more effective to consolidate all such functions at a sub-basement level, providing a secure and appropriate environment while releasing space for appropriate use as office space.

Rationalization of space utilization

25. The location of major functions has been examined thoroughly. The purpose of the examination was to determine the most appropriate locations for individual functions (printing, food service, meeting rooms, offices etc.), taking into account the different needs for infrastructure and building systems. The locations of individual departments and their offices were not examined. That issue will be addressed in the next design phase — design development. The proposed plan includes the consolidation of similar functions, assigning locations that minimize the duplication of special infrastructure and avoiding the utilization of centrally located building space for functions that could be performed equally well elsewhere. It also includes new office space planning guidelines designed to better utilize the good features of existing buildings and create a more open environment, with more space dedicated to team work and less space to individual offices, fewer planning standards and a more efficient and equitable space allocation, in accordance with the recommendations of the Joint Inspection Unit (see A/56/274). In order to replace the mechanical and electrical infrastructure, the current office configurations would be demolished. There is no capital cost difference between restoring the space back to the current office space configuration and following the new space guidelines. Hence, the rationalization of space utilization is cost-neutral in the context of an overall refurbishment programme.

26. The total amount of required office space has fluctuated over the course of the last 10 years, resulting largely from the expansion and contraction of peacekeeping operations, and is expected to continue to fluctuate from year to year. For planning purposes, however, it is assumed that office space requirements will remain constant over the long term. CMP aims at better use of existing space and consolidation, where possible, but does not envisage any increase or decrease in office space requirements.

27. One challenging aspect of planning for major functions over the next 25 years is to predict the future space and infrastructure requirements for the printing plant and related functions. The assumption made in the preliminary design phase is that the area required for long-term storage of documents can be drastically reduced through more efficient storage layouts and equipment and increased use of information technology. It is assumed that the printing function, both for publications and for parliamentary documentation, will not change significantly in the near future. However, in anticipation of a more decentralized and electronic system in the long term, adequate cabling and power are to be provided throughout the complex to meet the future need for high-speed printing at multiple locations.

Improvements to public areas

28. As in the previous report, proposed improvements to public areas include the reconfiguration of the General Assembly building visitors' area to complement the proposed donation of a visitors' experience pavilion in the North Lawn, connecting to the General Assembly First Basement, as well as various security-related improvements along the visitors' tour route. It is currently anticipated that the visitors' experience project will begin conceptual design work in December 2002 in order to prepare further reports in response to General Assembly resolution 56/236. That schedule would allow the integration and coordination of such improvements with design work for the refurbishment proposed herein for the existing buildings.

Emergency repairs

29. In addition to the planned scope of work listed above, it is anticipated that in the course of implementation existing building systems will continue to break down in areas outside those being renovated, so that emergency repairs will continue to be needed before core refurbishments can be implemented. The cost of such work, which would ordinarily be included in section 31 of the regular budget, is expected to vary from $5 million to $36 million, depending on the construction phasing scheme adopted.

* * *

30. The core refurbishment, essential improvements and emergency repairs described above together constitute the proposed baseline scope. They represent the extent of refurbishment required to meet life safety and building codes and modern security requirements, make rational use of existing space and properly support the work of the Organization in a more efficient manner.

Table 1
Estimated costs of baseline scope
(Millions of United States dollars)

	Updated reactive approach	*CMP 2000*	*CMP 2002 proposed approaches*
Baseline scope			
Core refurbishment	465	792	906-978
Essential improvements	0	74	80
Emergency repairs	771	36	5-36
Total	**1 236**	**902**	**991-1 094**

D. Scope options

31. A number of additional options have been developed for the scope of the refurbishment, in response to the General Assembly's request, including options for (a) greater safety and security, (b) greater degree of emergency backup provisions and (c) a higher level of sustainability. The scope options are intended to bring the complex into the future in order not only to provide the baseline requirements for safety and functionality but to upgrade the complex to the level that would be considered appropriate for a new intergovernmental or governmental building complex. The cost of adding all of the options to the baseline scope for the capital master plan is estimated at $180 million. Many of those measures would be integral to the building systems, and hence would be difficult to implement except as part of an overall refurbishment programme.

Additional security options

32. Enhanced security provisions have been designed to further protect occupants from attacks on physical structures and building elements or against biological hazards intruding from First Avenue and FDR Drive, based on the assessment of potential threats. Some of those proposed enhancements could fall within the purview of the host country's responsibilities, as defined in the host country agreement. Consequently, the cost to the United Nations of those additional security options could be significantly less. Those additional security provisions would include working with the host Government, state and city to fully or partially close First Avenue, or installing the necessary systems and equipment to be able to close First Avenue quickly; hardening the structure between the United Nations service drive and the adjacent FDR Drive; blast-proofing the General Assembly building; and increasing blast-resistant glazing. In addition, to further safeguard the facilities against biological hazards, optional security provisions would also include moving all the remaining air intakes that are at or near the ground to higher levels, beyond those included for the General Assembly and Conference buildings in the baseline scope. That question will be examined with the host Government as well as the host State and City of New York, should that option be selected by the General Assembly. The estimated cost of such additional security measures is $30 million.

Redundancy and contingency options

33. Redundancy and contingency options would provide backup systems beyond those that are required by the current code and included in the baseline scope. Such options are intended to allow the Organization to quickly and reliably resume normal activities after an interruption of services, such as a nearby power failure. They also provide redundant building systems that allow the full functioning of communication and system controls even in the event of equipment failure. Such additional measures are similar to those found in new buildings elsewhere addressing concerns for business continuity. They include:

(a) Installation of increased on-site emergency power capacity to serve the first basement corridors and three additional conference rooms, as well as all critical technical, controls, communication and data-storage equipment rooms, in addition to the spaces currently provided with full emergency power (currently, Conference Rooms 4, 5 and 6 and the Security Council Chamber have full emergency power). Electrical power interruptions to the whole or part of the Headquarters complex can be caused by problems with electrical distribution from outside or within the complex. In addition, voltage drops during

high outside power demand periods can result in equipment failures or shutdown. The best means to restore or maintain continuity of essential operations during loss of power or voltage reductions situations is to have sufficient on-site power-generating capacity through diesel and gas-powered generators that could help the facility to withstand such situations;

(b) Installation of additional incoming electrical, steam and water service lines, so that the failure of one line allows essential operations to be maintained from other lines. Under the host country building design practices, most buildings and complexes are provided with a single set of incoming utility and service lines that are backed up from multiple sources. However, the piping and cabling infrastructures in New York City are ageing and overstressed during peak load periods. As a result, problems resulting from leaks, ruptures or other failures of single lines are becoming more frequent and require longer periods to correct and restore normal service. By providing backup lines for each of the essential services, buildings can be switched to alternative sources while the damaged source is repaired;

(c) Installation of a second river water intake line to allow the central cooling plant equipment to continue to function if the existing line is damaged or needs to be shut down for maintenance. Continuous supply of river water is necessary to operate the central cooling plant;

(d) Installation of a cooling tower as an additional backup source for the central cooling plant to enable uninterrupted operations of critical technical facilities;

(e) Installation of backup equipment for building communications systems. Currently, building communications depend upon a single switch or service equipment and cabling. Their failure would interrupt normal communication. Backup equipment would avoid such occurrences;

(f) Installation of smoke exhaust fans in mechanical equipment rooms to remove smoke more rapidly. By making provision for exhausting smoke through building fans, the removal of smoke would be accelerated significantly;

(g) Installation of a redundant firewater suppression line and tanks to ensure that one of the fire suppression sources would always be available;

(h) Installation of distributed control points for electrical, mechanical and life safety systems to allow continued operation in the event of failure at the central facility, which would permit local control override to restore normal operations if the central control system became inaccessible or disabled.

The estimated cost of the redundancy and contingency options is $75 million.

Sustainable innovation options

34. In keeping with the environmental goals of the Organization, the proposed baseline scope incorporates key measures for improving indoor air quality and working conditions, while simultaneously improving energy efficiency, water conservation, and materials and waste management. In addition to the baseline scope, there are emerging technologies and building equipment and systems designs that further promote sustainable practices and can further reduce resource consumption, waste and impact on the environment. Some of those technologies are already being applied, while others are actively being tested, and by the time the refurbishment of the United Nations complex commences they may already be in common use and essential. Sustainable innovation options include:

(a) Purchase of utilities generated from “green” or “renewable” sources. Currently, power supplied to the Headquarters complex comes from coal, fuel, gas-fired and nuclear or hydroelectric power plants. Most power companies are currently installing green or renewable wind powered or solar geothermal plants, and would provide metred amounts of green power at 5 to 10 per cent premium generating costs;

(b) Use of on-site renewable or alternate energy and water conservation sources, such as solar and photovoltaic cells, small windmills, biomass organic sources and harvesting of rainwater. These are emerging technologies that can facilitate the on-site generation of renewable energy, with greater reliability and less adverse impact on the environment;

(c) Completing the replacement of existing curtain walls with more energy-efficient curtain walls;[4]

(d) Use of super-efficient heating, cooling and electrical equipment, incorporating heat-recovery, free cooling, natural ventilation and greater local controls. The baseline scope includes high-efficiency equipment. However, with 5 to 20 per cent incremental costs,

equipment with much greater efficiency with improved local controls can be provided;

(e) Biological and chemical contamination controls. Traditional biological and chemical contamination controls are included in the baseline scope. With this optional provision, critical areas would be provided with higher-efficiency filters and more supervised controls of air circulation;

(f) Further reduction of storm water run-off. By providing on-site water holding or porous facilities, most of the rain/storm water would be retained for irrigation and other purposes;

(g) Use of construction materials with higher recycled/renewable materials content;

(h) Extra measures to further reduce construction waste by contractually requiring all contractors to send recycled materials to shops that reuse such materials.

The estimated cost of the sustainable innovation options is $75 million.

E. Scope: summary

35. The baseline scope of the refurbishment work described above includes core refurbishment and improvements in the areas of meeting facilities, conference and multifunction spaces, technology spaces and public areas used by visitors, as well as rationalizing the use of space. The cost of the baseline scope is estimated to range from $991 million to $1,094 million. In addition, three scope options (additional security options, redundancy and contingency options, and sustainable innovation options) have been proposed, at an estimated additional cost of up to $180 million. In order to proceed with the capital master plan, the scope of the work should be established, which would involve two elements: (a) concurrence with the baseline scope, and (b) selection of scope options that should be added to the baseline scope. It is the recommendation of the Secretary-General that the baseline scope be considered a prudent minimum approach, and that the scope options be included as well in order to position the United Nations Headquarters complex to best meet the needs of the future.

Table 2
Estimated costs of baseline scope and scope options
(Millions of United States dollars)

	Updated reactive approach	*CMP 2000*	*CMP 2002 proposed approaches*
Baseline scope	1 236	902	838 to 894
Increased security			+$55
Increased escalation			+$50
Increased construction contingency			+$48 to +$95
Total	**1 236**	**902**	**991 to 1 094**
Scope options			
Additional security options	0	0	Up to 30
Redundancy and contingency options	0	0	Up to 75
Sustainable innovation options	0	0	Up to 75

F. Phasing and swing space

36. The selected scope of work can be implemented in a number of different ways, and the need for temporary swing space will change accordingly. In addition, phasing and swing space availability will influence the cost and duration of the project, the ability to control the risk of cost overruns, and the degree of disruption, inconvenience and dispersal required during refurbishment.

37. In the previous report, three options were presented for phasing the refurbishment — a three-year, a six-year and a 12-year option. The recommended six-year option envisaged the work being carried out in small increments, with the United Nations maintaining full activities on site for both conferences and the work of the Secretariat. The swing space requirement for conferences and meetings was to be met through the construction on site of one large conference room, one multi-purpose room and three mid-size meeting rooms. Swing space for the Secretariat was envisaged through leasing from UNDC, with options for commercial leasing or construction. Two types of construction options were proposed: an addition to an existing building, such as the Secretariat, Dag Hammarskjöld Library or South Annex buildings,

or the construction of a new building in either the North Lawn or South Annex areas.

38. In contrast, under the current preliminary phase, the phasing and swing space alternatives were developed based on detailed construction schedules, specific logistics plans and more detailed consideration of the requirements for maintaining operations. The three-year option was found to be unrealistically short and the 12-year option unnecessarily long, without any corresponding advantages. The viable alternatives developed from among the myriad of options for phasing were focused on maintaining the schedule of conferences and the work of the Secretariat. The most challenging task was to find a practical swing space option for the functions of the General Assembly and Conference buildings.

39. It has since been determined that there are two possible fundamental approaches to the implementation of major refurbishment work. One approach is to vacate as much of the site as possible and perform the work as quickly as possible, which would necessitate substantially larger swing space. The other approach is to perform the work in smaller increments and relocate staff and functions as needed so that refurbishment could be completed in a given number of floors at a time in each building. Viable alternatives have been developed using the two different approaches, as set out below.

First approach

40. The first approach is to relocate all possible functions for the duration of the construction, including all conferences and the work of the Secretariat. This approach was not contemplated in the original CMP 2000. Due to the large swing space requirements that result from this phasing alternative, particularly the continuous requirement for meeting facilities, it was found that the only feasible method for the implementation of this option would be through significant assistance from the host city. In that connection, in July 2002 the City of New York indicated its willingness to consider the construction by UNDC of a new building of approximately 750,000 to 800,000 square feet (ft^2) (69,680 to 74,320 square metres (m^2)) immediately south of the United Nations Headquarters complex, between 41st and 42nd Streets. Such a building would provide significant swing space and house the majority of both Secretariat and conference and meeting room functions during the refurbishment of the entire Headquarters complex. In total, approximately 2,800 United Nations staff from the Secretariat building would be temporarily relocated to the new building.

41. Under this approach, after completion of CMP, the new UNDC building would be used to consolidate the currently leased space in the UNDC-1 and UNDC-2 buildings, as well as existing overflow offices located in commercially leased premises, with the objective of securing leasing costs comparable to the current UNDC buildings. The existing leases in UNDC-1 and UNDC-2 would then be concluded. The UNDC-1 and UNDC-2 buildings currently contain approximately 670,000 ft^2 (62,250 m^2) of United Nations and United Nations Development Programme leased space. The United Nations also leases 161,000 ft^2 (14,960 m^2) of office space in commercial buildings in surrounding areas as of July 2002. The proposed new building would have a more efficient floor plate than the current UNDC-1 and UNDC-2 buildings, and would be able to accommodate the same number of people in slightly less space. That consolidation of the existing widely dispersed offices would result in a more efficient operation, with no net addition in leased space. Performing the refurbishment work on a largely unoccupied site would substantially reduce the time, cost and potential for cost overruns and delays. It would also reduce the *perceived* risk of exposure to hazardous materials. The estimated duration of the capital master plan under this approach is less than five years. In the event that the planned new building materializes, UNDC may exercise its option to dispose of the UNDC-1 and UNDC-2 buildings. The cost of the swing space is estimated at $96 million, assuming that an area of 800,000 ft^2 (74,320 m^2) is leased at $30 per ft^2 for four years, including fit-out and moving costs.

42. It should also be noted that if the proposed new building is constructed by UNDC, the new large conference room similar in size to Conference Room 1 and the multi-function hall that are included in the baseline scope (see paras. 21-23 above) could be provided instead in the new building on a permanent basis. That would result in a reduction of $57 million in the cost of the baseline scope but would also incur lease cost, which is currently estimated at $1.5 million per year.

Second approach

43. The second approach is to perform the work in increments, as envisaged in the original capital master plan. By creating a large conference room, a multi-function hall (temporarily adapted for meetings) and three mid-sized 60-person meeting rooms first, the refurbishment of the General Assembly and Conference buildings could be undertaken in small phases, using night and weekend construction. Under this approach, there would be no need for the construction of a large building, as contemplated under the first approach with the cooperation of the City of New York. The estimated duration of the capital master plan under this approach is six years.

44. For office swing space in the incremental second approach, one solution is to immediately replace the South Annex building, which currently houses the cafeteria, with a four-storey building of 110,000 ft^2 (10,220 m^2), matching the height of the Dag Hammarskjöld Library and the Conference building. This is a location with minimal architectural impact, which would serve to alleviate part of the long-term space needs after construction. With other internal relocations, and supplemental commercial leasing of another 110,000 ft^2 (10,220 m^2), this would allow the Secretariat to be refurbished in increments averaging 10 floors. The cost of a new South Annex building and related leasing for swing space would be $66 million. Remaining buildings would be phased through internal relocations. Upon completion of the capital master plan, the new South Annex building would add 46,000 ft^2 (4,274 m^2) of office space, which would correspondingly decrease the need for commercially leased space. One option in the design of the new South Annex building would be to consolidate kitchen operations and relocate the cafeteria to the 4th floor, upon completion of the capital master plan, which would also allow increased cafeteria seating.

45. Other options considered for swing space included a new building of approximately 200,000 ft^2 (18,580 m^2) on the northern portion of the United Nations site, to be used as temporary meeting space during construction and to serve in the long term as a location for the consolidation of overflow offices currently located in commercial space. However, that location would permanently impact the north garden and be a significant loss of green space for both the United Nations community and the surrounding neighbourhood. It is not considered an appropriate or feasible alternative. Additions to existing buildings, which were considered in the previous report, have been reviewed and found to be destructive to the harmony of the architectural composition of the complex as a whole. Commercial leasing remains an alternative but has no long-term advantages and comes at market prices over which the United Nations has no influence.

46. The second approach would cause the least disruption of the meeting programme. However, the risk of cost overruns, delays, disturbance and perceived risk of exposure to asbestos is the highest in this scenario. The cost of the respective scenarios, including swing space, is shown in table 3, in relation to the updated reactive approach and the CMP 2000 proposal.

47. The two approaches vary slightly in terms of energy savings, because the first approach would allow completion in less than five years whereas the second approach would require at least a six-year construction period. However, in either case the energy savings over 25 years as a result of more efficient equipment and the introduction of an automated building control system are conservatively estimated at $241 to $251 million, in comparison to the reactive approach. The avoided cost is shown in table 4.

V. Management

48. The management requirements for the remaining phases of the capital master plan are projected to involve three major components, whose roles would change in the different phases. A context diagram is provided in annex I. The current preliminary design phase would be followed by two more design phases: design development and construction documentation. Following the completion of construction documentation, the competitive procurement process, in accordance with the Financial Regulations and Rules of the United Nations, would be used to establish contracts for the construction work, which would probably be divided into several separate contracts, both to open the bidding process to more firms and to allow early bidding for the initial phases of the construction work. The construction phase would then be implemented.

Table 3
Estimated costs of construction, emergency work and swing space
(Millions of United States dollars)

	Updated reactive approach	*CMP 2000*	*CMP 2002*	
			First approach	*Second approach*
Emergency work	771	36	5	36
Construction				
Buildings				
General Assembly	44	75	118	128
Conference	39	68	149	153
Secretariat	190	330	261	276
DH Library	13	22	38	41
North Lawn extension	9	16	19	20
South Annex	6	9	12	0[a]
UNITAR	5	10	6	6
Infrastructure	111	190	210	213
Security	33	22	77	77
Site and landscaping	15	10	9	9
Essential improvements	0	74	[b]	[b]
Contingency	0	40	88	135
Construction subtotal	**465**	**866**	**986**	**1 058**
Subtotal emergency and planned construction	**1 236**	**902**	**991**	**1 094**
Swing space	0	62	96	66
Total	**1 236**	**964**	**1 087**	**1 160**

[a] Not refurbished: cost of demolition and replacement included in swing space.
[b] Included above.

Table 4
Overall estimated costs, including avoided costs: baseline scope, swing space, 25-year energy costs and scope options
(Millions of United States dollars)

				CMP 2002	
		Updated reactive approach	*CMP 2000*	*First approach*	*Second approach*
		(a)	*(b)*	*(c)*	*(d)*
1.	Baseline scope	1 236	902	991	1 094
2.	Swing space	0	62	96	66
3.	**Total (1+2)**	**1 236**	**964**	**1 087**	**1 160**
4.	Avoided construction/alteration costs			3 (a)-3 (c) 149	3 (a)-3 (d) 76
5.	25-year energy costs	852	326	601	611
6.	Avoided energy costs			5 (a)-5 (c) 251	5 (a)-5 (d) 241
7.	**Total, including energy (3+5)**	**2 088**	**1 290**	**1 688**	**1 771**
8.	**Total avoided cost (4+6)**			**400**	**317**
9.	Scope options				
	Additional security options	0	0	Up to 30	Up to 30
	Redundancy and contingency options	0	0	Up to 75	Up to 75
	Sustainable innovation options	0	0	Up to 75	Up to 75
10.	**Total scope options**	**0**	**0**	**Up to 180**	**Up to 180**

49. The management structure of the capital master plan would consist of three main components: the CMP programme management group, the architectural and engineering team, and the construction management team. In the design development and construction documentation phases, the architectural and engineering design team would take the substantive lead, with the Construction Manager providing advice. In the final two phases, procurement and construction, the Construction Manager would take the lead, in particular in the construction phase, when the Construction Manager would direct the construction contractor(s). Throughout all phases of implementation, the CMP programme management group would provide oversight for the architectural and engineering design team and the Construction Manager, and would manage the entire process, including budget, schedule, cost and quality control, with the support of an outside consulting firm.

50. In order to implement the capital master plan, it is vital that a dedicated United Nations programme management group be established with adequate resources and specialized expertise, and that that group be empowered to operate with sufficient autonomy and maximum flexibility. The capital master plan will be a time-limited and mission-specific endeavour, and the group should therefore not be a permanent addition to the existing organizational structure. The group should be empowered to take decisions in a timely fashion in consultation with concerned departments, as appropriate. The adequacy of the programme management group would be a significant factor in the successful delivery of the capital master plan at the planned budget, schedule and quality levels. The

experience of organizations which have gone through similar refurbishment projects underscores the importance of such arrangements.

51. The management group would be headed by a senior United Nations official. In addition to the overall supervision of the capital master plan project, the concerned senior official would act as the special representative of the Secretary-General for the proposed advisory board and the visitors' experience project, which are described in detail below in paragraphs 66 and 53, respectively.

52. Based on the experience of other organizations, and on expert advice, it is anticipated that the group would consist of approximately 40 staff at the peak of construction, including temporary project personnel and consultants, beginning with a group of 20 during the design development and construction documentation phases. The group would carry out the management and supervision, cost control, overall user coordination, schedule responsibility, resource mobilization and liaison functions. It would include a technical director and deputy director, a special assistant to the senior official, senior project managers, programme control specialists, procurement planning professionals, and specialists covering cost management, contract management, scheduling, quality control, accounting, cost engineering, budget and direct support services. The programme management group would receive support from concerned offices and departments in the areas of legal services, treasury, human resources, procurement, public information, conference services, and other services. The structure of the proposed programme management group is shown in annex II.

53. The programme management group would also be responsible for the implementation of the visitors' experience project once it is approved by the General Assembly. It would work closely and coordinate fully with the concerned departments, particularly the Departments of Management, General Assembly and Conference Management, and Public Information, as well as the potential donor, UNA/USA.

54. The architectural and engineering design team would be responsible for the completion of the design phases (design development and construction documentation), and for providing professional advice and support during the procurement and construction phases of the capital master plan. At the request of the United Nations, the architectural and engineering group selected for the preliminary design phase could continue to provide professional services throughout the subsequent phases of the capital master plan.

55. Depending on the direction of phasing and swing space, different construction management scenarios would be appropriate. In general, scenarios involving greater control on the part of the Construction Manager and construction contractors, such as a new building or a vacant site, would result in greater potential profit for the construction team and therefore a greater willingness to take financial risk and responsibility. Scenarios involving occupied premises would probably require greater United Nations responsibility, greater final cost and less possibility of using financial incentives to reduce the project time frame. The construction management approach and the construction management team would be selected after the direction of the project has been determined by the General Assembly.

56. The cost of the three management components of the capital master plan — the architectural and engineering team, the construction management team and the CMP programme management group — would account for approximately 16 per cent of the total cost and is included in the capital master plan project budget, in the amount of $22.5 million in the first year and $22.0 million in the second year of the remaining design phases, when the bulk of the architectural and engineering design fees would be required.

57. The implementation of the capital master plan would have an impact on many activities of the Organization. Some activities would inevitably be curtailed or scaled down during the construction period, such as services to visitors, special events and special sessions of the General Assembly. Other activities would be difficult to conduct during certain periods of the construction and might be temporarily held at other locations. In order to avoid undue impact on delegates, staff, visitors and activities of the Organization, the impact of each phase of construction would be carefully assessed and a plan developed for each phase. That might involve temporary adjustments in activities, redeployment of staff and other solutions. The development of such a plan would require time and effort from each department and office of the Secretariat.

VI. Cost overruns

58. In its resolution 55/238 IV on the capital master plan, the General Assembly requested that details of measures to prevent cost overruns be identified and reported thereon. Cost overruns on capital construction projects result mainly from one or more of the following factors:

(a) Incomplete and inaccurate budgeting;

(b) Inadequate contingencies for unforeseen factors, particularly in the renovation of occupied buildings;

(c) Programme changes to the designs requested by the owner, in this case the United Nations, during the construction documentation and construction phases;

(d) Incomplete or poorly coordinated construction documents;

(e) Delays caused by owner inactions, typically resulting from the lack of flexibility required to make prompt decisions, or by an overly complex decision-making process.

The measures proposed to prevent each potential cause of cost overruns are described below.

59. The budget for the capital master plan has been prepared by the design team, based on a full and complete analysis of the existing conditions of the United Nations complex. The specialty firm responsible for the estimate is a large construction company familiar with the local market, and was in fact among the firms involved in the construction of the three original Headquarters buildings. In compiling the budgets, the design team has adopted a prudent and conservative approach.[5] In addition, the estimates were reviewed independently by a separate construction management firm based in New York City, and adjustments made accordingly.

60. A design and planning contingency of 15 per cent is included in the estimates to account for the cost changes that will occur during the development of more detailed designs. In addition, a construction contingency has been calculated to take account for the fact that the renovation will be a public sector project, located in a busy construction market, with the specific challenges of construction work in New York City. The construction contingency is set at 10 per cent in the first approach and 15 per cent for the second approach, reflecting the greater difficulty of refurbishment of occupied premises on an operating site. Notwithstanding the contingency provisions as well as prudent cost estimates for the entire capital master plan, it is the strong advice of other experienced organizations that, for budgeting and appropriation purposes, preliminary phase estimates be considered the mid-point of a cost range that could reasonably increase or decrease by 10 per cent. It is believed that that consideration is especially relevant for the United Nations in view of its budgeting and appropriation process.

61. Programme changes can be controlled by a management team that ensures that the designs meet user requirements appropriately, and by a firm policy of avoiding additions to the scope after the design development phase. The accuracy of the construction documents can also be improved through quality control measures taken by the CMP management team during the design process, and through independent reviews by the Construction Manager.

62. If the United Nations complex can be largely vacated and full control over the construction work given to the construction management team, the risk of delays and hence cost overruns would be substantially reduced. In such a scenario, in which the Construction Manager were given complete control of the site, the United Nations would have the opportunity to use financial incentives to reduce the project duration. Opportunities would also exist to segment the site and enable the construction work to be performed by more than one general contractor, which would increase competition by enabling smaller firms to compete for parts of the construction work. All those factors have implications for the ultimate cost of the capital master plan and have led to the recommendation of the variance of 10 per cent mentioned in paragraph 60 above.

VII. Financing

63. In the previous report, three possible sources of funding were mentioned: special assessments, the programme budget and voluntary contributions, in cash or in kind, from public and private sources. As to financing options, consideration was given to a cash payment option and deferred payment options, including interest-free loans from Member States and the possibility of commercial borrowing through bond

issue. Those possible sources of funding and financing options remain valid.

64. The United Nations Headquarters complex was built through a gift of $8.5 million (equivalent to $72.6 million in year 2000 dollars) from John D. Rockefeller Jr., which enabled the Organization to purchase the land; in-kind provisions of land, access and improvements to surrounding streets from the City and State of New York; and an interest-free loan of $65.0 million (equivalent to $449.2 million in year 2000 dollars) provided by the host Government for the construction and furnishing of the Headquarters buildings. That loan was repaid through the regular programme budget over a 31-year period from 1951 to 1982.

65. Bearing those precedents in mind, for the purpose of the present report it is anticipated that financing would follow the 1951 model of an interest-free loan, to be repaid through the regular programme budget over a period of 25 to 30 years. Such an arrangement would enable the potential savings in utility costs gained from the implementation of the capital master plan to be used to assist in the repayment of the interest-free loan. Possible annual debt service would amount to $36 to 47 million, depending on the repayment period selected and phasing options chosen.

66. An advisory board, which was originally referred to as a financial advisory board in the previous report, is currently being formed to advise the Secretary-General on financing matters and to provide advice on overall project issues. The Secretary-General is also prepared to initiate a campaign to secure private donations, with the assistance of the advisory board. Although the core refurbishment of the existing premises, with its heavy emphasis on infrastructure improvements, may not be appealing to private donors, some aspects of the capital master plan may be of interest. Any private donations will have to conform to the international and intergovernmental character of the Organization and its financial regulations and rules.

67. Notwithstanding his preparedness to engage in the mobilization of public and private resources, the Secretary-General is mindful that such donations cannot be relied upon as a main component of the financing package for the capital master plan. First, the refurbishment of largely unseen infrastructure is unlikely to be an attractive proposition for donors. Second, phasing and schedule will be a key determinant of the refurbishment cost. It should be noted that the cost of CMP will escalate at the rate of $35 to $40 million per year in the event of delay. Thus, unless donations become available in a timely fashion without the need for modification to the phasing, they could in fact cost the United Nations more. Furthermore, resource mobilization from private sources will probably compete with that for the visitors' experience project, for which UNA/USA is taking the initiative, following the favourable reaction of the General Assembly at its fifty-sixth session.

68. During the original construction of the Headquarters complex some 50 years ago, special donations have received for the interiors of the Council Chambers and other significant spaces. Similarly, gifts continue to be received from Governments and private sources alike to upgrade or refurbish the existing facilities. Recent examples include a donation from a Member State for the upgrading of the Economic and Social Council Chamber, an anonymous private donation for the auditorium of the Dag Hammarskjöld Library, and an upgrade of Room GA-200 behind the General Assembly Plenary Hall, which is under consideration by a Member State. Under the circumstances and taking into account the precedents cited above, the Secretary-General believes that the primary emphasis of his fund-raising efforts should continue to be for upgrading of specific Headquarters facilities, such as chambers, meeting rooms and public areas, rather than for the core refurbishment as such, and that the implementation of the capital master plan should not be conditional on the realization of voluntary contributions.

69. In the previous report (see A/55/117, paras. 81-88 and annex), the option of outside commercial borrowing through bond issue was examined in detail. Without any doubt, that option is less preferable than interest-free loans or voluntary donations because of interest costs and the institutional and legal requirements to support that financing option. However, in view of the substantial savings that would arise from the implementation of the capital master plan in the form of avoided capital and energy costs, as compared with the continuation of the reactive approach, that option remains valid. With the estimated cost of the updated reactive approach starting at $2,088 million and the estimated cost of the capital master plan starting at between $1,688 million and $1,771 million, including estimated energy and swing space costs as shown in table 4, the avoided cost is estimated

to be within the range of $317 to $400 million, as compared with the forecast in the previous report of $354 million, for a 25-year period. That sum could be used to cover the interest costs of commercial borrowing on the same basis as bond issues, as described in the annex to the previous report.

VIII. Implementation

70. Since the preliminary design phase has been completed, with the identification of the two viable approaches, including the proposed swing space arrangements with the City of New York, the implementation of the capital master plan could be initiated as soon as the General Assembly completes its review of the Secretary-General's proposal. Given the magnitude of financing involved, the General Assembly may wish to authorize the Secretary-General to proceed first with the design phases of design development and construction documentation, from the Construction (A) portion of section 31 of the regular budget. The detailed design work, the management of the design work, including the establishment of a dedicated CMP programme management team, associated support costs and the retention of the Construction Manager are estimated to cost $22.5 million for 2003 and $22.0 million for 2004. In the event that the General Assembly authorizes any of the additional scope options, there will be a need for additional appropriation of up to $12.0 million for 2003 and 2004 combined.

71. Once the design development and construction documentation phases are under way and the required financing is secured, the procurement action for the refurbishment and construction could be initiated as early as July 2004, assuming a design development start date of January 2003. Procurement could be followed by the initial phases of construction immediately thereafter, in October 2004. The initial phase would require approximately one year and would involve infrastructure work and procurement. Relocation of meetings or offices would not be required in the initial phase.

72. It is the current assessment of the City of New York that the required swing space in the proposed new UNDC building could be made available for occupancy by the United Nations in September 2005, assuming that the City completes its rezoning and other requirements within the next 12 months. Once the relocation of conferences and meetings and Secretariat offices to the planned swing space is completed, actual on-site construction could start in the Headquarters complex.

73. In the event that the provision of swing space by the City of New York did not materialize, it would be necessary to adopt the second approach for phasing and swing space. Given the time sensitivity of the capital master plan implementation — i.e., cost increases of $35 to $40 million per year from delays — it is recommended that the second approach be approved in advance as a fall-back position, along with the first approach, so that a timely decision could be made to adopt the second approach if necessary.

IX. Conclusion

74. The Secretary-General believes that a thorough review of the capital master plan has been completed addressing all issues highlighted by the General Assembly in its resolution 55/238, and that a decision can be made by the General Assembly at its fifty-seventh session for the implementation of the planned refurbishment of the United Nations Headquarters complex in New York, subject to a satisfactory consideration of financing.

75. At the request of the United States Congress and with the concurrence of the United Nations, the United States General Accounting Office reviewed the capital master plan project from February to June 2001.[6] The Office concluded, under the heading "Results in brief" of its report entitled "U.N. Headquarters Renovation", that the "renovation planning efforts to date, including the cost estimate, are reasonable" and "have conformed to industry best practices."[7] It is expected that the Office will assess CMP again in September 2002.

76. In theory, the reactive approach to continue major maintenance and repair on an ongoing basis through the biennial budget could remain as an option at least in the short term. In practice, however, that is not an option both substantively and financially. Delegates, staff and visitors will increasingly be subjected to serious safety and security hazards. The work of the Organization is expected to be progressively interrupted by building, equipment and system failures. The existing facilities will not be able to cope with the continually growing demands of Member States, civil society and the public for the Organization. In

budgetary terms, the reactive approach will not be sustainable in the long run because the cost of major maintenance and emergency repair, as well as of energy, will become prohibitively high within the next few years, as already pointed out in the previous report. Worse still, in spite of substantial expenditures, which are now estimated to reach $2,088 million over the next 25 years, serious deficiencies in building and safety codes, security, hazardous materials, universal accessibility and energy efficiency will remain.

77. Accordingly, the Secretary-General has concluded that there is no choice but to proceed with the implementation of the capital master plan. The only question remaining is how to implement the refurbishment programme in the most efficient and cost-effective manner. There are basically two ways to implement the capital master plan. One is to vacate most if not all of the headquarters complex and to carry out the refurbishment programme as expeditiously as possible. That approach, while very attractive, was not seriously considered initially because of the substantial requirement for swing space for the General Assembly and Conference buildings, as well as the Secretariat building. The recent proposal by the host City of New York, however, has drastically changed the situation. The other approach advocated in the previous report was to carry out the planned refurbishment in an incremental manner, with a minimum of swing space requirements. That approach continues to be technically and environmentally valid. Without doubt, the first approach is the most desirable from the standpoints of the possible impact of the refurbishment programme on the Organization's work, the project cost and duration, cost overruns and the perceived environmental implications for delegates, staff and visitors during the implementation.

78. Recently, it has become clear that the host City of New York is prepared to render as much support as possible for the Organizations' capital master plan effort. In fact, the City has indicated that every effort will be made for UNDC to construct a new building large enough to house most if not all the Secretariat offices and conference and meeting rooms on the site located immediately south of the United Nations Headquarters complex. Upon completion of the capital master plan, that building could be used to consolidate the current United Nations offices located in the UNDC-1 and UNDC-2 and other commercially leased buildings. The City has indicated that it must take a number of public approval actions before a decision may be taken to proceed with such construction.

79. The cooperation of the host City of New York is indeed a welcome development. I would make the first approach to phasing and swing space viable and possible. There are numerous advantages in that approach. It would reduce the cost of the capital master plan by $73 million in comparison to the second approach; shorten the refurbishment period by at least one year; minimize the possibility of cost overruns; and substantially mitigate the impact of the refurbishment programme on the Organization's work.

80. The Secretary-General believes that it is prudent for the Organization to maintain the second approach as a fall-back position, pending the outcome of the host city's efforts, which will become known within the next 12 months. In the incremental second approach, a decision is needed for the construction of swing space for both the Secretariat and the General Assembly and Conference buildings. It is the considered opinion of the Secretary-General that the construction of a four-story new building on the site of South Annex building would significantly improve the functionality of the Headquarters complex, in addition to serving as a good location for on-site swing space. Through the relocation of various other building functions, it is possible to construct one large conference room and one large multipurpose room in the current garage areas in the First and Second Basements, while maintaining the current number of parking spaces elsewhere in the basement.

81. The Secretary-General believes that, as a minimum, the capital master plan should be implemented on the basis of the baseline scope, which consists of core refurbishment and essential improvements. Recognizing, however, that the capital master plan represents a one-time opportunity, serious consideration should be given to proceeding with the implementation of the additional scope options for the proposed security enhancements, additional redundancy in building systems and equipment, and sustainable and green renovation so that the United Nations complex can be equipped well into the twenty-first century.

82. The Secretary-General is mindful that the proposed capital master plan will require substantial financial resources. Recognizing that the United Nations is an intergovernmental body and in view of precedents at United Nations Headquarters and

elsewhere, including the locations where United Nations organizations and specialized agencies maintain their headquarters,[8] serious consideration should be given to financing the capital master plan through an interest-free loan from Member States, without prejudice to the Secretary-General's continuing efforts to mobilize financial resources from both public and private sectors. Failing the securing of an interest-free loan, consideration should be given to resorting to commercial borrowing through bond issues based on the framework explained in the previous report.

83. It is the understanding of the Secretary-General that the host City of New York will make every effort to construct a new building to be available for occupancy within the next three years, which would be in line with the planned phasing of the capital master plan described in the present report, should the plan be approved by the General Assembly at its fifty-seventh session.

84. The Secretary-General recommends that the General Assembly:

(a) Take note of the hazards, risks and deficiencies of the current condition of the United Nations Headquarters complex, and the viable alternatives proposed by the Secretary-General to ameliorate those conditions;

(b) Welcome with appreciation the offer of support from the City of New York and acknowledge the City's efforts to make possible the implementation of the capital master plan;

(c) Concur that the suggested baseline scope described herein represents a prudent and appropriate programme for correcting existing deficiencies;

(d) Decide on the inclusion of the proposed scope options for additional security, estimated to cost $30 million, improved redundancy, estimated to cost $75 million, and enhanced sustainability, estimated to cost $75 million, bearing in mind that the condition of the Secretariat curtain wall may necessitate the inclusion of $36 million for replacement thereof in the baseline scope rather than as a scope option;

(e) Decide to implement the baseline scope under the first approach, which is estimated to cost $1,087 million, including the cost of swing space of $96 million, with a reduction of $17 million previously appropriated for security measures, resulting in an adjusted cost of $1,070 million;

(f) Authorize the preparation of complete design documents for the implementation of the baseline scope, under the first approach to phasing and swing space, and the elected scope options, within the proposed construction budget figures noted above, respectively, with a variance of 10 per cent, reflecting a planned construction start date of October 2004 and a five-year construction duration;

(g) Decide also, as a fall back position, to endorse the baseline scope under the second approach, which is estimated to cost $1,160 million, including the cost of swing space of $66 million, with a reduction of $17 million previously appropriated for security measures, resulting in an adjusted cost of $1,143 million, pending the outcome of the efforts of the City of New York for the implementation of the first approach;

(h) Authorize, as a fallback position, the preparation of complete design documents for the implementation of the baseline scope, under the second approach to phasing and swing space, and the elected scope options, within the proposed construction budget figures noted above, respectively, with a variance of 10 per cent, reflecting a planned construction start date of October 2004 and a six-year construction duration;

(i) Appropriate an amount of $22.5 million under section 31, Construction, alteration, improvement and major maintenance, of the regular budget, for the biennium 2002-2003, for baseline design and management of the design work;

(j) Request the Secretary-General to make provision in the proposed budget for the biennium 2004-2005 for an amount of $22.0 million for further baseline design and management of the design work;

(k) Request the Secretary-General to develop, in consultation with Member States, potential funding arrangements as rapidly as possible for presentation to and approval of the General Assembly so that the required funding will be in place to start construction in October 2004;

(l) Further request the Secretary-General to report to the General Assembly as soon as possible on the outcome of the efforts of the City of New York for the implementation of the first approach.

Notes

[1] Security requirements have also increased since 2000, but for the sake of clarity that component has not been increased in the updated cost of the reactive approach.

[2] The General Assembly, Conference and Secretariat buildings, completed in 1951 and 1952; the Dag Hammarskjöld Library building, donated by the Ford Foundation in 1961; the North Lawn (printing plant) and South Annex (cafeteria) buildings, added in 1978-1982; and the UNITAR building, acquired in 1989.

[3] In locations where the existing pattern of glass and metal includes glass sections that are too large for blast-resistant construction, the original glass wall would be kept and a new blast-resistant glass wall installed behind it.

[4] This may become not an option at the Secretariat building but a requirement. If so, the cost of the baseline scope would be increased by $36 million and the cost of the sustainable options reduced accordingly. Very detailed curtain wall investigation is continuing, and it appears that significant deterioration has occurred since the last inspection in 1998.

[5] It should be noted that the estimates do not include new furniture, except in new conference rooms and the new multifunction hall, nor do the estimates include movable equipment.

[6] It should be noted that the United Nations Board of Auditors was unable to carry out an assessment of the cost estimates due to conflict of interest considerations.

[7] For more details, please refer to United States Government document GAO-01-788 dated 15 June 2001.

[8] For information on the participation of host Governments and local authorities in maintaining United Nations assets in their respective countries, see A/55/117/Add.1.